



A COLLEGE PREPARATORY CHARTER SCHOOL
FOR BOYS
WILMINGTON, DELAWARE

GIVING BOYS A REAL CHANCE FOR A REAL FUTURE

January 3, 2012

Mr. John Carwell, Jr.
Delaware Department of Education
The Townsend Building
401 Federal Street Suite 2
Dover, Delaware 19901-3639

Dear Mr. Carwell:

Enclosed please find our responses to the preliminary report and recommendations of the Charter School Accountability Committee on the Application to renew the charter of Prestige Academy.

If you require any further information, please contact me at 302-7623240 or jack.perry@pa.k12.de.us.

Sincerely,

Jack L. Perry
Founder, Executive Director
Prestige Academy Charter School

1121 THATCHER STREET · WILMINGTON, DE 19802 · PHONE: 302.762.3240 · FAX: 302.762.4782

*Prestige Academy prepares young men in grades 5-8 for admission to and success in demanding college preparatory high schools.
In a highly structured, achievement-oriented school culture, Prestige Academy students develop a strong academic foundation in the core subjects and the REAL values necessary for success: Respect and Responsibility, Excellence in Behavior, Academic Mastery, and Leadership.*

**PRESTIGE ACADEMY RESPONSES TO THE
PRELIMINARY REPORT AND RECOMMENDATIONS
APPLICATION TO RENEW AN EXISTING CHARTER**

OPENING DATE: September 2008

GRADES: 5 - 8

LOCATION: Wilmington, Delaware

SEPTEMBER 30, 2011 UNIT COUNT: 300

DATE OF REPORT: December 20, 2011

Evaluation of Each Statutory Criterion

(6) Educational Program. The school's educational program, including curriculum and instructional strategies, has the potential to improve student performance; and must be aligned to meet the Delaware Content Standards and state program requirements, and in the case of a charter high school, state graduation requirements. High school programs must provide driver education. The educational program at all charter schools must include the provision by the school of extra instructional time for at-risk students, summer school and other services required to be provided by school districts pursuant to the provisions of § 153 of this title. A previously approved charter school may continue to operate in compliance with the terms of its current approval, but its charter shall not be renewed unless the school shall submit an application for renewal in full compliance with the requirements of this subsection. The Committee responded to each core curricular areas and comments follow.

For the English Language Arts Scope and Sequence:

1. The scope and sequence document was fully aligned to the Common Core State Standards; however, clarification is needed regarding the use of formative and summative assessment measures aligned to the standards.

Prestige Academy Response: Please see attached English Language Arts Revision document.

2. Also, clarification regarding clarity in timeline, themes, and the inclusion of essential questions is needed.

For the English Language Arts Units of Instruction:

1. Clarification from the Units of Instruction regarding opportunities for inquiry and higher order thinking as well as the use of essential questions for instruction and assessment is needed.

Prestige Academy Response: Please see attached English Language Arts Revision document.

For the mathematics Scope and Sequence:

1. Clarification regarding alignment to the Delaware Math Standards is needed.

Prestige Academy Response: Please see attached Scope and Sequence for each grade as well as revised unit plans for each grade.

For the mathematics Units of Instruction:

1. Clarification regarding the ties between the learning goals and the State Standards is needed.

Prestige Academy Response: Learning goals in attached units now reflect Common Core standards and learning goals related to these standards.

2. Clarification regarding how the formative assessment data is used to inform teaching and learning is necessary.

Prestige Academy Response: At Prestige Academy Charter School we rely heavily upon data to drive instruction and gauge mastery. Each lesson contains many assessment tools to help teachers drive their lessons in the moment and plan for future lessons.

Formative assessments used on a daily or weekly basis include:

- Informal checks for understanding. Teachers plan at least 2-3 informal checks for understanding throughout the course of a lesson to assess the rough number of students who are “getting” the concept and use this information to drive the pacing of their lesson. This may look like “thumbs up, sideways, or down” as a form of self assessment for students to express where they are in the learning process with a particular concept. Also, when a student gives an answer the teacher invites students to evaluate the accuracy of the answer by saying, “Judges?”. Students then clap twice if they agree with the answer or pound on the desk twice if they disagree. This formative assessment tool is not used to measure mastery for the group, but rather to allow teachers to pinpoint the areas of confusion for students and address them in the moment.
- 50/50 Do Nows. Teachers at Prestige create a Do Now activity for the start of each lesson that contains roughly 50% review concepts and 50% new material or foundation for new materials. Students complete this Do Now activity independently in a timed setting and then teachers review the work whole group. At this time teachers can gain an understanding of which review concepts need to continue to be cycled in and which can be cycled out. In addition, teachers are able to gain a snapshot of where students currently are with the understanding of a new concept.
- Weekly quizzes. Teachers give weekly quizzes on recently visited concepts. The assessment data is primarily used in a summative way to measure mastery, however if a large subset of students do not attain mastery on a particular concept this summative assessment becomes a very useful formative tool. By looking at the data from a weekly quiz, teachers are able to deduce where the breakdown in understanding happened for the students and develop a plan to address it.

Summative assessment data is viewed as being just as important and influential tool for our teachers as formative assessments. Summative assessments are used to measure mastery of concepts and include exit slips, sprints (brief 1 minute assessments), weekly quizzes, tests, projects, etc.

3. Clarification regarding how differentiated instructional strategies are being used to meet the needs of all the students in the classroom is needed.

Prestige Academy Response: Please see attached Differentiated Instructional Strategies document.

For science, the renewal application contained a memorandum of understanding (MOU) with the Delaware Department of Education Science Coalition. To clarify the MOU, the school was asked to provide the following information:

1. The school's plan for registering teachers for Science Coalition training.
2. Identification of the school database coordinator.
3. Evidence that Prestige teachers have attended Science Coalition training.

Prestige Academy Response: Jessica Brunazzi, Academic Dean of Math and Science acts as the primary liaison between Prestige Academy and the Delaware Science Coalition. Ms. Brunazzi regularly attends Delaware Science Coalition meetings each month and serves as the database coordinator for Prestige Academy. Ms. Brunazzi is responsible for registering all science teachers for training through the IMS portal using the Delaware Science Coalition link. Evidence that teachers have attended Delaware Science Coalition training during the 2011-2012 school year is attached. Ms. Brunazzi has registered all science staff for the spring training course. Training confirmation is also attached.

For the science Scope and Sequence:

1. The school is commended for the scope and sequence format, especially for 5th grade. Clarification is needed regarding the use of benchmarking concepts. For example, "living and non-living" is a first grade concept. Taxonomic classification is not part of the Delaware Science Standards. Clarification is needed regarding the linkage between the concepts and the requisite grade level at which that concept is taught.

Prestige Academy Response: At Prestige Academy our students often arrive in the 5th or 6th grade with severe deficits in many academic areas. Knowing this we, as a school, work to plan necessary remediation of skills that serve as the foundation for the skills and standards taught at each grade level in each subject. For example, the 6th grade Delaware Science Coalition unit entitled, "My Body and Me" relies heavily on the basics of biology (cells are the smallest living units, cells form tissues, tissues form organs, etc). However, students must first understand the basic foundation for living things (concepts of living, nonliving, and dead) before encountering cells and more involved biological concepts. In addition, we supplement unit with information on taxonomic classification as a way to build understanding of how organisms are grouped and to build upon their classification skills, a necessary skill for the scientific method. For the purpose of this remediation, we have included concepts and units involving these skills to build a solid foundation before students encounter the deeper concepts for the grade level, which they will encounter and master in the same year.

For the science Units of Instruction:

1. Clarification is needed regarding how the sample resources connect to the big ideas of the unit or to the Delaware Science Standards.

Prestige Academy Response: At Prestige Academy our students often arrive with severe deficits in many academic areas. Knowing this we, as a school, work to plan necessary remediation of skills that serve as the foundation for the skills and standards taught at each grade level in each subject. These remediation skills and concepts are the basis for the creation of some of the materials and resources teachers use in conjunction with the Delaware Science Coalition curriculum to teach the grade's standards. One example of this is our focus on science methodology and the scientific method in each grade. At Prestige we have come to notice a trend amongst our students; the scientific method and science process skills tend to be an area of need at each grade level. Therefore we proactively plan for the remediation of these skills in the

form of a scientific method unit as well as a set of spiraled skills throughout each unit to help students grow in these areas.

For the social studies Scope and Sequence:

1. Additional clarifying information is needed for grade 8.

Prestige Academy Response: This item has already been submitted and is currently being reviewed by Dusty Shockley per email (attached) from Debbie Hansen on January 3, 2012.

Debbie Hansen indicated the following in her email:

This is to confirm that I spoke with Dusty Shockley immediately following our meeting on the 22nd of December. Dusty indicated that he did not understand that 8th grade scope and sequence documents were submitted with the 7th grade documentation. Dusty is out of the office today working on DPAS II assessments but I have included him on this e-mail so that we can clarify this matter. I believe Dusty will review the units of instruction once he is able to confirm receipt of the 8th grade scope and sequence documents.

For the social studies units of instruction:

1. The units of instruction will be reviewed upon receipt of the clarifying scope and sequence information requested for grade 8.

Prestige Academy Response: Please see above.

For health education:

1. Scope and Sequence: Meets Approval
2. Units of Instruction: Meets Approval

For the physical education Scope and Sequence:

1. Clarification is needed regarding the scope and sequence parameters for frequency and duration for stretching exercises and the associated Units of Instruction. Clarification is needed regarding Section 3 of the Delaware Physical Education Standards objective as it was incorrectly listed in the year-long objectives.

Prestige Academy Response: Please see attached Curriculum Scope and Sequence and Revised Year Long Objective Calendar for Physical Education.

2. Clarification is needed beginning with the Interim cycle as the subject area was identified as mathematics.

Prestige Academy Response: Please see attached Curriculum Scope and Sequence and Revised Year Long Objective Calendar for Physical Education.

For the physical education Units of Instruction:

1. Meets approval.

For the world languages Scope and Sequence:

2. No materials submitted for review.

Prestige Academy Response: Not required.

For visual and performing arts:

1. Visual Art: Scope and Sequence: Meets Approval

2. While all six art standards are evident in the scope and sequence document, clarification regarding essential questions and formative and summative assessment measures is needed.

Prestige Academy Response: Please see attached Visual Art Scope and Sequence Revision document.

Visual Art: Units of Instruction:

1. Meets Approval

2. The school is commended for the diversity of the units of instruction.

For music:

1. Scope and Sequence: No materials submitted for review.

2. Units of Instruction: No materials submitted for review.

Prestige Academy Response: Please see attached cover letter, scope and sequence, and three units of study for our music theory course.

By a unanimous vote, the Committee recommends to the Secretary that Criterion Six be considered minimally met; however, clarification is needed for the issues and concerns expressed in the review of this criterion.

(7) Students with Special Needs. The school's educational program sets forth appropriate strategies to be employed to accommodate the needs of at-risk students and those needing special education services.

The following comments were shared with the Charter School Accountability Committee relative to Criterion 7. Page numbers refer to the renewal application that Prestige Academy submitted to the Department of Education:

1. On page 36 of the renewal application, there is mention of the Manual for Special Education Services (AMSES). AMSES no longer in use.

Prestige Academy Response: Prestige Academy provides a free and appropriate public education for students with disabilities as outlined in the Delaware Administrative Code, Title 14 Education, 900 Special Populations.

2. The response does not address the continuum of educational placements available for students with disabilities.

Prestige Academy Response: Prestige Academy Charter School provides special education children with a continuum of educational placements as outlined in section 925.27.0 of the Delaware Administrative Code, "Educational Placements in the Least Restrictive Environment". The placement decision of the special education student is discussed at the IEP meeting by the IEP

team. The student's needs are discussed by the IEP team and the placement decision is made by the team. Education for the majority of Prestige's special education students is a "A" setting which is defined by 925.27.1.1 as: *Inside Regular Education Class >=80 percent of the day: Children with disabilities receiving special education and related services outside the regular classroom less than 21 percent of the day. This may include children with disabilities placed in: regular class with special education related service provided within regular classes; regular class with special education related services provided outside regular classes; or regular class with special education services provided in resource rooms.* However, if and/or when the IEP team decides that the child would be better served in either a 'B" setting or a "C" setting Prestige would meet the educational needs of the student as outlined in 925.21.2 and 925.27.3: *Inside Regular Class <= 79 percent of the day and >= than 40 percent of the day: Children with disabilities receiving special education and related services outside the regular classroom for at least 21 percent of the day and no more than 60 percent of the day. This may include children placed in: resource rooms with special education related service provided within the resource room; or resource rooms with part time instruction in a regular class. Inside Regular Class < 40 percent of the Day: Children with disabilities receiving special education and related services outside the regular classroom for more than 60 percent of the day. This may include children placed in: self contained special classrooms with part time instruction in a regular class; or self contained special classrooms with full time education instruction on a regular school campus.*

3. On page 37 of the renewal application, there is a statement that "if testing indicates the presence of a disability and that student is identified as requiring special education services," the team will write an IEP. The response should clarify that the school understands that evaluation is not based on one source of information to determine eligibility and that RTI data should be included as part of the information sources, as applicable.

Prestige Academy Response: Evaluations for special education students include multiple data sources as outlined in both IDEA (2004) and The Delaware Administrative Code, Title 14, 925.5.0, "Additional Requirements for Evaluation and Reevaluations". The Determination of Eligibility for special education students meets the requirements as outlined in IDEA (2004) and the Delaware Administrative Code, specifically 925.6.3.1 as is states, evaluations... *"Draw upon information from a variety of sources, including, as appropriate, aptitude and achievement tests, information acquired from response to intervention processes, parent input, and teacher recommendations, as well as information about the child's physical condition, social or cultural background, and adaptive behavior; and ensure that information obtained from all of these sources is documented and carefully considered"*

4. Also on page 37, the response does not describe whether the team has an instructional support team as defined in 14 DE Admin Code § 923.11.9, the types of interventions used, and the systemic process used to examine the nature and severity of an educationally related problem. (Prior version of AMSES did not include section 923.11.9)

Prestige Academy Response: Prestige Academy Charter School has a team of individuals who focus on systematic problem solving procedures which examine the nature and severity of educationally related problems. Parents are active partners in this process. Their viewpoint on the presenting problems and their outlook on the interventions are continually requested in order to provide the team with a realistic analysis of the student's presenting problem.

In order to effectively address the presenting problem or behavioral concern the team begins by describing the problem. The team uses objective and measurable terms when describing the characteristics of the presenting problem. In addition data is collected through multiple sources which are both reliable and valid. This allows for the collection methodology to be repeated at multiple intervals by differing team members. This data is used to describe the interaction between the student, the environment, and the demand situation.

Once the data is collected and the problem is defined interventions are developed. The development of interventions is based upon the team and parent input. Research based, scientific interventions are created and implemented. Interventions are described in detail using an intervention plan. The plan includes but is not limited to goals and strategies, progress monitoring, and the team members who are responsible for enacting the plan. Data is collected for a specified period of time on the identified problem or behavioral concern after the intervention is implemented.

Once the intervention is implemented and the data has been collected for a specified period of time the team will reconvene to discuss the effectiveness of the intervention. This conversation is centered on the data which has been collected using researched based methods. The team will discuss the subsequent steps which are necessary in order to improve the student's success in the least restrictive environment. The intervention plan may remain stable, an increase of interventions may be recommended or the interventions may be faded.

(8) Economic Viability. The plan for the school is economically viable, based on a review of the school's proposed budget of projected revenues and expenditures for the first 3 years, the plan for starting the school, and the major contracts planned for equipment and services, leases, improvements, purchases of real property and insurance.

The school is somewhat under-enrolled but staff is aware of the challenges presented by this situation. Prestige Academy did not meet the 2% contingency requirement and the budget submission indicated that the school was planning on spending all of its revenue. Such a situation could present issues if there were any unforeseen circumstances, such as a decrease in Federal funding through the Consolidated Grant.

The school was cautioned that the maintenance line seemed high compared to other schools of a similar size.

The school is reporting mortgage payments from donations. The Department would need supporting documentation of guaranteed donations to consider these funds as actual revenue. For the donations, the school could report other types of programmatic expenditures that could readily be decreased if the funding through donations declined or ceased.

Clarification is needed to document:

1. A plan for establishing a 2% contingency, and

Prestige Academy Response: We have attached a revised budget sheet that shows the contingency more clearly. The contingency was included in the original budget submitted, however, it was included in "Other" on the state & local funding sheet.

2. A plan for paying the mortgage from a funding source other than the one currently used.

Prestige Academy Response: We are planning a capital campaign over the next five years to pay off the mortgage or to meet the debt service annually at a minimum. The capital campaign will be monitored monthly and a contingency plan to shift expenses has been developed in the event that the capital campaign doesn't produce the expected results. The plan is to shift student support costs to fundraising efforts if this plan is not met. Historical data has shown that these are the expenses funders are more willing to fund.

(11) Student Discipline and Attendance. The procedures the school plans to follow to discipline students and ensure its students' adherence to school attendance requirements comply with state and federal law.

The review of the response to this criterion included the following observations that were shared with the school staff.

1. The reporting of certain incidents of misconduct to DOE as required by 14 Del C 4112 and DOE regulation 601 are to be completed through the eSchoolPLUS pupil accounting system within five days of the infraction occurring. Reports to law enforcement will be done in accordance with these requirements.

2. Attendance policy states that a student absent for the first five days of school or at least 10 consecutive days, and there is no successful contact with the guardians to explain his absences; the student may lose his seat and be un-enrolled from the school.

Clarification is also needed for the following:

1. Who makes the decision relative to the attendance policy stated above that a student might lose his seat?

Prestige Academy Response: The Executive Director makes the decision regarding the attendance policy stated above.

2. Recommend that the school have a statement that administrators attend required DOE trainings about the mandatory school crime reporting law.

Prestige Academy Response: The school will ensure that administrators attend required DOE trainings regarding the mandatory school crime reporting law.

3. Recommend a statement that administrators will utilize the DOE School Climate & Discipline program manager and DOJ Ombudsperson for technical assistance in regard to the law.

Prestige Academy Response: The school will utilize the DOE School Climate & Discipline program manager and DOJ Ombudsperson for technical assistance in regard to the law.

4. Recommend the inclusion of a statement that any eSchoolPLUS discipline kicker notifications will be addressed within a specified period of time (i.e. 48 hours, 5 days, etc.).

Prestige Academy Response: The school will address eSchoolPLUS discipline kicker notifications within 5-10 business days.

5. Recommend stating that the "assurances" section of the renewal application includes the assurance that Prestige will follow the requirements of 4112.

Prestige Academy Response: The school will include the assurance that we will follow the requirements of 4112.

(12) Health and Safety. The procedures the school plans to follow to assure the health and safety of students, employees and guests of the school while they are on school property are adequate and that the charter school will comply with applicable provisions of local, state and federal law, including the provisions of Chapter 85 of Title 11.

The review of the response to this criterion indicated that it provided an acceptable overview of the School Health Services and School Nutrition Program; however, certain items require a response from the school. The following observations were shared with the school staff:

1. The reference to "nurse" must be changed to "registered nurse."

Prestige Academy Response: The reference to "nurse" will be changed to "registered nurse."

2. Clarification is needed relative to the nurse being responsible for ensuring that students are compliant with such requirements as immunization and physical examination documentation. How will the school respond if the parent refuses to comply?

Prestige Academy Response: If a parent should refuse immunization for his or her scholar, the registered nurse will provide a copy of the letter of requirements for entry into Delaware schools and a copy of the exemption of immunizations per 14 Del. Code Sec 131, due to medical or religious beliefs. If the refusal has no medical or religious foundation for exemption, a letter will be sent to the parent informing him or her that his/her scholar will be excluded from entry into school until we are provided with a record of immunizations or appropriate exemption within 14 days of the dated letter. Prior to sending the letter, discussion and approval will be obtained from the Executive Director or his designee.

3. Pursuant to the Spring 2011 Technical Assistance Review from the DOE School Nutrition staff, several significant areas were identified. The school is scheduled for a Coordinated Review Effort (an audit of the National School Lunch Program) in the fall and Prestige staff have requested that the audit be rescheduled (for a second time) at a later date. The school needs to provide a plan for responding to the Spring 2011 findings and being in compliance with the National School Lunch Program audit.

Prestige Academy Response: We are in compliance with National School Lunch Program guidelines and are scheduled for a Coordinated Review Effort on January 5, 2012. The initial audit letter noted the date of Monday November 15, 2011. We informed the DOE School Nutrition staff that November 15, 2011 was in fact a Tuesday. The DOE Nutrition staff then rescheduled the review for Tuesday December 13, 2011. The Prestige Academy Child Nutrition Program Manager was unexpectedly unavailable on this date and asked for the review to be rescheduled. This was

the only request the school made for a new date. We look forward to working with the DOE School Nutrition staff to complete the Coordinated Review Effort.

The review for school transportation resulted in the following comments:

1. Relative to Criterion 12 (i), a charter school is required to provide the same level of service, not hub stops, for students who live in the same district as the school. Prestige resides in the Christina School District. The school may use hub stops for students who live outside of the Christina School District. (Reference: DOE Regulation 1105, paragraph 11.9)

Prestige Academy Response: Prestige Academy complies with DOE Regulation 1105, paragraph 11.9.

2. For Criterion 12(j), it was not clear how the school will provide transportation for special needs students, e.g., a student in a wheelchair or a student who would require an aide's assistance on the school bus.

Prestige Academy Response: Should a special needs student, e.g., a student in a wheelchair or a student who requires an aide's assistance on the school bus enroll at Prestige Academy, we will work with the Bus Company and DOE liaison to provide the necessary level of service to the student.

3. For Criterion 12(k), it was noted that "primary oversight of school bus operations must be by someone in the school because the school is responsible for the safety of the student. Clarification is required about who is has primary oversight: is it the Executive Director of Prestige Academy?"

Prestige Academy Response: Primary oversight of school bus operations is managed by the Executive Director or his designee.

Interim Cycle 1

Teacher: Miss Jesi Rosati

Subject: MATH

Grade: 5

Focus for Week 1: Place Value				
Sub-Skills: Read, write, model numbers through billions, understand the difference between < and >				
Monday, August 29, Day #6	Tuesday, August 30, Day #7	Wednesday, August 31, Day #8	Thursday, September 1, Day #9	Friday, September 2
RE-ORIENTATION: NO ACADEMIC CLASSES Unit 1 Place Value and Expanded Notation(Add and subtract decimals, Estimate, Place Value, Expanded Notation)	RE-ORIENTATION: NO ACADEMIC CLASSES	State Standard: CC.5.NBT.1, 2, 4 5.NSO-N.1 PLACE VALUE Objectives 1, 2, Sub-Skill 1:	State Standard CC.5.NBT.1, 2, 4 5.NSO-E.21 PLACE VALUE Objectives 3, 4, 5 Sub-Skill 1: Sub-Skill 2:	LABOR DAY: NO SCHOOL
Focus for Week 2: Place Value and Expanded Notation with decimal work				
Sub-Skills: Place value, Expanded Notation, Place value of decimals through thousandths, Addition and Subtraction of decimals				
Monday, September 5	Tuesday, September 6, Day #10	Wednesday, September 7, Day #11	Thursday, September 8, Day #12	Friday, September 9, Day #13
LABOR DAY: NO SCHOOL Unit 1 Place Value and Expanded Notation(Add and subtract decimals, Estimate, Place Value, Expanded Notation)	State Standard CC.5.NBT.1, 2, 4 5.NSO-E.21 PLACE VALUE Objectives 3, 4, 5 Sub-Skill 1: Sub-Skill 2:	State Standard CC.5.NBT.1, 2, 4 5.NSO-E.21 PLACE VALUE (Different Forms) Objectives 6, 7, 8 Sub-Skill 1: 5.NSO-N.2 EXPANDED NOTATION Objectives 1, 2, 4, 5	State Standard CC.5.NBT.1, 2, 4 5.NSO-N.1 PLACE VALUE Addition and Subtraction of whole numbers	Review Place Value =Quiz State Standard CC.5.NF.1 *Fraction Friday! Sub-Skill 1: Objectives 1, 2, 3 Sub-Skill 2:
Focus for Week 3: Estimate (all numbers) / Number Theory (concepts)				
Sub-Skills: Round numbers, understand terms estimate, determine reasonableness, estimate sum and differences				
Sub- Skills: Define even & odd numbers, define multiples, factors, common factors, square numbers, prime & composite				
Monday, September 12, Day #14	Tuesday, September 13, Day #15	Wednesday, September 14, Day #16	Thursday, September 15, Day #17	Friday, September 16, Day #18
State Standard CC.5.NBT7 5.NSO-C.14 ADD AND SUBTRACT DECIMALS Sub-Skill 1: Objectives 5, 6, 2, 8 Sub-Skill 2: Objectives 4, 3, 9, 7, 1	UNIT 2 Estimation State Standard CC.5.NBT.1, 2, 4 5.NSO-N.1 PLACE VALUE (Rounding) Sub-Skill 1: Objectives 9, 10, 11, 12, 13 State Standard CC.5.NF.2 5.NSO-E.23 ESTIMATE Sub-Skill 1: Objectives 1, 2, 3, 4, 5, 6 Sub-Skill 2:	State Standard CC.5.NF.2 5.NSO-E.23 ESTIMATE Sub-Skill 1: Objectives 7, 9, 10, 11, 12, 13 Sub-Skill 2:	State Standard (no CC...enrichment) 5.NSO-N.5/N.6 NUMBER THEORY (CONCEPTS) (Prime numbers/Sieve) Sub-Skill 1: Objectives 1, 7, 8 Sub-Skill 2:	QUIZ ESTIMATION & NUMBER THEORY State Standard (no CC...enrichment) 5.NSO-N.5/N.6 NUMBER THEORY (CONCEPTS) (Multiples) Sub-Skill 1: Objectives 2, 3 Sub-Skill 2:
Focus for Week 4: Multiplying Whole Numbers / Multiplying Decimals / Factorization				
Sub-Skills: Ratios, fractions as parts of wholes				
Monday, September 19, Day #19	Tuesday, September 20, Day #20	Wednesday, September 21, Day #21	Thursday, September 22, Day #22	Friday, September 23, Day #23
Begin Multiplication State Standard	State Standard	State Standard	State Standard	QUIZ MULTIPLICATION & FACTORS

CC.5.NBT.5,6,7 5.NSO-C.15 MULTIPLY WHOLE NUMBERS Sub-Skill 1: Objectives 11, 12, 13, 9, 10, 15, 15, 16 Sub-Skill 2: NUMBER THEORY (CONCEPTS) Objective 6 (Define and ID square numbers)	CC.5.NBT.5 5.NSO-C.19 MULTIPLY DECIMALS Sub-Skill 1: Objectives 9, 10, 11, 12 Sub-Skill 2:	(no CC...enrichment) 5.NSO-N.5/N.6 NUMBER THEORY (CONCEPTS) (Factors) Sub-Skill 1: Objectives 4, 5 Sub-Skill 2:	(no CC...enrichment) 5.NSO-N.7 NUMBER THEORY (PRIME FACTORIZATION) Sub-Skill 1: Objectives 1, 2, 3, 4 Sub-Skill 2:	State Standard (no CC...enrichment) 5.NSO-F.8 UNDERSTANDING FRACTIONS Sub-Skill 1: Objectives 4, 5, 6 Sub-Skill 2:
Focus for Week 5: Patterns / Wrap-Up Sub-Skills:				
Monday, September 26, Day #24	Tuesday, September 27, Day #25	Wednesday, September 28, Day #26	Thursday, September 29, Day #27	Friday, September 30, Day #28
State Standard CC.5.OA.3 5.PRA.1 Patterns (Number Sense) Sub-Skill 1: Geometric Patterns Sub-Skill 2: Rules for extending geometric patterns	Review Unit 5= Quiz State Standard CC.5.OA.3 5.PRA.1 Patterns (Number Sense) Sub-Skill 1: Symbolic Patterns Sub-Skill 2: Arithmetic, Geometric patterns	Review Unit 1-5 Interim Pre-test State Standard Unit 1-5 Sub-Skill 1: Re-teach place value, multiplication, divisibility, patterns, exponents, fractions Sub-Skill 2:	Begin Unit 6-Dividing Whole Numbers and Decimals INTERIM #1 MATH	Start Unit 6, Interim # 2 State Standard CC.5.NBT.5,6,7 5.NSO-C.15 Divide Whole Numbers (Number Sense) Sub-Skill 1: Rules for Multiplying integers Sub-Skill 2: Rules for Dividing integers

Interim Cycle 2

Teacher: Miss Jesi Rosati

Subject: MATH

Grade: 5

Focus for Week 1: Unit 6 Dividing Whole Numbers and Decimals/ Unit 7 Measuring, Identifying and Classifying Lines/Angles/Polygons and 3D Sub-Skills: Rules for $\div \times$ integers, divide decimals, mean of a data set				
Monday, October 3, Day #29	Tuesday, October 4, Day #30	Wednesday, October 5, Day #31	Thursday, October 6, Day #32	Friday, October 7, Day #33 ½ Day – one hour block
State Standard CC.5.NF.3,4(a-b),5,6,7(a-c) 5.NSO-C.16 Dividing Decimals (decimals) Sub-Skill 1: Divide whole numbers Sub-Skill 2: Divide decimals	Review Unit 6= Quiz State Standard CC.5.MD.2 5.DASP.1 Data and Central Tendency (mean) (Data and Graph) Sub-Skill 1: Mean of a data set Sub-Skill 2:	Start Unit 7 State Standard CC.5.G.3,4 5.G.1 Identify 2-D Shapes (Geometry) Sub-Skill 1: Polygons as closed plane figures (Geometry) Sub-Skill 2: Polygons based on sides/angles	State Standard CC.5.G.3,4 5.G.2 Identifying 3D Shapes (Geometry) Sub-Skill 1: 3D Figures (Geometry) Sub-Skill 2: Prisms and Pyramids	State Standard CC.5.G.1 5.G.3 Lines Sub-Skill 1: Line segments, points, planes (Geometry) Sub-Skill 2: Rays, Lines
Focus for Week 2: Unit 7 Measuring, Identifying and Classifying Lines/Angles/Polygons and 3D Shapes/ Unit 8 Sub-Skills: Line/rotation Symmetry, Angles, Lines, Triangles, Quadrilaterals, Congruent, Segments, Polygons, Prisms, Pyramids				
Monday, October 10, Day #34	Tuesday, October 11, Day #35	Wednesday, October 12, Day #36	Thursday, October 13, Day #37	Friday, October 14, Day #38
State Standard Background knowledge: CC.4.MD.7 5.M.7 Measure and Classify	State Standard CC.5.G.3,4 5.G.4 Symmetry (Geometry) Sub-Skill 1: Line Symmetry	Review Unit 7=Quiz State Standard CC.5.G.3,4 5.G.4 Symmetry (Geometry) Sub-Skill 1: Line Symmetry	Begin Unit 8 State Standard CC.5.G.3,4 5.G.5 Congruency (geometry)	State Standard CC.5.G.3,4 5.G.6 Transformations Sub-Skill 1:

Angles (Geometry) Sub-Skill 1: Obtuse, acute, right angles Sub-Skill 2: Classify Triangles	Sub-Skill 2: Rotational Symmetry	Sub-Skill 2: Rotational Symmetry	Sub-Skill 1: Define Congruent Sub-Skill 2: Congruent based on sides/angles	Identify Translation of a 2D Sub-Skill 2: Perform translation
Focus for Week 3: Unit 8 Symmetry/ Congruency/ Transformations Sub-Skills: Line Symmetry, Rotational Symmetry, Congruent, Translation, Rotation, Reflection				
Monday, October 17, Day #39	Tuesday, October 18, Day #40	Wednesday, October 19, Day #41	Thursday, October 20, Day #42	Friday, October 21, Day #43 ½ Day – one hour block
State Standard CC.5.G.3.4 5.G.6 Transformations (Geometry) Sub-Skill 1: Identify Rotation Sub-Skill 2: Perform Rotation	State Standard CC.5.G.3.4 5.G.6 Transformations (Geometry) Sub-Skill 1: Identify Reflections Sub-Skill 2: Perform Reflections	State Standard Background Knowledge: CC.4.MD.3 5.M.1 Area and Perimeter (Measurement) Sub-Skill 1: Perimeter around 2D figure Sub-Skill 2: Triangle and rectangle	State Standard Background Knowledge: CC.4.MD.3 5.M.1 Area and Perimeter (Measurement) Sub-Skill 1: Area as the amount of space Sub-Skill 2: Area of a Rectangle	State Standard Background Knowledge: CC.4.MD.3 5.M.1 Area and Perimeter (Measurement) Sub-Skill 1: Area of a triangle Sub-Skill 2: Perimeter of a triangle
Focus for Week 4: Unit 9 Area and Perimeter Sub-Skills: Area and Perimeter of rectangles, triangles, parallelograms, circles, diameters, radius, circumference				
Monday, October 24, Day #44	Tuesday, October 25, Day #45	Wednesday, October 26, Day #46	Thursday, October 27, Day #47	Friday, October 28, Day #48
State Standard Background Knowledge: CC.4.MD.3 5.M.2 Area and Perimeter (Measurement) Sub-Skill 1: Parallelograms Sub-Skill 2: Area of a triangle	State Standard Enrichment: CC.7.G.4 5.M.4 Area and Perimeter (Measurement) Sub-Skill 1: Circle Sub-Skill 2: Diameter and radius	State Standard Enrichment: CC.7.G.4 5.M.4 Area and Perimeter (Measurement) Sub-Skill 1: Circumference Sub-Skill 2:	State Standard Enrichment: CC.7.G.4 5.M.4 Area and Perimeter (Measurement) Sub-Skill 1: Area of a circle Sub-Skill 2:	Unit 9 Quiz State Standard Sub-Skill 1: Sub-Skill 2:
Focus for Week 5: Unit 9 Area and Perimeter Sub-Skills: Area and Perimeter of rectangles, triangles, parallelograms, circles (diameters, radius, and circumference)				
Monday, October 31, Day #49	Tuesday, November 1, Day #50	Wednesday, November 2, Day #51	Thursday, November 3, Day #52	Friday, November 4, Day #53 End of Quarter 1
Review Units 6-9 For IA#2 State Standard Units 6,7,8,9 Sub-Skill 1: Sub-Skill 2:	Unit 6-9 Test State Standard Sub-Skill 1: Sub-Skill 2:	Begin Interim #3 Standards INTERIM #2 MATH	Start Unit 10 State Standard CC.5.MD.1 5.M.3 Unit Conversions (Measurement) Sub-Skill 1: Identify proportional relationships between units Sub-Skill 2:	State Standard CC.5.MD.3 5.M.5 Volume (Measurement) Sub-Skill 1: SWBAT define volume as the amount a 3D figure can hold Sub-Skill 2:

Interim Cycle 3

Teacher: Miss Jesi Rosati

Subject: MATH

Focus for Week 1: Unit 10 Volume and Surface Area also Unit Conversions				
Sub-Skills: Surface Area, Volume, Units of Measure				
Monday, November 7, Day #54	Tuesday, November 8, Day #55	Wednesday, November 9, Day #56	Thursday, November 10, Day #57 ½ Day – one hour block	Friday, November 11, Day #58
State Standard CC.5.MD.5b 5.M.5 Volume (Measurement) Sub-Skill 1: SWBAT find the volume of rectangular prisms Sub-Skill 2:	State Standard Enrichment: CC.7.G.4 5.M.5 Surface Area (Measurement) Sub-Skill 1: SWBAT define surface area as the sum of the areas of faces Sub-Skill 2:	Review Unit 10 State Standard CC.5.MD.5b 5.M.5 Surface Area (Measurement) Sub-Skill 1: SWBAT find the volume of rectangular prisms Sub-Skill 2:	State Standard Unit 10 Sub-Skill 1: Sub-Skill 2:	VETERANS DAY: NO SCHOOL
Focus for Week 2: Unit 11 Fraction Work				
Sub-Skills: GCF, Equivalent, Improper Fractions, Mixed Numbers, Conversions, Add and Subtract Fractions				
Monday, November 14, Day #58	Tuesday, November 15, Day #59	Wednesday, November 16, Day #60	Thursday, November 17, Day #61	Friday, November 18, Day #62
State Standard Background Knowledge: CC.4.NF.3c 5.NSO-C.13 Add Fractions (Fractions) Sub-Skill 1: SWBAT add fractions with like denominators Sub-Skill 2:	State Standard CC.5.NF.1,2 5.NSO-C.13 Add Fractions (Fractions) Sub-Skill 1: SWBAT add fractions with unlike denominators w/LCM Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.3c 5.NSO-C.13 Subtract Fractions (Fractions) Sub-Skill 1: SWBAT subtract fractions with like denominators Sub-Skill 2:	State Standard CC.5.NF.1,2 5.NSO-C.13 Subtract Fractions (Fractions) Sub-Skill 1: SWBAT subtract fractions with unlike denominators w/LCM Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 CC.5.NF.2 5.NSO-C.18 Simplify Fractions (Fractions) Sub-Skill 1: SWBAT simplify fractions by identifying the GCF Sub-Skill 2:
Focus for Week 3: Unit 11 Fraction Work				
Sub-Skills: GCF, Equivalent, Improper fractions, mixed numbers				
Monday, November 21, Day #63	Tuesday, November 22, Day #64	Wednesday, November 23	Thursday, November 24	Friday, November 25
State Standard Background Knowledge: CC.4.NF.2 CC.5.NF.2 5.NSO-C.18 Simplify Fractions (Fractions) Sub-Skill 1: SWBAT determine if 2 fractions are equivalent Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 CC.5.NF.2 5.NSO-F.11 Simplify Fractions (Fractions) Sub-Skill 1: SWBAT define and write improper fractions Sub-Skill 2:	THANKSGIVING BREAK: NO SCHOOL (PD DAY FOR TEACHERS)	THANKSGIVING BREAK: NO SCHOOL	THANKSGIVING BREAK: NO SCHOOL
Focus for Week 4: Unit 12 Equivalency and Number Line Work				
Sub-Skills: Percentages, equivalent fractions, conversions				
Monday, November 28, Day #65	Tuesday, November 29, Day #66	Wednesday, November 30, Day #67	Thursday, December 1, Day #68	Friday, December 2, Day #69
State Standard Background Knowledge: CC.4.NF.2 CC.5.NF.2 5.NSO-F.11 Simplify Fractions (Fractions) Sub-Skill 1: SWBAT define and write mixed numbers Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 CC.5.NF.2 5.NSO-F.11 Simplify Fractions (Fractions) Sub-Skill 1: SWBAT convert and write improper fractions to mixed	State Standard Background Knowledge: CC.4.NF.2 CC.5.NF.2 5.NSO-F.11 Simplify Fractions (Fractions) Sub-Skill 1: SWBAT convert and write mixed fractions to improper Sub-Skill 2:	Review Unit 11 State Standard Unit 11 review Sub-Skill 1: Sub-Skill 2:	Unit 11 Quiz State Standard Unit 11 quiz Sub-Skill 1: Sub-Skill 2:

	Sub-Skill 2:			
Focus for Week 5: Unit 12 Equivalency and Number Line Work				
Sub-Skills: Percentages, Equivalent Fractions, Conversions				
Monday, December 5, Day #70	Tuesday, December 6, Day #71	Wednesday, December 7, Day #72	Thursday, December 8, Day #73	Friday, December 9, Day #74 ½ Day – one hour block
Begin Unit 12 State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.9 Equivalency (fractions) Sub-Skill 1: SWBAT define percentage Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.9 Equivalency (fractions) Sub-Skill 1: SWBAT express fractions as a percent (consider decimals) Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT define and write equivalent fractions Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT convert fractions to decimals Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT convert fractions to percents Sub-Skill 2:
Focus for Week 6: Unit 12 Equivalency				
Sub-Skills: Percents, Decimals, Fractions,GCF				
Monday, December 12, Day #75	Tuesday, December 13, Day #76	Wednesday, December 14, Day #77	Thursday, December 15, Day #78	Friday, December 16, Day #79
State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT convert decimals to percents Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT convert decimals to fractions Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT to convert percents to fractions Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT convert percents to decimals Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-C.18 Equivalency (fractions) Sub-Skill 1: SWBAT simplify fractions by identifying the GCF Sub-Skill 2:
Focus for Week 7: Unit 12 Equivalency				
Sub-Skills: Percents, Decimals, fractions, GCF, integers, mixed numbers				
Monday, December 19, Day #80	Tuesday, December 20, Day #81	Wednesday, December 21, Day #82	Thursday, December 22, Day #83	Friday, December 23
State Standard Background Knowledge: CC.4.NF.2 5.NSO-C.18 Equivalency (fractions) Sub-Skill 1: SWBAT determine if 2 fractions are equivalent Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.6 5.NSO-N.3 Number Line (Decimals) Sub-Skill 1: SWBAT find and position integers on the #line Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.6 5.NSO-N.3 Number Line (Decimals) Sub-Skill 1: SWBAT find and position decimals on the number line Sub-Skill 2:	Review for Unit 12= Quiz State Standard Background Knowledge: CC.4.NF.6 5.NSO-N.3 Number Line (Decimals) Sub-Skill 1: SWBAT find and position fractions and mixed numbers on the number line Sub-Skill 2:	WINTER BREAK: NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 8: Unit 13 Evaluating Expressions/ Properties of Equalities/Models, Tables, Graphs				
Sub-Skills: Variables, values, expressions, equations				
Monday, January 2	Tuesday, January 3	Wednesday, January 4, Day #85	Thursday, January 5, Day #86	Friday, January 6, Day #87
WINTER BREAK: NO SCHOOL	WINTER BREAK: NO SCHOOL (PD DAY FOR TEACHERS)	CULTURE RESET (NO ACADEMIC CLASSES)	CULTURE RESET	CULTURE RESET
Focus for Week 9: Unit 13 Evaluating Expressions/ Properties of Equality/Models, Tables, and Graphs				
Sub-Skills: Variables, expressions, Values, Simplifying, Inverse Operations, Equations, Proportions, Ratios, tables				
Monday, January 9, Day #87	Tuesday, January 10, Day #88	Wednesday, January 11, Day #89	Thursday, January 12, Day #90	Friday, January 13, Day #91

State Standard CC.5.MD.2 5.DASP.2 Data in Plots, Tables, and Graphs (Data) Sub-Skill 1: Sub-Skill 2:	State Standard CC.5.MD.2 5.DASP.2 Data in Plots, Tables, and Graphs (Data) Sub-Skill 1: Sub-Skill 2:	State Standard CC.5.OA.2 5.PRA.6 Models, Tables, and Graphs (Data and Graphs) Sub-Skill 1: SWBAT define proportion as a statement that says 2 ratios = Sub-Skill 2:	State Standard CC.5.OA.2 5.PRA.6 Models, Tables, and Graphs (Data and Graphs) Sub-Skill 1: SWBAT create tables and graphs in order to solve proportional relationships Sub-Skill 2:	State Standard CC.5.OA.1,2 5.PRA.2 Evaluate Expressions Given Variables (Decimals) Sub-Skill 1: SWBAT define variable as a symbol that represents a # Sub-Skill 2:
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Focus for Week 10: Unit 13 Evaluatin Expressions/Properties of Equality/Models, Tables, and graphs

Sub-Skills: Addition, Subtraction, Multiplication, Division

Monday, January 16	Tuesday, January 17, Day #92	Wednesday, January 18, Day #93	Thursday, January 19, Day #94	Friday, January 20, Day #95
MLK DAY: NO SCHOOL	State Standard Enrichment: CC.6.EE.2c 5.PRA.2 Evaluate Expressions Given Variables (Decimals) Sub-Skill 1: SWBAT create tables and graphs in order to solve proportional relationships Sub-Skill 2:	State Standard CC.5.OA.1,2,3 5.PRA.3 Properties of Equality (Decimals) Sub-Skill 1: SWBAT use inverse operations in order to solve 1 step equations involving addition Sub-Skill 2:	State Standard CC.5.OA.1,2,3 5.PRA.3 Properties of Equality (Decimals) Sub-Skill 1: SWBAT use inverse operations in order to solve 1 step equations involving subtract Skill 2:	State Standard CC.5.OA.1,2,3 5.PRA.3 Properties of Equality (Decimals) Sub-Skill 1: SWBAT use inverse operations in order to solve 1 step equations involving multiply Sub-Skill 2:

Focus for Week 11: Unit 13 Evaluating Expressions/ Properties of Equality/Models, Tables, and Graphs

Sub-Skills: Inverse operations; add,subtract,multiply, divide

Monday, January 23, Day #96	Tuesday, January 24, Day #97	Wednesday, January 25, Day #98	Thursday, January 26, Day #99	Friday, January 27, Day #100
Review for test unit 10-13 State Standard CC.5.OA.1,2,3 5.PRA.3 Properties of Equality (Decimals) Sub-Skill 1: SWBAT use inverse operations in order to solve 1 step equations involving division Sub-Skill 2:	Unit 10-13 Test State Standard Unit 10-13 Test Sub-Skill 1: Sub-Skill 2:	Begin Interim #4 Units Interim #3 Math	Start Unit 14 State Standard CC.5.G.1 5.G.7 Graph Points with Coordinates (Geometry) Sub-Skill 1: SWBAT identify the x and y axes on the Cartesian Plane Sub-Skill 2: SWBAT identify the four quadrants on the Cartesian Pl	End of Quarter 2 State Standard CC.5.G.1 5.G.7 Graph Points with Coordinates (Geometry) Sub-Skill 1: SWBAT use coordinates to locate and plot points in the first two quadrants Sub-Skill 2:

Interim Cycle 4

Teacher: Miss Jesi Rosati

Subject: MATH

Grade: 5

Focus for Week 1: Unit 14 Interpret Graphs/ Graphing Points/ Models, Tables, and Graphs

Sub-Skills: Graphs, x axis, y axis, quadrants, coordinates, tables, graphs, models

Monday, January 30, Day #101	Tuesday, January 31, Day #102	Wednesday, February 1, Day #103	Thursday, February 2, Day #104	Friday, February 3, Day #105
			½ Day – one hour block	½ Day – one hour block
State Standard CC.5.OA.3 CC.5.G.1, 2 5.PRA.4 Models, Tables, and Graphs (Data and Graphs) Sub-Skill 1: SWBAT create tables in order to display real situations and	State Standard CC.5.OA.3 CC.5.G.1, 2 5.PRA.4 Models, Tables, and Graphs (Data and Graphs) Sub-Skill 1: SWBAT create graphs in order to display real situations and	State Standard CC.5.G.1, 2 5.PRA.7 Interpret Graphs (Data and Graphs) Sub-Skill 1: SWBAT analyze information in a graph that represents the relationship between 2variabl Sub-Skill 2:	Review Unit 14 State Standard CC.5.G.1, 2 5.PRA.7 Interpret Graphs (Data and Graphs) Sub-Skill 1: SWBAT interpret 411 in a graph that represents the relationship between 2 variabl Sub-Skill 2:	Quiz Unit 14 State Standard Unit 14 Quiz Sub-Skill 1: Sub-Skill 2:

mathematical relationships Sub-Skill 2:	math relationships Sub-Skill 2:			
Focus for Week 2: Unit 15 Integers/ Compare and Order/ Inverse Operations				
Sub-Skills: Integers, Positive, Negative				
Monday, February 6, Day #106	Tuesday, February 7, Day #107	Wednesday, February 8, Day #108	Thursday, February 9, Day #109	Friday, February 10, Day #110
State Standard CC.5.OA.1 5.NSO-C.12 Negative Numbers Sub-Skill 1: SWBAT add with negative #s Sub-Skill 2:	State Standard CC.5.OA.1 5.NSO-C.12 Negative Numbers Sub-Skill 1: SWBAT subtract positive integers from negative integer Sub-Skill 2:	State Standard CC.5.OA.1 5.NSO-C.12 Negative Numbers Sub-Skill 1: SWBAT form rules for +- Sub-Skill 2:	State Standard CC.5.OA.1 5.NSO-C.21 Inverse Relationships (Decimals) Sub-Skill 1: SWBAT define inverse operations Sub-Skill 2: SWBAT add and subtract integers using a number line	State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order (fractions) Sub-Skill 1: SWBAT compare integers using the symbols <=> Sub-Skill 2:
Focus for Week 3: Unit 15 Ordering and Comparing Decimals and Percents				
Sub-Skills: Ordering, comparing, inverse operations, number lines				
Monday, February 13, Day #111	Tuesday, February 14, Day #112	Wednesday, February 15, Day #113	Thursday, February 16, Day #114	Friday, February 17
State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order Sub-Skill 1: SWBAT order positive and negative integers Sub-Skill 2:	State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order Sub-Skill 1: SWBAT compare positive fractions and mixed numbers Sub-Skill 2:	State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order Sub-Skill 1: SWBAT order positive fractions and mixed numbers Sub-Skill 2:	State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order Sub-Skill 1: SWBAT compare decimals Sub-Skill 2:	NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 4: Unit 15 Ordering and Comparing Decimals and Percents				
Sub-Skills: Order Decimals, Compare Percents, Order Percents, Inverse Operation, Number Line				
Monday, February 20	Tuesday, February 21, Day #115	Wednesday, February 22, Day #116	Thursday, February 23, Day #117	Friday, February 24, Day #118
PRESIDENT'S DAY: NO SCHOOL	State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order (Fractions) Sub-Skill 1: SWBAT order decimals Sub-Skill 2:	State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order Sub-Skill 1: SWBAT compare percents Sub-Skill 2:	Review Unit 15 State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order Sub-Skill 1: SWBAT order Percent Sub-Skill 2:	Unit 14 Quiz State Standard Unit 14 Quiz Sub-Skill 1: Sub-Skill 2:
Focus for Week 5: Unit 16 Exponents/ Order of Operations				
Sub-Skills: Repeated Multiplication, Powers, PEMDAS, expressions, operations, parenthesis				
Monday, February 27, Day #119	Tuesday, February 28, Day #120	Wednesday, February 29, Day #121	Thursday, March 1, Day #122	Friday, March 2, Day #123
State Standard CC.5.NF.6 5.NSO-C.20 Exponents (Decimals) Sub-Skill 1: SWBAT use exponents to represent repeated multiplying Sub-Skill 2:	State Standard CC.5.NF.6 5.NSO-C.20 Exponents (Decimals) Sub-Skill 1: SWBAT write powers of 10 using exponents Sub-Skill 2:	State Standard CC.5.OA.1 5.NSO-C.22 Order of Operations (Decimals) Sub-Skill 1: SWBAT use the PEMDAS acronym to solve expressions which include parenthesis. Sub-Skill 2:	State Standard CC.5.OA.1,2 5.PRA.5 Order of Operations (Decimals) Sub-Skill 1: SWBAT evaluate expressions that have parenthesis by evaluating operations in the parenthesis first. Sub-Skill 2:	State Standard CC.5.OA.1,2 5.PRA.5 Order of Operations (Decimals) Sub-Skill 1: SWBAT demonstrate order of operations in order to evaluate expressions containing different operation Sub-Skill 2:
Focus for Week 6: Unit 16 Exponents/ Order of Operations				
Sub-Skills: Expressions, Parenthesis, Ordering				
Monday, March 5, Day #124	Tuesday, March 6, Day #125	Wednesday, March 7, Day	Thursday, March 8, Day #127	Friday, March 9, Day #128

		#126		
<p>State Standard CC.5.OA.1,2</p> <p>5.PRA.5 Order of Operations (Decimals)</p> <p>Sub-Skill 1: SWBAT write expressions using parenthesis in order to indicate the order in which operations should be perform</p> <p>Sub-Skill 2:</p>	<p>State Standard CC.5.NF.2</p> <p>5. NSO-E.23 Estimate (all numbers)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard CC.5.NF.2</p> <p>5. NSO-E.23 Estimate (all numbers)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>Unit 16 Review</p> <p>State Standard CC.5.NF.2</p> <p>5.NSO-N.1 Estimate (all numbers)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>Unit 16 Quiz</p> <p>State Standard CC.5.NF.2</p> <p>5.NSO-N.1 Estimate (all numbers)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>
Focus for Week 7: Unit 17 Multiply and Divide Fractions				
Sub-Skills: Reciprical, Multiplying, Dividing				
Monday, March 12, Day #129	Tuesday, March 13, Day #130	Wednesday, March 14, Day #131	Thursday, March 15, Day #132	Friday, March 16
<p>State Standard 5.NSO-C.17 Multiply Fractions (Fractions)</p> <p>Sub-Skill 1: SWBAT multiply fractions</p> <p>Sub-Skill 2:</p>	<p>State Standard 5.NSO-C.17 Multiply Fractions (Fractions)</p> <p>Sub-Skill 1: SWBAT multiply positive fractions with whole numbers</p> <p>Sub-Skill 2:</p>	<p>State Standard 5.NSO-C.17 Divide Fractions (Fractions)</p> <p>Sub-Skill 1: SWBAT define reciprocal</p> <p>Sub-Skill 2:</p>	<p>State Standard 5.NSO-C.17 Divide Fractions (Fractions)</p> <p>Sub-Skill 1: SWBAT divide fractions</p> <p>Sub-Skill 2:</p>	NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 8: Unit 17 Multiply and Divide Fractions				
Sub-Skills: Multiply, divide, reciprocal				
Monday, March 19, Day #133	Tuesday, March 20, Day #134	Wednesday, March 21, Day #135	Thursday, March 22, Day #136	Friday, March 23, Day #137
<p>State Standard CC.5.NF.3,4</p> <p>5.NSO-C.17 Divide Fractions (Fractions)</p> <p>Sub-Skill 1: SWBAT divide positive fractions by whole numbers</p> <p>Sub-Skill 2:</p>	<p>Unit 17 Review</p> <p>State Standard Unit 17 Review</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>Unit 7 Quiz</p> <p>State Standard Unit 17 quiz</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>Begin Unit 18</p> <p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1: SWBAT define probability as the likelihood of an event occurring</p> <p>Sub-Skill 2:</p>	<p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1: SWBAT define probability as the likelihood of an event occurring</p> <p>Sub-Skill 2:</p>
Focus for Week 9: Unit 18 Probability				
Sub-Skills: Likelihood, events, favorable outcomes, possible outcomes				
Monday, March 26, Day #138	Tuesday, March 27, Day #139	Wednesday, March 28, Day #140	Thursday, March 29, Day #141	Friday, March 30, Day #142
<p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1: SWBAT define probability as the likelihood of an event occurring</p> <p>Sub-Skill 2:</p>	<p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1: SWBAT find the probability of an event by dividing the number of favorable outcomes by the total number of possible outcomes</p> <p>Sub-Skill 2:</p>	<p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1: SWBAT find the probability of an event by dividing the number of favorable outcomes by the total number of possible outcomes</p> <p>Sub-Skill 2:</p>	<p>Review for Unit 18 quiz</p> <p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1: SWBAT find the probability of an event by dividing the number of favorable outcomes by the total number of possible outcomes</p> <p>Sub-Skill 2:</p>	<p>Unit 18 Quiz</p> <p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>
Focus for Week 10: Unit 18 Probability				
Sub-Skills: : Likelihood, events, favorable outcomes, possible outcomes				
Monday, April 2, Day #143	Tuesday, April 3, Day #144	Wednesday, April 4, Day #145	Thursday, April 5, Day #146	Friday, April 6
Review for Unit 14	Review Unit 15	Review Unit 16	Review Unit 17-18	

State Standard	State Standard	State Standard	State Standard	SPRING BREAK: NO SCHOOL
Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:	
Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	
Focus for Week 11:				
Sub-Skills:				
Monday, April 16, Day #147	Tuesday, April 17, Day #148	Wednesday, April 18, Day #149	Thursday, April 19, Day #150	Friday, April 20, Day #151 End of Quarter 3
Review all units 14-18	Unit 14-18 Test	Begin DCAS UNITS		
State Standard	State Standard	INTERIM #4 MATH	State Standard CC.5.NF.2 5.NSO-E.23 Estimate (whole numbers)	State Standard CC.5.NF.2 5.NSO-E.23 Estimate (whole numbers)
Sub-Skill 1:	Sub-Skill 1:		Sub-Skill 1:	Sub-Skill 1:
Sub-Skill 2:	Sub-Skill 2:		Sub-Skill 2:	Sub-Skill 2:

(Post-Interims) Review; DCAS Testing Period

Teacher: Miss Jesi Rosati

Subject: MATH

Grade: 5

Focus for Week 1: (Post-Interims) Review; DCAS Testing Period				
Sub-Skills:				
Monday, April 23, Day #152	Tuesday, April 24, Day #153	Wednesday, April 25, Day #154	Thursday, April 26, Day #155	Friday, April 27, Day #156 ½ Day – one hour block
State Standard CC.5.NBT.1,2,4 5.NSO-N.1 Place Value	State Standard CC.5.NBT.1,2,4 5.NSO-N.1 Place Value	State Standard CC.5.OA.1 5.PRA.1 Patterns	State Standard CC.5.OA.1 5.PRA.1 Patterns	State Standard Quiz: Estimate, place value, patterns CC.5.NBT.1,2,4 5.NSO-N.1 Place Value CC.5.OA.1 5.PRA.1 Patterns
Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:
Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:
Focus for Week 2: (Post-Interims) Review; DCAS Testing Period				
Sub-Skills:				
Monday, April 30, Day #157	Tuesday, May 1, Day #158	Wednesday, May 2, Day #159	Thursday, May 3, Day #160	Friday, May 4, Day #161
State Standard CC.5.MD.2 5.DASP. 1 Data and Central Tendency	State Standard CC.5.MD.2 5.DASP. 1 Data and Central Tendency	State Standard CC.5.G.3,4 5.G.2 Identify 3-D Shapes	State Standard CC.5.G.3,4 5.G.2 Identify 3-D Shapes	State Standard CC.5.G.3,4 5.G.6 Quiz/ 5.G6 Transformations
Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:
Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:

Focus for Week 3:				
Sub-Skills:				
Monday, May 7, Day #162	Tuesday, May 8, Day #163	Wednesday, May 9, Day #164	Thursday, May 10, Day #165	Friday, May 11, Day #166
<p>State Standard</p> <p>Background Knowledge: CC.4.MD.3 5.M1: Perimeter of shapes</p> <p>Sub-Skill 1: Define perimeter, find perimeter of a triangle and rectangle</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Background Knowledge: CC.4.MD.3 5.M1: Perimeter of shapes</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Background Knowledge: CC.4.MD.3 5.M1 Define area; area of rectangle</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Background Knowledge: CC.4.MD.3 Current Knowledge: CC.5.MD.5b Enrichment: CC.7.G.4 5.M1 Area of triangle & parallelogram</p> <p>Sub-Skill 1: Use the formula for area and perimeter of triangle</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Quiz 5.M1 Area and Perimeter</p> <p>Background Knowledge: CC.4.MD.3 Current Knowledge: CC.5.MD.5b Enrichment: CC.7.G.4</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>

Focus for Week 4: (Post-Interims) Review; DCAS Testing Period				
Sub-Skills:				
Monday, May 14, Day #167	Tuesday, May 15, Day #168	Wednesday, May 16, Day #169	Thursday, May 17, Day #170	Friday, May 18, Day #171
<p>State Standard</p> <p>CC.5.MD.2 5.DASP.2 Data in Plots, Tables and Graphs</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>CC.5.MD.2 5.DASP.2 Data in Plots, Tables and Graphs</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>CC.5.MD.1 5.M.3 Unit Conversions (within a system)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>CC.5.MD.1 5.M.3 Unit Conversions (within a system)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Quiz on Tables and metric measurement</p> <p>CC.5.MD.2 5.DASP.2 Data in Plots, Tables and Graphs CC.5.MD.1 5.M.3 Unit Conversions (within a system)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>

Focus for Week 5: (Post-Interims) Review; DCAS Testing Period				
Sub-Skills:				
Monday, May 21, Day #172	Tuesday, May 22, Day #173	Wednesday, May 23, Day #174	Thursday, May 24, Day #175	Friday, May 25, Day #176 ½ Day – one hour block
<p>State Standard</p> <p>CC.5.NF.1,2 5.NSO-C.13 Add Fractions</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>CC.5.NF.1,2 5.NSO-C.13 Subtract Fractions</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Background Knowledge: CC.4.NF.2 5.NSO-C.18/F.11 Simplify Fractions</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Background Knowledge: CC.4.NF.2 5.NSO-C.18/F.11 Simplify Fractions</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>5.NSO-F.8 Understanding Fractions/Quiz on Fractions</p> <p>CC.5.NF.1,2 5.NSO-C.13 Add & Subtract Fractions</p> <p>Background Knowledge: CC.4.NF.2 5.NSO-C.18/F.11 Simplify Fractions</p> <p>Sub-Skill 1:</p>

				Sub-Skill 2:
Focus for Week 6: (Post-Interims) Review; DCAS Testing Period				
Sub-Skills:				
Monday, May 28	Tuesday, May 29, Day #177	Wednesday, May 30, Day #178	Thursday, May 31, Day #179	Friday, June 1, Day #180
MEMORIAL DAY: NO SCHOOL	State Standard Background Knowledge: CC.4.NF.2 Current Knowledge: CC.5.NBT.5 Percents Sub-Skill 1: Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 Current Knowledge: CC.5.NBT.5 Percents Sub-Skill 1: Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 Current Knowledge: CC.5.NBT.5 Percents Sub-Skill 1: Sub-Skill 2:	State Standard Percents/Quiz Background Knowledge: CC.4.NF.2 Current Knowledge: CC.5.NBT.5 Sub-Skill 1: Sub-Skill 2:
Focus for Week 7:				
Sub-Skills:				
Monday, June 4, Day #181	Tuesday, June 5, Day #182	Wednesday, June 6, Day #183	Thursday, June 7, Day #184	Friday, June 8, Day #185
State Standard CC.5.NBT.6, 7 Decimals Sub-Skill 1: Sub-Skill 2:	State Standard CC.5.NBT.6, 7 Decimals Sub-Skill 1: Sub-Skill 2:	State Standard CC.5.NBT.6, 7 Decimals Sub-Skill 1: Sub-Skill 2:	State Standard CC.5.NBT.6, 7 Decimals Sub-Skill 1: Sub-Skill 2:	State Standard Quiz Decimals CC.5.NBT.6, 7 Sub-Skill 1: Sub-Skill 2:
Focus for Week 8:				
Sub-Skills:				
Monday, June 11, Day #186	Tuesday, June 12, Day #187	Wednesday, June 13, Day #188 ½ Day - Finals	Thursday, June 14, Day #189 ½ Day – Finals	Friday, June 15, Day #190 ½ Day - Finals
State Standard Final Review Sub-Skill 1: Sub-Skill 2:	State Standard Final Review Sub-Skill 1: Sub-Skill 2:	MATH FINALS	ELA FINALS	SCIENCE/SS FINALS

Curriculum Scope & Sequence

School: Prestige Academy Charter School Grade or Course: Math/6th grade Teacher: Brunazzi/Patton

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Number Sense and Computation: Using Numbers to Determine Value, Compare and Contrast, and Identify and Graph/Plot Positive and Negative Integers. 5 -6weeks	<p>CC.6.NS.5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.</p> <p>CC.6.NS.6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.</p> <p>A. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.</p> <p>B. Understand signs of numbers in ordered pairs as indicating</p>	<p>Rational numbers include integers, the quotient or fraction of whole numbers and can be expressed in varying ways.</p> <p>The distance on a number line between two integers in filled with many rational numbers that can be expressed in many ways.</p> <p>Positive and negative numbers (numbers and their opposites) are sued to make sense of everyday situations involving concepts such as debt, temperature, stocks, etc.</p> <p>The absolute value of a number is its distance from zero on a number line.</p>	<p><i>Students will understand that...</i></p> <p>Positive and negative numbers are used together to describe quantities having opposite directions or values.</p> <p>There are many situations involving numbers where comparison is necessary and statements of inequality can be expressed using symbols, words, or other equations.</p> <p>Numbers can be plotted on a number line as well as a coordinate plane in order to express their value.</p>

	<p>locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.</p> <p>C. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.</p> <p>CC.6.NS.7. Understand ordering and absolute value of rational numbers.</p> <p>A. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. <i>For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.</i></p> <p>B. Write, interpret, and explain statements of order for rational numbers in real-world contexts. <i>For example, write $-3^{\circ}\text{C} > -7^{\circ}\text{C}$ to express the fact that -3°C is warmer than -7°C.</i></p> <p>C. Understand the absolute value of a rational number as its distance from 0 on the</p>		
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	<p>number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. <i>For example, for an account balance of -30 dollars, write $-30 = 30$ to describe the size of the debt in dollars.</i></p> <p>D. Distinguish comparisons of absolute value from statements about order. <i>For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.</i></p> <p>CC.6.NS.8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.</p> <p>CC.6.NS.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. <i>For example, express $36 + 8$ as $4(9 + 2)$. Apply and extend previous understandings of numbers to the system of</i></p>		
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	<i>rational numbers.</i>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Using Data to come to conclusions. 3-4 weeks	<p>6.SP.1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. <i>For example, “How old am I?” is not a statistical question, but “How old are the students in my school?” is a statistical question because one anticipates variability in students’ ages.</i></p> <p>6.SP.2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.</p> <p>6.SP.3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.</p> <p>6.SP.4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</p> <p>6.SP.5. Summarize numerical data sets in relation to their context, such as by:</p> <ul style="list-style-type: none"> A. Reporting the number of observations. B. Describing the nature of the attribute under 	<p>Statistical questions have value in our world and are asked to answer a myriad of questions even when data tends to vary greatly.</p> <p>Data sets are collected and analyzed using means of central tendency (mean, median, spread, range, etc) in order for us to better understand our world and answer statistical questions.</p> <p>Using data to create graph and charts including scatter plots, histograms, stem and leaf plots, box plots, can help us visualize the data set and arrive at deeper understandings of the data.</p> <p>Display numerical data in plots and understand that while a measure of variation describes how its values vary with a single number.</p>	<p><i>Students will understand...</i></p> <p>How to construct graphs using a given set of data.</p> <p>How to calculate the mean, median, mode, and range of a given set of data</p> <p>How to gather data to answer a larger, real-world question.</p> <p>How to find quantitative measures of center and describe overall patterns and trends in data.</p> <p>How to display numerical data in plots and understand that while a measure of variation describes how its values vary with a single number.</p>

	<p>investigation, including how it was measured and its units of measurement.</p> <p>C. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.</p> <p>D. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</p>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Using the Rules of the Road. 4-5 weeks	<p>CC.6.NS.2. Fluently divide multi-digit numbers using the standard algorithm.</p> <p>CC.6.NS.3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.</p> <p>CC.6.EE.2b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms.</i></p> <p>CC.6.NS.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. <i>For example, express $36 + 8$ as $4(9 + 2)$. Apply and extend previous understandings of numbers to the system of rational numbers.</i></p> <p>CC.6.NS.1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by</p>	<p>When solving a complex mathematical problem an algorithm is helpful and in many cases necessary.</p> <p>Each part of an expression must be looked at as a distinct, yet related section that is often solved separately using one algorithm before solving the larger expression.</p> <p>Exponents or “powers” of a number relate to a specific mathematical operation.</p>	<p><i>Students will understand that...</i></p> <p>It is best to use an algorithm for order of operations when solving complex problems that involve subtraction, division, or exponents.</p> <p>Finding the greatest common factor is useful when reducing fractions and cross reducing fractions.</p> <p>Mathematical expressions can be used to represent and solve real-world and mathematical problems.</p> <p>Flexibility in manipulating expressions to suit a particular purpose (rewriting an expression to represent a quantity in a different way to make it more compact or to feature different information) helps with solving problems efficiently.</p>

	<p>fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, create a story context for $(2/3) \div (3/4)$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. (In general, $(a/b) \div (c/d) = ad/bc$.)</i> How much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $3/4$-cup servings are in $2/3$ of a cup of yogurt? How wide is a rectangular strip of land with length $3/4$ mi and area $1/2$ square mi? Compute fluently with multi-digit numbers and find common factors and multiples.</p> <p>CC.6.EE.1. Write and evaluate numerical expressions involving whole-number exponents.</p>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Ratios and Proportions. 4-5 weeks	<p>CC.6.RP.1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. <i>For example, “The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly three votes.”</i></p> <p>CC.6.RP.2. Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. <i>For example, “This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is $3/4$ cup of flour for each cup of sugar.” “We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger.”¹</i></p> <p>CC.6.RP.3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.</p> <p>A. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare</p>	Ratios are a way of comparing two numbers in a way that creates a new number expression.	<p><i>Students will understand that...</i></p> <p>When creating a ratio, the numerals need to correspond with the situation described.</p> <p>Ratios connect to many mathematical concepts, such as multiplication, fractions, etc.</p> <p>In order to scale a proportion up or down, multiplication or division is needed.</p> <p>Equivalent ratios are created when both numbers of the proportion are treated the same.</p>

	<p>ratios.</p> <p>B. Solve unit rate problems including those involving unit pricing and constant speed. <i>For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?</i></p> <p>C. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means $30/100$ times the quantity); solve problems involving finding the whole, given a part and the percent.</p> <p>D. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.</p>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Geometry and geometric relationships. 3-4 weeks	<p>6.G.1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.</p> <p>6.G.2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.</p> <p>6.G.3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.</p> <p>6.G.4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and</p>	<p>Two-dimensional and three-dimensional shapes are a part of our world. We can use mathematical algorithms for volume and area to better understand these shapes.</p> <p>Polygons are separated into various shapes (triangles, rectangles, squares) in order to better understand them.</p>	<p><i>Students will understand that...</i></p> <p>Area involves measuring a surface in square units</p> <p>Surface Area involves measuring all faces of a 3-D shape in square units.</p> <p>Volume is connected to the idea of filling in all empty space in a three-dimensional object with cubic units.</p>

	mathematical problems.		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Applying arithmetic to Algebraic Expressions. 4-5 weeks	<p>CC.6.EE.1. Write and evaluate numerical expressions involving whole-number exponents.(review)</p> <p>CC.6.EE.2. Write, read, and evaluate expressions in which letters stand for numbers.</p> <p>A. Write expressions that record operations with numbers and with letters standing for numbers. <i>For example, express the calculation “Subtract y from 5” as $5 - y$.</i></p> <p>B. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms.(review)</i></p> <p>C. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic</p>	<p>In mathematical expressions, variables are used to represent a number with an unknown value.</p> <p>Writing, solving, and evaluating expressions with variables can help us solve a myriad of real world problems.</p>	<p><i>Students will understand that...</i></p> <p>Using the order of operations, one can parse out single entities within a larger expression.</p> <p>Rules about familiar mathematical operations also apply to variables (variables can be added, multiplied, etc)</p> <p>Two equivalent expressions remain equivalent when a number is substituted for a variable.</p>

	<p>operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). <i>For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.</i></p> <p>CC.6.EE.3. Apply the properties of operations to generate equivalent expressions. <i>For example, apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$; apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$; apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.</i></p> <p>CC.6.EE.4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). <i>For example, the expressions $y + y + y$ and $3y$ are equivalent because they name the same number regardless of which number y stands for. Reason about and solve one-variable equations and inequalities.</i></p>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Algebraic Reasoning with inequalities, equations, and variables. 4-5 weeks.	<p>6.EE.5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.</p> <p>6.EE.6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.</p> <p>6.EE.7. Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.</p> <p>6.EE.8. Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.</p> <p>6.EE.9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of</p>	<p>In mathematical expressions, variables are used to represent a number with an unknown value.</p> <p>An equal sign represents equivalence.</p> <p>Equations with inequalities and/or variables represent real-world situations that can be solved and understood using mathematical and algebraic reasoning.</p> <p>Mathematical problems with independent and dependent variables can be represented using various formats (graphs, real-world scenarios, equations).</p>	<p><i>Students will understand that...</i></p> <p>Inequalities can be solved using the inverse of an operation.</p> <p>Solutions to equations and inequalities are the values that make the equations and inequalities true.</p> <p>Some inequalities have infinite solutions.</p> <p>Variables can be used to represent qualities that vary in relationship to one another.</p> <p>All independent and dependent variables have a relationship.</p>

	<p>the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.</p>		
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Curriculum Scope & Sequence

School: Prestige Academy Charter School Grade or Course: Math/5th grade Teacher: Davisson/Rosati

Unit Order	Learning Targets	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
<p>By unit title and/or time frame</p> <p>Place Value, Expanded Notation, and Estimation - 3 weeks</p>	<p>Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks</p> <p>CC.5.NBT.1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.</p> <p>CC.5.NBT.2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.</p> <p>CC.5.NBT.4. Use place value understanding to round decimals to any place.</p> <p>CC.5.NBT.7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and</p>	<p>The value of a digit in our number system is determined by its place value position.</p> <p>Place value patterns are continued in decimal numbers.</p> <p>Computational strategies with whole numbers can be applied to decimals.</p>	<p><i>Students will understand that...</i></p> <p>Place value is based on multiples of ten.</p> <p>A digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.</p> <p>When multiplying/dividing whole numbers & decimals by powers of 10, the digits move based on place value, not the decimal point.</p> <p>Multiplying & dividing whole numbers and decimals by 10 results in a pattern of zeros. (See example for standard 5.NBT.2).</p> <p>Rounding is a formal way of estimating.</p>

	strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.		
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Unit Order	Learning Targets	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
<p>By unit title and/or time frame</p> <p>Multiplying Whole Numbers, Multiplying Decimals, Factorization - 2 weeks</p> <p>Dividing Whole Numbers and Decimals – 2 weeks</p>	<p>Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks</p> <p>CC.5.NBT.5. Fluently multiply multi-digit whole numbers using the standard algorithm.</p> <p>CC.5.NBT.6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</p> <p>CC.5.NBT.7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and</p>	<p>Computational strategies with whole numbers can be applied to decimals.</p> <p>Extending previous understandings of multiplication & division can help you solve problems involving multiplying & dividing fractions.</p>	<p><i>Students will understand...</i></p> <p>Process of standard algorithm for multiplication (There are multiple standard algorithms: partial products/distributed multiplication, traditional).</p> <p>Strategies to perform all operations.</p> <p>Strategies for dividing whole numbers (See standard 5.NBT.6 - Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models)</p> <p>Properties of operations (i.e. distributive property)</p>

	strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.		<p>Multiplication & division are inverse operations.</p> <p>Multiplying a whole number by a number greater than 1 results in a product greater than the given number. (Ex: $3\frac{1}{2} \times 5$ will result in a number more than $3\frac{1}{2}$)</p> <p>Multiplying a whole number by a number smaller than 1 results in a product less than the given number. (Ex: $3\frac{1}{2} \times \frac{1}{4}$ will result in a number less than $3\frac{1}{2}$)</p> <p>Multiplying a whole number by a number/ fraction equal to 1 results in a number that represents the same quantity.</p>
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Unit Order	Learning Targets	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
By unit title and/or time frame	Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks		
Measuring, Identifying, and Classifying Lines/Angles/Polygons and 3D Shapes Symmetry, Congruency, Transformations	CC.5.G.3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are	2-D shapes can be identified, classified and analyzed by their properties. Extending previous understandings of multiplication & division can help you solve problems	<i>Students will understand that...</i> Two-dimensional shapes are classified by their attributes (i.e. # of sides, # of angles, types of angles, regular vs. irregular polygons, etc.).

<p>Area and Perimeter</p> <p>Volume and Surface Area</p> <p>Measurement Unit Conversions</p> <p>4-5 weeks</p>	<p>rectangles, so all squares have four right angles.</p> <p>CC.5.G.4. Classify two-dimensional figures in a hierarchy based on properties.</p> <p>CC.5.NBT.7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p> <p>CC.5.MD.3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.</p> <ul style="list-style-type: none"> o A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. o A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units. <p>CC.5.MD.4. Measure volumes</p>	<p>involving multiplying & dividing fractions.</p> <p>There are a multiple ways to organize, recognize, and interpret data for a variety of purposes.</p> <p>The concepts of volume are related to area, multiplication and division.</p>	<p>An array model can justify the formula: $A=L \times W$</p> <p>Volume is an attribute of solid figures relating length, width, and height (depth).</p> <p>Volume is "filling" the inside space if a 3D shape.</p> <p>Volume is additive: The volumes of two non-overlapping rectangular prisms can be added to find a total volume.</p> <p>The formula $V=B \cdot h$ relates the total volume as multiple layers of the Base (area).</p> <p>The area of a rectangular base can be utilized when calculating the volume.</p> <p>Standard Measurement Units can be used interchangeably.</p>
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	<p>by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.</p> <p>CC.5.MD.5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.</p> <ul style="list-style-type: none">o Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.o Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.o Recognize volume as additive. Find volumes of solid figures composed of two non-		
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	<p>overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.</p> <p>CC.5.MD.1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.</p>		
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Unit Order	Learning Targets	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
By unit title and/or time frame	Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks		
<p>Fraction Work (GCF, Equivalent, Improper, Mixed Numbers, Conversions)</p> <p>Add & Subtract Fractions</p> <p>Fractions, Decimals, and Percentages</p> <p>Fractions on Number Lines</p> <p>6 weeks</p>	<p>CC.5.NF.1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$. (In general, $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$.)</p> <p>CC.5.NF.2. Solve word</p>	<p>Equivalent fractions are a powerful strategy for adding and subtracting fractions.</p> <p>Multiple strategies & models can be utilized to solve a variety of problems involving fractional concepts.</p>	<p><i>Students will understand that...</i></p> <p>Fractions can be added & subtracted using area models, ratio models, number lines, fraction bars, and finding common denominators.</p> <p>Relationship between numbers and their multiples are used to find equivalent fractions.</p> <p>Benchmark fractions and fraction number sense can be</p>

	<p>problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$, by observing that $\frac{3}{7} < \frac{1}{2}$.</p> <p>CC.5.MD.2. Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.</p>		<p>used to estimate fraction sums and differences and assess the reasonableness of solutions.</p> <p>Methods for recording strategies for adding & subtracting fractions using models or equations.</p>
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Unit Order	Learning Targets	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
By unit title and/or time frame	Content Standards, Grade Level Expectations, Proficiency		

	Level Expectations, or Grade Cluster Benchmarks		
<p>Evaluating Expressions</p> <p>Properties of Equalities</p> <p>Interpret models, tables, and graphs</p> <p>Order of operations</p> <p>6-8 weeks</p>	<p>CC.5.OA.1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.</p> <p>CC.5.OA.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. <i>For example, express the calculation "add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.</i></p> <p>CC.5.OA.3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one</p>	<p>Order of Operations – Mathematical computations are performed following a given order: the order of operations.</p> <p>Functions of mathematical symbols</p> <p>Numerical patterns can be generated based on a rule.</p> <p>Ordered pairs form a relationship that generate a pattern and can be represented in multiple ways (tables, graphs, etc.)</p> <p>Data can be organized, represented, & interpreted in multiple ways.</p>	<p><i>Students will understand that...</i></p> <p>Mathematical rules and expressions depict mathematical relationships.</p> <p>There are a multiple ways to organize, recognize, and interpret data for a variety of purposes.</p>

	<p>sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</p> <p>CC.5.NBT.7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.</p>		
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Unit Order	Learning Targets	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
By unit title and/or time frame	Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks		
Multiply & Divide Fractions Probability 4-5 weeks	CC.5.NF.3. Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. For	Computational strategies with whole numbers can be applied to decimals.	<i>Students will understand that...</i> Process of standard algorithm for multiplication (There are multiple standard algorithms: partial products/distributed multiplication, traditional). Strategies for dividing whole

	<p>example, interpret $\frac{3}{4}$ as the result of dividing 3 by 4, noting that $\frac{3}{4}$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $\frac{3}{4}$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</p> <p>CC.5.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p> <ul style="list-style-type: none"> o Interpret the product $(\frac{a}{b}) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. For example, use a visual fraction model to show $(\frac{2}{3}) \times 4 = \frac{8}{3}$, and create a story context for this equation. Do the same with $(\frac{2}{3}) \times (\frac{4}{5}) = \frac{8}{15}$. (In general, $(\frac{a}{b}) \times (\frac{c}{d}) = \frac{ac}{bd}$.) o Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as 		<p>numbers (See standard 5.NBT.6 - Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models)</p> <p>Strategies to perform all operations.</p> <p>Properties of operations (i.e. distributive property)</p> <p>Multiplication & division are inverse operations.</p>
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	<p>would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.</p> <p>CC.5.NF.5. Interpret multiplication as scaling (resizing), by:</p> <ul style="list-style-type: none">o Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.o Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1. <p>CC.5.NF.6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or</p>		
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	<p>equations to represent the problem.</p> <p>CC.5.NF.7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.1</p> <ul style="list-style-type: none">o Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.o Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.o Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For		
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	example, how much chocolate will each person get if 3 people share $\frac{1}{2}$ lb of chocolate equally? How many $\frac{1}{3}$ -cup servings are in 2 cups of raisins?		
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Unit Order	Learning Targets	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
By unit title and/or time frame	Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks		
Review prior to DCAS and end-of-year assessments - 8 weeks	<p>Topics covered have been explained in Scope & Sequence above.</p> <p>Order of skills to review per week:</p> <ol style="list-style-type: none"> 1) Place Value 2) Data & Central Tendency 3) 2D and 3D Shapes (area, perimeter, volume, surface area) 4) Analyzing data in tables, plots, and graphs 5) Add & subtract fractions 6) Simplifying fractions 7) Converting between 		<i>Students will understand that...</i>

	fractions, decimals, and percents		
	8) Multiply & divide fractions		

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Unit Title: Number Sense

Grade Level(s): 5

Subject/Topic Areas: Place value, reading and writing numbers, expanded notation, adding and subtracting, comparing numbers

Key Vocabulary:

Designed By: Jessica Rosati

Time Frame: 12 to 15 hours

Date: 09/01 – 09/16

SUMMARY OF PURPOSE: In this 5th grade math unit, students will be introduced to numbers in a mathematical sense. They will be able to read and write whole numbers and learn place values up to the hundred billions place. They will also be able to then “stack up” these numbers in order to compare and order them, and express numbers in four forms: standard form, written form, expanded form, and expanded notation.

Stage 1: Desired Results

Common Core/ Delaware Standards

- CC. 5.NBT.1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left.
- CC.5.NBT.2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
- CC.5.NBT.3. Read, write, and compare decimals to thousandths.
 - A. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
 - B. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
- CC.5.NBT.4. Use place value understanding to round decimals to any place.
- CC.5.OA.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.*

Key Concepts/Big Ideas

Number theory

Enduring Understandings

Students will understand that...

- A number can be expressed in various ways
- Place values of numbers tell us the value of a digit

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Essential Questions

- What are different ways to express numbers? (numerical form, word form, expanded form)
- What are the place values up to hundred billions?

Real World Context

- Expressing large numbers in money, the census uses large numbers for populations in social studies

Learning Targets/Goals

Students will know...

- How to write and read numbers up to the hundred billions place value

Students will be able to... (21st century skills)

- Express numbers in written form, numerical form, and understand whole number place values

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

Students will complete two exit slips post “place value” and “expressing numbers” lessons. They will be asked to name given place values, tell digits in certain place values, and express numbers in various ways taught in class.

Rubrics for Transfer Tasks

Performance Task

	3	2	1	0
Place Value Exit Slip	All six answers are correct or five out of six are correct. This is considered mastery.	Student receives four out of six answers correct.	Student receives less than half of the answers correct. Student has not mastered objective.	Student does not answer any place value questions correctly.
Expressing Numbers Exit Slip	All eight answers are correct, or seven out of eight are correct. This is considered mastery.	Student receives six out of eight answers correct.	Student receives less than half of the answers correct. Student has not mastered objective.	Student does not answer any expressing numbers questions correctly.

Formative Assessments:(e.g., tests, quizzes, prompts, work samples, observations)
All copies can be found in Appendix A.

Summative Assessments:

Comprehensive exams
Aligned to standards

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Student Self-Assessment and Reflection
Pairs Communication Activity
<u>Directions:</u> Scholars will be placed into successful learning groups of two (one scholar who has mastered the objective paired with a scholar who has not yet mastered it.) Each pair will receive a bag of “Sixth Sense” playing cards created by teacher. On the front side, lists a number with place values reaching up to the hundred billions, with one digit underlined, and the backside contains the answer. One scholar holds the card up to his partner, and the partner names the place value of the underlined digit. If the scholar answers incorrectly, the partner gives him a second try, building confidence and allowing for mistakes. Both students check the back of the card for the correct answer and switch roles. They continue playing, gaining one point for each right response. At the conclusion of this activity, we will use the following reflection as a class. <u>Reflection:</u> <ol style="list-style-type: none">1. Which place values did you have most difficulty remembering and naming? Why?2. What type of strategies did your partner employ to make you more successful if you did not answer correctly the first time? <ul style="list-style-type: none">• BE SURE TO INCLUDE A COLLABORATIVE LEARNING ACTIVITY

Instructional Resources
Differentiation
If two “high level” mastery scholars are partnered together, they may scaffold the activity to make it more challenging. Instead of reading place values, these partners are able to choose three cards each, read these numbers out loud to each other, or place them in order from least to greatest.
Enrichment
Scholars can create their own game cards with numbers, and practice at home with a family member or friend.

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- Practice reading larger numbers, remembering commas and place values
- Expressing numbers in several forms; including written form, numerical form, expanded form and expanded notation

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1

General Topics: Learning place values up to the hundred billions place.

Key Vocabulary: Place value, digit, period

1. Teach place values up to the hundred billions place. Discover that there is a pattern of “HTO” (hundreds, tens, ones) in each period that is separated by a comma.
2. Use laminated place value charts to practice filling in digits that create large numbers.
3. Guided Practice: Teacher rolls a die on the ELMO projector and puts the digits together to create large numbers. Scholars are then asked to read these large numbers using the technique taught in class.
4. Learn “The Place Value Song” (see attached) and practice chanting as a class. Review that place values get larger as the digits add to the right.

Check for Understanding: Exit Slip

Lesson 2

General Topics: Expressing numbers in written form, numerical form, and expanded forms.

Key Vocabulary: Expanded form/notation, written form, numerical form

1. Class notes include definitions of various forms of expressing numbers in a chart form. Students will see that even though it is the same number, it can be written in several ways.
2. Students practice reading numbers by reading the 1, 2, or 3 digits in the period, then

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- reading the place value “name”.
3. Class activity is a game of numbers “concentration”. Scholar will meet with a partner and try to match the numerical form of a number with the written form of a number. Each match that the scholar makes earns them one point. This activity will be played for 20 minutes.

Check for Understanding: Exit Slip

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Name: _____

Date: _____

Subject: _____

Homeroom: _____

Day 8

Do Now (5 min)

1. Which of the following numbers is the largest? Circle your answer.

280

28000

28

2. How do you know the number you circled is the largest?

3. You want the new Jordans and Footlocker has them for \$90.

Ebay is selling the same pair for \$900. Champs is having a huge sale and they are selling them for \$9. Where would you buy the new Jordans?



Why? _____

Arrange the three values on the line below using the symbols $<$, $>$, or $=$.

Day 8

Class Notes: Place Value

SWBAT identify the digit of a given place value in a 9-digit whole number

SWBAT identify the place value of a given digit in 9-digit whole number

Key Words

☺ *Digit* _____


☺ *Place Value* _____

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5, 0 9 2, 4 8 1, 3 7 6

- What digit is in the HUNDREDS place? _____
- What place is the EIGHT in? _____
- What digit is in the THOUSANDS place? _____
- What place is the SEVEN in? _____
- What digit is in the MILLIONS place? _____
- What digit is in the BILLIONS place? _____
- What place is the ZERO in? _____
- What is a **period** separated by? _____

Let's draw what the pattern looks like!!!



Day 8
Class Activity: Place Value

Directions: Follow along on the overhead as Miss Rosati/Mr. Ambriz spins the spinner. Every digit the arrow lands on will go into the place value box. We will then write the numbers in Standard Form.

Example:

thousands	hundreds	tens	ones
4	5	6	7
thousands	hundreds	tens	ones
thousands	hundreds	tens	ones
thousands	hundreds	tens	ones
thousands	hundreds	tens	ones

Standard Form

4,567



Day 8
IP: Place Value

Directions: Write the numbers in the correct boxes to find how far the car has traveled.



- one thousand
- six hundreds
- eight ones
- nine ten thousands
- four tens
- two millions
- five hundred thousands

millions	hundreds of thousands	ten thousands	thousands	hundreds	tens	ones

How many miles has the car traveled? _____

Directions: In the number ...

- 2,386 _____ is in the ones place.
- 4,957 _____ is in the hundreds place.
- 102,432 _____ is in the ten thousands place.
- 489,753 _____ is in the thousands place.
- 1,743,998 _____ is in the millions place.
- 9,301,671 _____ is in the hundred thousands place.
- 7,521,834 _____ is in the tens place.

Day 8

Place Value: Song Lyrics

**The digits, the digits they fit in so tight
 Greater to the left and lesser to the right
 Starting at the decimal, sandwiched in between
 Zeroes hold the empty places, haven't you seen?
 The digits, the digits, each one means a lot
 You can't leave them out of the place value spot
 Reading big numbers, each COMMA's a word
 "Thousand, million, billion," COMMA, haven't you heard?**

How did I do???

I got _____/15 correct.

I mastered.... 0% 7% 13% 20% 27% 33% 40% 47% 53% 60% 67%
 63% 80% 87% 93% 100%

Did I master this assignment?

YES! ALMOST! NOT YET!

Millions, ten millions, hundred millions, COMMA

Billions, ten billions, hundred billions, COMMA!

After
saving all of his allowance for the year,

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Amir had a total of \$1,826. In this number, what place value is the 8 in?

2. The population of Delaware from the 2010 Census was 897,934. The population of Delaware in the year 2000 was 783,557. How do you write the 2010 population in word form?

3. The winning lottery ticket last night was for _____ three hundred nine million, four hundred eighty thousand, seventy-two dollars.

a. How do you write this number in standard form?

b. What is the place value of the four?

c. What is the place value of the one?

Name: _____

Date: _____

Subject: _____

Homeroom: _____

Day 8

Homework: Place Value

Directions: Write the place value of the underlined digit

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a. 234,567 - _____

i. 365 - _____

b. 345,765 - _____

j. 31,554 - _____

c. 12,042 - _____

k. 623,007 - _____

d. 100,456 - _____

l. 8,700 - _____

e. 4,120 - _____

m. 532,197 - _____

f. 34,765 - _____

n. 3,722 - _____

g. 31,655 - _____

o. 40,297 - _____

h. 230,200 - _____

p. 354,123 - _____

Parent Signature

Prestige Academy Charter School

Name: _____
Subject: _____

Date: _____
Homeroom: _____

Day 8
Exit Ticket: Place Value

Underline the digit in the given place value.

1. 4,927 (Tens) 2. 38,910 (Thousands) 3. 163,028 (Hundreds)

Name the place value of the underlined digit

4. 8,219 5. 371,402 6. 189,453,012
-

Name: _____
Subject: _____

Date: _____
Homeroom: _____

Day 8
Exit Ticket: Place Value

Underline the digit in the given place value.

1. 4,927 (Tens) 2. 38,910 (Thousands) 3. 163,028 (Hundreds)

Name the place value of the underlined digit

4. 8,219 5. 371,402 6. 189,453,012
-

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	Hundred Billions
	Ten Billions
	Billions
	Hundred Millions
	Ten Millions
	Millions
	Hundred Thousands
	Ten Thousands
	Thousands
	Hundreds
	Tens
	Ones
	.
	Tenths
	Hundredths
	Thousandths

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Unit Title: Understanding Fractions	Grade Level(s): 5
Subject/Topic Areas: Introduction to Fractions	
Key Vocabulary: Fractions	
Designed By: Jessica Rosati	Time Frame: 2 weeks
	Date:

SUMMARY OF PURPOSE: In this 5th grade fractions unit, students will be introduced to the meaning of a fraction and where they are utilized in everyday life. Students will be able to read and write fractions, compare and order fractions, create equivalent fractions, and use fractions in word problems, and add and subtract fractions with like denominators. As a final project, students will bring in a favorite recipe from home, then create equivalent fractions to make it enough for the 20 students in the classroom. We will print out the recipes and create a class cookbook for everyone to take home.

Stage 1: Desired Results

Common Core/ Delaware Standards

- CC.5.NF.1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)*
- CC.5.NF.2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.*

Key Concepts/Big Ideas

Introduction to Fractions

Enduring Understandings

Students will understand that...

- Fractions are part of a whole**
- A numerator lists the number of the whole that you are dealing with, a denominator lists the complete number of the set**
- Equivalent and simplified fractions have the same value, but just written differently**
- Fractions are used in the real world in recipes, weights, and in statistics.**

Essential Questions

- What is a fraction and where is it used?
- How do you compute equivalent fractions?

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- How can we add and subtract fractions with the same denominator?

Real World Context

- Opportunities for students to make real-life connections by showing fractions in recipes, in weights, speeds, time, and statistics.

Learning Targets/Goals

Students will know...

- The definition of a fraction and what each part of it stands for
- How to express fractions in drawings and shading
- How to create an equivalent fraction by multiplying both the numerator and denominator by the same number

Students will be able to... (21st century skills)

- Name a fraction and the parts of a fraction
- Draw a picture representing a fraction
- Create at least three equivalent fractions for a simplified fraction
- Add and subtract fractions with common denominators

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

Students will bring in a favorite recipe from home. Each student will then take his recipe and create equivalent fractions so it is enough for twenty students. For example, if the recipe for ten cookies calls for $\frac{1}{2}$ cup of margarine, then the student would calculate that for twenty students, the recipe would need one whole cup.

Students will rewrite the recipe using a laptop to incorporate typing and technology into the lesson. The recipes will then be printed out and made into a book for each scholar to take home to use.

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1
Correct Calculations for equivalent fractions	All calculations are completed correctly and all equivalent fractions are accurate.	The correct method was employed to find equivalent fractions, but some calculations were done incorrectly.	Most of the calculations were done incorrectly.	Neither the method nor final equivalent fraction calculations were answered correctly.
Recipe completed in a neat way	The recipe is in a neat concise way, with ingredients listed at the top and the steps listed at the bottom.	Several errors were made while typing, or the format is incorrect for the recipe.	The recipe is incomplete, and student did not write steps/ingredients correctly.	No ingredients or steps are typed, and the recipe is unfinished.

Formative Assessments:(e.g., tests, quizzes, prompts, work samples, observations)

All copies can be found in Appendix A.

Summative Assessments:

Comprehensive exams
Aligned to standards

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Student Self-Assessment and Reflection

Pairs Communication Activity

Directions:

Each scholar will receive a manipulative set of fraction pieces up to $\frac{1}{12}$ pieces. He will play around with the fraction pieces and attempt to create equivalent fractions to write on packet. Scholars will be told to take pieces and place them on top other larger pieces in order to find equal fractions. Two “half” pieces will stack up to be one whole, etc.

Reflection:

1. What did you notice about the smaller fraction pieces compared to the larger fraction pieces?
2. What can you tell about fraction pieces that equal one whole?

- BE SURE TO INCLUDE A COLLABORATIVE LEARNING ACTIVITY

Instructional Resources

Fraction manipulative

Differentiation

Scholars are able to work in partners if in the low group. Higher level scholars can begin adding fraction pieces together to find sums.

Enrichment

A foldable equivalent fraction can be created by cutting strips of stapled paper to create one whole, two halves, four fourths, and eight eighths.

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- Understand how to read and express fractions
- Add and subtract fractions with like denominators; only add or subtract numerators
- Equivalent fractions

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1

General Topics Understanding how to read and write fractions

Key Vocabulary: Numerator, denominator, fraction

1. Instruct scholars that a fraction is a part of a whole.
2. Discuss where we may have seen fractions before in the real world.
3. Show world problem about slices of pizza.

Check for Understanding: Exit Slip

Lesson 2

General Topics Equivalent Fractions

Key Vocabulary: Equivalent

1. Allow scholars to play around with fraction piece manipulative set. Each student must complete a sheet to write down as many equivalent fractions as they can.
2. Explain that equivalent fractions are created by following a simple rule: whatever you do to the numerator, you must also do the same to the denominator.

Check for Understanding: Exit Slip

Lesson 3

General Topics Adding and Subtracting Fractions

Key Vocabulary:

1. Show Fractions Powerpoint to engage review prior material already covered.
2. Allow scholars to make guesses on how to add or subtract fractions with like denominators.
3. Show that if the denominator is the same you do NOT add it; simply add the numerator. Display with fraction pieces on the ELMO that $\frac{1}{2} + \frac{1}{2} =$ one whole

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Check for Understanding: Exit Slip

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Name _____ Date _____

Subject _____ Homeroom _____

Day 23: Fraction Fridays! Equivalent Fractions

DO NOW: Factors Review (Make sure you read what the question is asking for!)

1. Find all of the <u>factors</u> of 24	2. Find the <u>common factors</u> of 15 and 20
3. Find the <u>GCF</u> of 6 and 18	4. Find the <u>GCF</u> of 8 and 20
5. Find the <u>prime factorization</u> of 32	6. Find the <u>prime factorization</u> of 40

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Day 23: Equivalent Fractions

Take 4 minutes to answer the following questions to the best of your ability!

Answer *True* or *False* after each set of sentences.

1. My glass is half empty. That is the same as half full. _____
2. I ate three-fourths of a pizza; now there are only ten pieces left. _____
3. The principal has read 23 pages of our class book.
If this is half the book, then the book contains 40 pages. _____
4. One hundred bricks were delivered to a building site. One-fourth of them
were the wrong color, so 25 bricks were returned to the factory. _____
5. When David was two years old he was half his present height. He is
now 48 inches tall. At two years old he was 24 inches tall. _____
6. We had five inches of rain. The weatherman told us to expect double
this, so we expect to get 12 inches of rain. _____
7. My lawnmower holds four gallons of gas. If the tank is half full,
then I know there are two gallons still in the tank. _____
8. The hands on the clock say half past three. In another half hour I
know it will be half past four. _____
9. I ate half of the chocolate bar. Now my sister can share it with her
friend. They will have one-fourth each. _____
10. If I ate five pieces of cake and the cake was originally cut into five
pieces, then I have eaten the whole cake. _____
11. The temperature of the water was 40°F but our teacher said it
should be double this. I will now heat the water to 90°F. _____
12. We have traveled 15 miles already. This is halfway, so we have
another 20 miles to go. _____

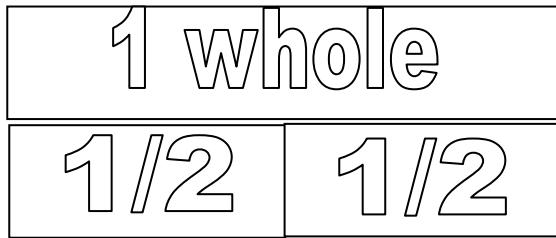
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Day 23: Fraction Fridays! Equivalent Fractions

Class Notes/Activity: Equivalent Fractions

Directions: Mr. Ambriz/Miss Rosati will pass out a baggie with fraction pieces. Your job is to experiment with the pieces and find as many equivalent fractions to write in the spaces below as you can. You will have 8 minutes to do this on soft voices.

Example:



Therefore, you know that two $\frac{1}{2}$ pieces = 1 whole piece

1 whole	Two $\frac{1}{2}$ pieces,
$\frac{1}{2}$	
$\frac{1}{4}$	
$\frac{1}{5}$	
$\frac{1}{3}$	
$\frac{2}{3}$	

_____ have the same value, even though they may look different.

These fractions are really the same:

$$\frac{1}{2} = \frac{2}{4} = \frac{4}{8}$$

Why are they the same? Because when you multiply or divide **both** the top and bottom by the same number, the fraction keeps its value.

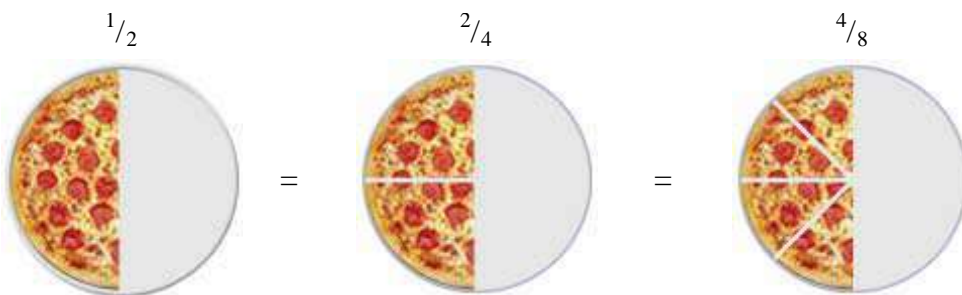
The rule to remember is:

What you do to the top of the fraction you must also do to the bottom of the fraction !

So, here is why those fractions are really the same:

$$\begin{array}{ccc} & \times 2 & \times 2 \\ \frac{1}{2} & = & \frac{2}{4} \\ & \times 2 & \times 2 \\ \frac{2}{4} & = & \frac{4}{8} \end{array}$$

And visually it looks like this:



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Name _____

Date _____



FRACTION STRIPS UP TO TWELTHS

1 WHOLE

$\frac{1}{2}$

$\frac{1}{2}$

$\frac{1}{3}$

$\frac{1}{3}$

$\frac{1}{3}$

$\frac{1}{4}$

$\frac{1}{4}$

$\frac{1}{4}$

$\frac{1}{4}$

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Pizza Story

Lisa and Zeb were talking about what they had for dinner last night. Lisa said, “Zeb, last night my family bought a large pizza and I ate $\frac{1}{4}$ of the pizza,” Zeb replied, “I can eat more pizza than you. Tuesday night my mom bought a large pizza and I ate $\frac{2}{8}$ of the pizza.” Niko said, “Zeb, you didn’t eat more than Lisa. You ate the same amount.”



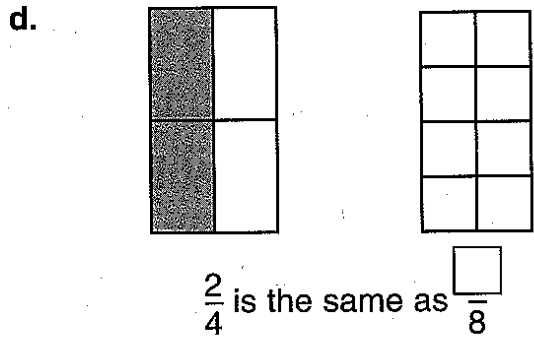
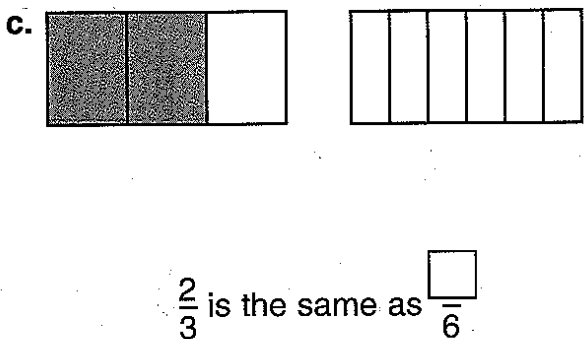
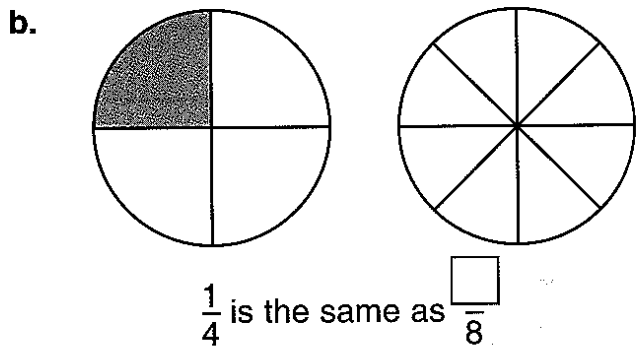
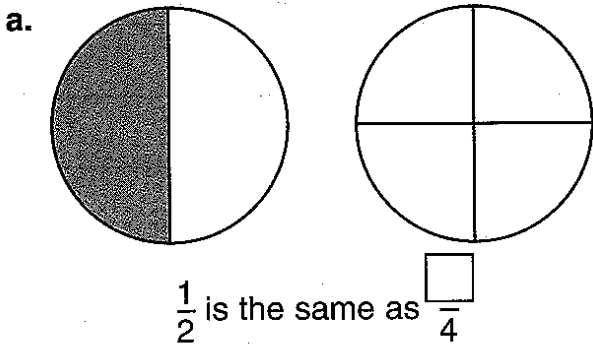
Who is correct, Zeb or Niko?

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1. Equivalent means equal or the same. Shade the shapes to show that the fractions are equivalent.



2. Equivalent fractions are equal fractions. To keep them balanced, what happens to the top (numerator) must also happen to the bottom (denominator).

a. $\frac{1}{2}$ double top = $\frac{2}{4}$ = $\frac{\square}{8}$ = $\frac{\square}{16}$ b. $\frac{2}{5}$ times top by 3 = $\frac{6}{15}$ = $\frac{\square}{45}$
 double bottom

c. $\frac{1}{3}$ double top = $\frac{2}{6}$ = $\frac{\square}{12}$ = $\frac{\square}{24}$ d. $\frac{2}{4}$ times top by 3 = $\frac{\square}{12}$ = $\frac{\square}{36}$
 double bottom

e. $\frac{1}{3}$ double top = $\frac{2}{8}$ = $\frac{\square}{16}$ = $\frac{\square}{32}$ f. $\frac{3}{10}$ times top by 3 = $\frac{\square}{30}$ = $\frac{\square}{90}$
 double bottom

3. True or false?

a. $\frac{1}{2}$ is the same as $\frac{1}{8}$ _____ b. $\frac{2}{3}$ is the same as $\frac{4}{6}$ _____

c. $\frac{4}{10}$ is the same as $\frac{8}{20}$ _____ d. $\frac{8}{10}$ is the same as $\frac{80}{100}$ _____

Day 23: Class Work Equivalent Fractions: shade in a section, then write the fraction.

Name _____ Date _____

Subject _____ Homeroom _____

Write

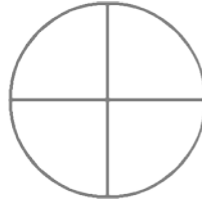
Say



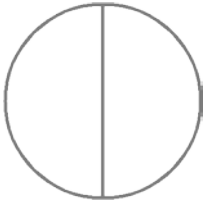
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Write

Say



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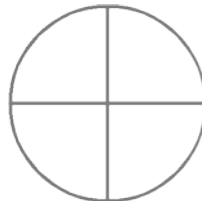
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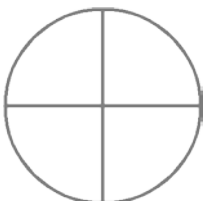
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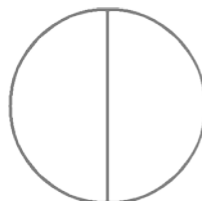
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Day 23: Exit Slip Equivalent Fractions

Name _____ Date _____

Subject _____ Homeroom _____

1. Write two equivalent fractions for the fraction **1/2**.

2. Write two equivalent fractions for the fraction **1/3**.

3. Write two equivalent fractions for the fraction **1/4**.

4. Write one equivalent fraction for **one whole**.

5. Shade in the following boxes to make two equivalent fractions for $1/2$. (They need to both have a different number of boxes)

Day 23: Homework Equivalent Fractions

Name _____
 Subject _____

My score _____ / 5

Mastery _____ Not Yet _____

Use the

Put the correct fraction into the box and fill in the answers below.



1)

$\frac{1}{2}$	$\frac{1}{2}$		

$$\frac{1}{2} = \frac{\quad}{4}$$

2)

$\frac{1}{2}$	$\frac{1}{2}$				

$$\frac{1}{2} = \frac{\quad}{6}$$

3)

$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$		

$$\frac{1}{3} = \frac{\quad}{6}$$

4)

$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$		

$$\frac{1}{4} = \frac{\quad}{8}$$

5)

$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$		

$$\frac{1}{5} = \frac{\quad}{10}$$

6)

$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	

$$\frac{1}{6} = \frac{\quad}{12}$$

Now use the fraction walls to answer these questions.

7) $\frac{2}{2} = \frac{\quad}{4}$

8) $\frac{3}{4} = \frac{\quad}{8}$

9) $\frac{2}{3} = \frac{\quad}{6}$

10) $\frac{2}{5} = \frac{\quad}{10}$

11) $\frac{3}{3} = \frac{\quad}{6}$

12) $\frac{4}{6} = \frac{\quad}{12}$

13) $\frac{4}{5} = \frac{\quad}{10}$

14) $\frac{5}{6} = \frac{\quad}{12}$

Parent Signature

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Unit Title: Multiplication	Grade Level(s): 5
Subject/Topic Areas: Math; Multiplication of 1-digit and 2-digit numbers	
Key Vocabulary: Product	
Designed By: Jessica Rosati	Time Frame: 1 week Date: 10/10 – 10/14

SUMMARY OF PURPOSE: This 5th grade math unit will cover various methods to multiply one-digit and two-digit numbers. It also covers how to decipher if multiplication will be appropriately used in a word problem.

Stage 1: Desired Results	
Common Core/ Delaware Standards	
<ul style="list-style-type: none">• CC.5.NBT.5. Fluently multiply multi-digit whole numbers using the standard algorithm.	
Key Concepts/Big Ideas	
Multiplication as 1-digits, 2-digits, and 3-digits	
Enduring Understandings	
<i>Students will understand that... multiplication is a way to represent repeated addition, two-digit multiplication needs a place holder, there are various methods to calculate large digit multiplication; including the traditional method, the lattice method, and the distributive method.</i>	
Essential Questions	
<ul style="list-style-type: none">• How do you multiply large numbers together?• What are the steps to multiply the traditional, lattice, and distributive method?•	
Real World Context	
<ul style="list-style-type: none">• Multiplying large numbers appears in real life consistently.	
Learning Targets/Goals	
<i>Students will know...</i> <ul style="list-style-type: none">• How to successfully multiply 2-digit by 2-digit numbers• Three different techniques to multiply large numbers.	
<i>Students will be able to... (21st century skills)</i>	

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- Decipher when to use multiplication in a word problem
- Multiply 2-digit by 2-digit problems
-

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

An array is a visual representation of a multiplication problem. Because many boys learn best with visual stimulation in combination with auditory and kinesthetic input, arrays are terrific projects for children to grasp multiplication concepts. Arrays can be built with blocks or chips. For example, $2 \times 3 = 6$ would be represented by two blocks each in three rows.

You will receive a bag of “poker chip” pieces. With these pieces, we will create arrays to represent multiplication problems. An array is a picture representation of a rectangular multiplication problem. For instance, to show the fact 6×7 , you would place six tiles going horizontally, seven tiles vertically, then fill in the array in the middle. If you were to count all of the pieces, you would find the product of 6×7 which equals 42. Using arrays to teach multiplication the educational standard similar to the concept of repeated addition. By arranging multiplication arrays using groups, a student can understand what multiplication is: number of items in a number of groups. Multiplication arrays can help students visualize the math facts more easily.

Use a piece of paper to answer the questions below about your making arrays activity.

1. Describe how the items are arranged in an array. What counting pattern is shown by your array? How can this pattern be used to find the total number of items in your array?
2. What is the total number of items in your array? Show how you can use addition to find out. Show how you can use multiplication to find out.
3. Write a multiplication sentence to go with your array. Describe how the columns and rows are used to find the parts of a multiplication sentence.
4. What type of problem can be solved using an array? Write a problem that could be solved using the array you made.
5. Write the fact family shown by the array you made. Explain how the facts are related.

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1
Representation of multiplication facts as an array	Demonstrates adequate understanding of multiplication by using skip counting, repeated addition and/or	Demonstrates partial understanding of multiplication by using one of the strategies or solutions contain minor	Demonstrates less than adequate understanding of multiplication using arrays. More than half of the answers required are	Demonstrates inadequate understanding of multiplication by adding the two numbers instead of recognizing equal

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	arrays to correctly answer the multiplication problems.	errors. For example, may omit a row in the array or skip count incorrectly (4, 8, 11, 15, 19).	either incomplete or inaccurate.	groups. Major flaws contained in arrays and sequence of numbers representing skip counting.
<p>Formative Assessments:(e.g., tests, quizzes, prompts, work samples, observations) All copies can be found in Appendix A.</p>				
<p>Summative Assessments: Comprehensive exams Aligned to standards</p>				

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Student Self-Assessment and Reflection

Pairs Communication Activity

Directions: Reflect as a think-pair-share activity.

Reflection: Reflect on these two questions first individually, then express with your partner, and finally share a few answers out loud with the class.

1. What is an array and how does it represent a multiplication problem?
2. What were difficulties that I encountered during this activity?

- BE SURE TO INCLUDE A COLLABORATIVE LEARNING ACTIVITY

Instructional Resources

Day 19

Class Notes: Multiplication

Class Notes: Multiplication

Multiplication Operation

KEY WORDS:

Can I **multiply** numbers **in any order** like I can add numbers in any order?



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The _____ works with multiplication too and says that you can multiply numbers in any order.

Example: $6 \times 2 = 2 \times 6$

$$23 \bullet 16 = 16 \bullet 23$$

$$4 * 10 = 10 * 4$$

Key Word Vocabulary:

“double” means _____

“triple” means _____

“quadruple” means _____

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We will do a few together as a class, then complete the rest independently! Write the product where a number column and row meet.

x	0	1	2	3	4	5	6	7	8	9	10	11	12
0						0							
1													
2				6					16				
3	0												
4							24						
5												55	
6													
7					28						70		
8		8											96
9										81			
10						50							
11	0												
12				36									

Differentiation

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Enrichment

Students who need more individualized help with begin with smaller multiplication problems, such as using the identity property of any number multiplied by one.

Higher level scholars will utilized the commutative property and create arrays both horizontally and vertically to see that they both equal the same product.

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- **Creating Arrays to represent multiplication facts**
- **Think-Pair-Share Communication Reflection Activity**

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1

General Topics : Multiplication Facts

Key Vocabulary: Product, Factor

1. Fill out 100 multiplication chart whole group
2. Create arrays independently to represent different multiplication facts up to 12

Check for Understanding: “Mad Minute” Timed Test for Multiplication Facts

Lesson 2

General Topics: Multiplying 2-Digit by 2-Digit Problems

Key Vocabulary:

1. Use Powerpoint (Multiplication by 2-digit) to generate interest and use technology in the classroom. Scholars follow along with printed out slides and are able to see step-by-step how to figure out traditional method multiplication.

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Check for Understanding:

Lesson 3

General Topics Lattice Multiplication

Key Vocabulary: Lattice, Horizontal, Vertical

Students will receive one dry erase marker and one tissue and one dry erase board. Procedure and specific guidelines are explicitly stated for use of the dry erase boards. A problem will be put on the board (39x45) and the traditional method will be used to solve it.

Remind scholars of the zero place holder. The first thing you do on the e second line Is put a zero. Teacher explains that the place holder literally allows us to multiply each digit by the tens place; otherwise it would be like multiplying a number in the ones place. Two more additional problems are given and scholars solve independently (hold up board to check answers). The second technique of lattice is reviewed. Scholars draw a lattice box on their dry erase board and fill in the numbers; practice 3 digit and 2 digit multiplication. The same pattern follows with 2-3 division problems completed. Finally, distribute method is covered. Scholars are taught that to begin distributive , break the numbers down into expanded form first. Then follow the FOIL method (first, outside, inside, last) then add all of the products together.

$$\begin{aligned} &28 \times 14 \\ &(20 + 8) \times (10 + 4) \\ &\text{FIRST} = 20 \times 10 \\ &\text{OUTSIDE} = 20 \times 4 \\ &\text{INSIDE} = 8 \times 10 \\ &\text{LAST} = 8 \times 4 \\ &200 + 80 + 80 + 32 \end{aligned}$$

Guided Practice: Several problems are practiced with scholars. Teacher completes problems using Distributive Property on the ELMO, scholars follow steps and write them on personal dry erase board. Examples of all 3 methods; Traditional, Lattice and Distributive.

Check for Understanding: Give 3 multiplication problems that were given on the Interim Assessment #1:

Reassessment done as an exit slip the same day: 3 questions from the IA.

1. $79 \times 14 =$
 2. Mr. Ambriz owns a tree farm. There are 104 rows of pine trees on his farm. Mr. Ambriz plants 35 pine trees in each row. How many total pine trees are on Mr. Ambriz' farm.
- $476 \times 26 =$

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Name _____

Date _____

Prestige Academy 2010-2011

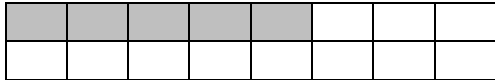
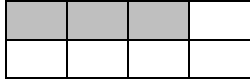
Homeroom: _____

Day 20

Do Now: Multiplying Word Problems

Objective: SWBAT solve WPs by multiplying 2- by 2- digit numbers

Let's review some fraction work! Fill in the missing blanks.

<u>Fraction</u>	<u>Description</u>	<u>Drawing</u>
$\frac{5}{16}$	There are 16 cats at a pet store. 5 of them were striped. What fraction of the cats are striped?	
	A cake is cut into 20 slices. 9 slices are left over. What fraction of the slices are left over?	
$\frac{3}{4}$		
	A candy bar is split into 9 pieces. Jermaze eats four pieces. What fraction of the bar did he eat?	
$\frac{1}{2}$		
		

Class Notes: 2-Digit Multiplication

Yesterday, we went over 1-digit multiplication. Today we are learning 2-digit by 2-digit! It is very important to line up the place values.

We **ADD** to combine the two partial product into a final answer, the same as if it was two separate problems like on the last page!

		2	4
	X	1	6
+			0

We stick an “invisible zero” here since we are multiplying by the tens column. If I forget it, it’s like I am multiplying by 1

Let’s try another example together:

		3	5
	X	2	7
+			0

Try these on your own.

1.

		1	3
	X	1	1
+			0

2.

		1	6
	X	3	2
+			0



Day 26
WO

LASS

Multiplying BIG Numbers

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Part 2

EASY PEASY

1.

		1	4
	X	1	2
+			0

2.

		2	5
	X	4	1
+			0

3.

		3	2
	X	5	2
+			0

SLIGHTLY HARDER

4.

		6	3
	X	2	4
			0

5.

		7	4
	X	5	1
			0

6.

		9	1
	X	5	8
			0

NEARLY IMPOSSIBLE (but I know you can do them!)

7.

		4	6
	X	2	9

8.

		9	1
	X	3	8

9.

		7	4
	X	7	4

Done? It's time for some CHALLENGE WORK!

Example: I was cleaning under my couch cushions the other day. I found 18 quarters. How much money did I find total?

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Step 1 Box Numbers

Step 2 Find the Operation **K**ey Words: _____

Step 3 Underline (and understand) the Question

Step 4 See the Situation

Step 5 **T**ranslate to a Number Problem: _____

Step 6 **S**olve

	x		

Final Answer _____

Day 20 INDEPENDENT CLASS WORK Multiplying BIG Numbers WPs

Directions: Complete every step of BKUSTS to solve each word problem. If you finish early, move on to the CHALLENGE work. GOOD LUCK!

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- 1) My CD collection contains 68 different CDs. Each CD has 13 songs. How many songs do I own total?

Step 1 Box Numbers

Step 2 Find the Operation **K**ey Words: _____

Step 3 Underline (and understand) the Question

Step 4 See the Situation

Step 5 **T**ranslate to a Number Problem: _____

Step 6 **S**olve

	x		

Final Answer _____

- 2) A lawyer charges \$75 per hour. If she works 32 hours this week, how much money will she make?

Step 1 Box Numbers

Step 2 Find the Operation **K**ey Words: _____

Step 3 Underline (and understand) the Question

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Step 4 See the Situation

Step 5 Translate to a Number Problem: _____

Step 6 Solve

	X		

Final Answer _____



3: For a bake sale, Brian and his mother made 48 cakes. Each cake required 15 tablespoons of sugar. How many table spoons of sugar did they use all together?

Step 1 Box Numbers

Step 2 Find the Operation **K**ey Words: _____

Step 3 Underline (and understand) the Question

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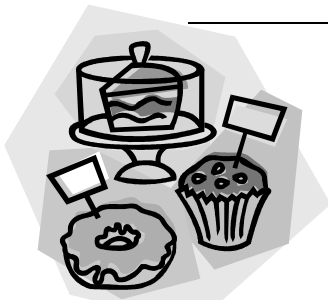
Step 4 See the Situation

Step 5 Translate to a Number Problem: _____

Step 6 Solve

	X		

Final Answer _____



4) A shoe store charges \$97 for a pair Air Jordans. Yesterday, they sold 42 pairs. How much money did they make off of Air Jordans?

Step 1 Box Numbers

Step 2 Find the Operation Key Words: _____

Step 3 Underline (and understand) the Question

Step 4 See the Situation

Step 5 Translate to a Number Problem: _____

Step 6 Solve

	x		

Final Answer _____



Day 20 CHALLENGE WORK

Multiplication Rhymes

Rhymes can help you remember your multiplication facts.

*7 and 7 are doing fine.
7 times 7 is forty-nine.*

*8 and 4 were sad and blue.
8 times 4 is thirty-two.*

Write your own rhyme to help you remember each of the multiplication facts below.

6×4

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Name _____

Date _____

Subject: _____

Homeroom: _____

Day 20: 2 Digit Multiplication Exit Slip:

Directions: Solve each multiplication problem using the traditional method. Show all your work.

Remember to draw a box around your FINAL answer.

1.

		3	5
	X	1	8

2.

		7	2
	X	4	6

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There are 86 scholars in the 5th grade. Each scholar completed 27 assignments in math class so far. How many math assignments has the 5th grade completed?

Step 1 Box Numbers

Step 2 Find the Operation **K**ey Words: _____

Step 3 Underline (and understand) the Question

Step 4 See the Situation

Step 5 **T**ranslate to a Number Problem: _____

Step 6 **S**olve

	x		

Final Answer _____

TRACKING (Miss Rosati or Mr. Ambriz writes here)!!			
Objective	# Correct	% Mastered	Mastered?
SWBAT multiply two- by two-digit numbers	_____/2	_____%	Y NY

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Name _____

Date _____

Prestige Academy 2010-2011

Homeroom: _____

Day 20 HOMEWORK

Parent Signature

1.

		2	4
	X	2	3
+			0

2.

		1	5
	X	2	1
+			0

3.

		4	3
	X	8	2
+			0

4.

		5	3
	X	1	4
			0

5.

		8	4
	X	5	2
			0

6.

		3	1
	X	6	8
			0

7.

		4	5
	X	1	9

8.

		7	3
	X	3	6

9.

		9	9
	X	9	9

WP Attack: Multiplication

Solomon was shopping for a party. Acme had a sale on cupcakes. He bought 4 boxes of cupcakes. Each box contained 12 cupcakes. How many cupcakes does Solomon have total?

STEP 1:

Box numbers.

STEP 2:

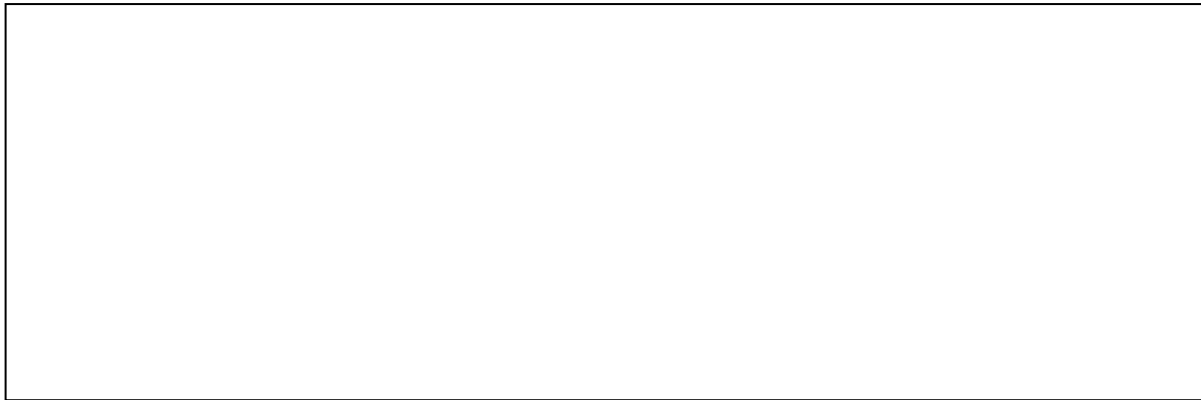
Find math operation **K**ey Words: _____

STEP 3:

Underline the question.

STEP 4:

Picture the **S**ituation:




STEP 5:

Translate into a number problem:

STEP 6:

Solve:

Answer:



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On Monday, Keyon completed all 9 math problems on his homework. Each problem took him 6 minutes. How much time did he spend on his math homework?

STEP 1: Box numbers.

STEP 2: Find math operation Key Words: _____

STEP 3: Underline the question.

STEP 4: Picture the Situation:

STEP 5: Translate into a number problem:

STEP 6: Solve:

Answer:

IP Word Problem Work: Multiplication

1. There are 8 flowers in a bouquet. How many flowers are there in 3 bouquets?

STEP 1:

B

ox numbers.

STEP 2: Find math operation

K

ey Words:

STEP 3: Underline the question.

STEP 4: Picture the

S

ituation:

STEP 5:

T

ranslate into a number problem:

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STEP 6: Solve:

<u>Answer:</u>

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2. There are 10 boys on the bus. If there are double as many girls on the bus than boys, how many girls are there in the bus?

STEP 1:

Box numbers.

STEP 2:

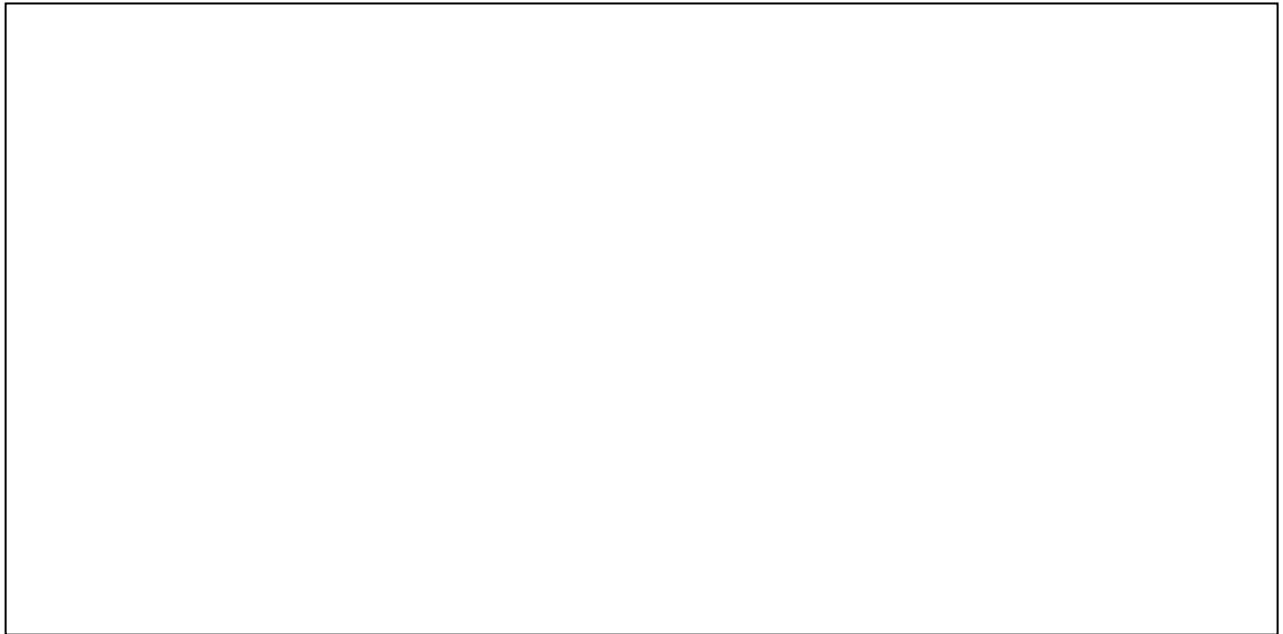
Find **math operation** **K**ey Words:

STEP 3:

Underline the question.

STEP 4:

Picture the **S**ituation:



STEP 5:

Translate into a number problem:

STEP 6:

Solve:

Answer:

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Name: _____

Date: _____

Subject: _____

Homeroom: _____

Day 19

Homework: Multiplication

Parent Signature

1	8 × 2 = 16	3	4	2	7	9	8	6	5	3	2	0		
7	4	7	8	9	3	8	2	6	7	1	8	7	42	3
6	32	5	6	3	5	6	3	4	4	9	6	5	4	4
7	4	0	3	40	6	1	9	24	28	3	48	5	6	4
7	9	63	2	3	7	4	2	5	4	3	6	2	7	16
5	2	6	7	8	9	8	8	64	2	5	8	0	6	5
1	8	5	6	3	18	9	3	2	6	7	5	35	42	8
4	9	5	2	5	6	6	7	6	0	9	3	6	5	4
6	72	4	12	4	7	2	14	7	6	3	4	21	4	5
6	3	4	1	3	4	3	4	6	5	7	1	5	2	20
36	6	3	8	2	2	3	4	5	5	5	2	8	4	1
9	7	6	5	30	1	5	12	1	7	9	25	3	3	9

Can you find 20 multiplication facts in this puzzle? Circle each multiplication fact and its answer. Don't forget to add the x and = signs.

1. _____

11. _____

2. _____

12. _____

3. _____

13. _____

4. _____

14. _____

5. _____

15. _____

6. _____

16. _____

7. _____

17. _____

8. _____

18. _____

9. _____

19. _____

10. _____

20. _____

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Don't forget the back

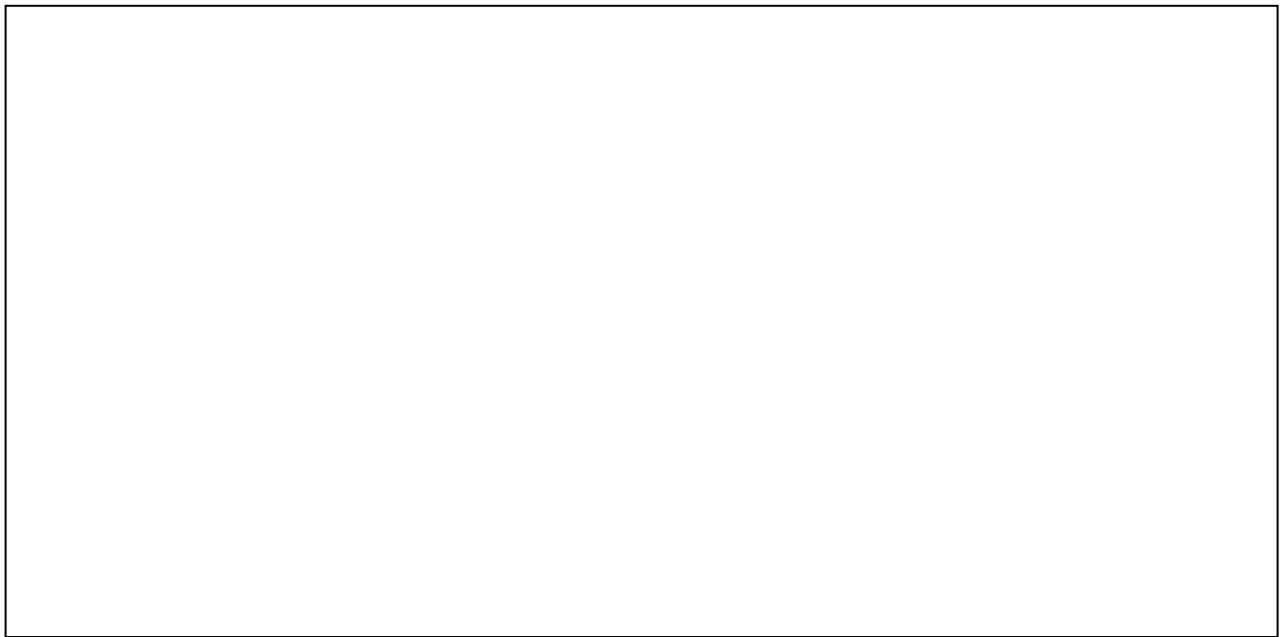
The janitors were setting up the gym for community meeting. They arranged 9 rows of chairs. Each row contained 8 chairs. How many chairs are in the gym?

STEP 1: Box numbers.

STEP 2: Find **math operation** Key Words:

STEP 3: Underline the question.

STEP 4: Picture the Situation:



STEP 5: Translate into a number problem:

Answer:

STEP 6: Solve:

Prestige Academy Charter School

Name _____

Date _____

Prestige Academy 2010-2011

Homeroom: _____

Day 19

Exit Slip: Multiplication (Remember to show all work.)

1.
$$\begin{array}{r} 34 \\ \times 15 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 402 \\ \times 71 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 925 \\ \times 311 \\ \hline \end{array}$$

4. Mrs. Perry is ordering buses for a field trip. Each bus will seat 26 scholars. If she orders 9 buses, how many scholars will that seat?

STEP 1: Box numbers.

STEP 2: Find **math operation** Key Words: _____

STEP 3: Underline the question.

STEP 4: Picture the Situation:

STEP 5: Translate into a number problem: _____

STEP 6: Solve:

Answer:

Prestige Academy Charter School

Interim Cycle 1

Teacher: Miss Jesi Rosati

Subject: MATH

Grade: 5

Focus for Week 1: Place Value				
Sub-Skills: Read, write, model numbers through billions, understand the difference between < and >				
Monday, August 29, Day #6	Tuesday, August 30, Day #7	Wednesday, August 31, Day #8	Thursday, September 1, Day #9	Friday, September 2
RE-ORIENTATION: NO ACADEMIC CLASSES Unit 1 Place Value and Expanded Notation(Add and subtract decimals, Estimate, Place Value, Expanded Notation)	RE-ORIENTATION: NO ACADEMIC CLASSES	State Standard: CC.5.NBT.1, 2, 4 5.NSO-N.1 PLACE VALUE Objectives 1, 2, Sub-Skill 1:	State Standard CC.5.NBT.1, 2, 4 5.NSO-E.21 PLACE VALUE Objectives 3, 4, 5 Sub-Skill 1: Sub-Skill 2:	LABOR DAY: NO SCHOOL
Focus for Week 2: Place Value and Expanded Notation with decimal work				
Sub-Skills: Place value, Expanded Notation, Place value of decimals through thousandths, Addition and Subtraction of decimals				
Monday, September 5	Tuesday, September 6, Day #10	Wednesday, September 7, Day #11	Thursday, September 8, Day #12	Friday, September 9, Day #13
LABOR DAY: NO SCHOOL Unit 1 Place Value and Expanded Notation(Add and subtract decimals, Estimate, Place Value, Expanded Notation)	State Standard CC.5.NBT.1, 2, 4 5.NSO-E.21 PLACE VALUE Objectives 3, 4, 5 Sub-Skill 1: Sub-Skill 2:	State Standard CC.5.NBT.1, 2, 4 5.NSO-E.21 PLACE VALUE (Different Forms) Objectives 6, 7, 8 Sub-Skill 1: 5.NSO-N.2 EXPANDED NOTATION Objectives 1, 2, 4, 5	State Standard CC.5.NBT.1, 2, 4 5.NSO-N.1 PLACE VALUE Addition and Subtraction of whole numbers	Review Place Value =Quiz State Standard CC.5.NF.1 *Fraction Friday! Sub-Skill 1: Objectives 1, 2, 3 Sub-Skill 2:
Focus for Week 3: Estimate (all numbers) / Number Theory (concepts)				
Sub-Skills: Round numbers, understand terms estimate, determine reasonableness, estimate sum and differences				
Sub- Skills: Define even & odd numbers, define multiples, factors, common factors, square numbers, prime & composite				
Monday, September 12, Day #14	Tuesday, September 13, Day #15	Wednesday, September 14, Day #16	Thursday, September 15, Day #17	Friday, September 16, Day #18
State Standard CC.5.NBT7 5.NSO-C.14 ADD AND SUBTRACT DECIMALS Sub-Skill 1: Objectives 5, 6, 2, 8 Sub-Skill 2: Objectives 4, 3, 9, 7, 1	UNIT 2 Estimation State Standard CC.5.NBT.1, 2, 4 5.NSO-N.1 PLACE VALUE (Rounding) Sub-Skill 1: Objectives 9, 10, 11, 12, 13 State Standard CC.5.NF.2 5.NSO-E.23 ESTIMATE Sub-Skill 1: Objectives 1, 2, 3, 4, 5, 6 Sub-Skill 2:	State Standard CC.5.NF.2 5.NSO-E.23 ESTIMATE Sub-Skill 1: Objectives 7, 9, 10, 11, 12, 13 Sub-Skill 2:	State Standard (no CC...enrichment) 5.NSO-N.5/N.6 NUMBER THEORY (CONCEPTS) (Prime numbers/Sieve) Sub-Skill 1: Objectives 1, 7, 8 Sub-Skill 2:	QUIZ ESTIMATION & NUMBER THEORY State Standard (no CC...enrichment) 5.NSO-N.5/N.6 NUMBER THEORY (CONCEPTS) (Multiples) Sub-Skill 1: Objectives 2, 3 Sub-Skill 2:
Focus for Week 4: Multiplying Whole Numbers / Multiplying Decimals / Factorization				
Sub-Skills: Ratios, fractions as parts of wholes				
Monday, September 19, Day #19	Tuesday, September 20, Day #20	Wednesday, September 21, Day #21	Thursday, September 22, Day #22	Friday, September 23, Day #23
Begin Multiplication State Standard	State Standard	State Standard	State Standard	QUIZ MULTIPLICATION & FACTORS

<p>CC.5.NBT.5,6,7 5.NSO-C.15 MULTIPLY WHOLE NUMBERS</p> <p>Sub-Skill 1: Objectives 11, 12, 13, 9, 10, 15, 15, 16</p> <p>Sub-Skill 2: NUMBER THEORY (CONCEPTS) Objective 6 (Define and ID square numbers)</p>	<p>CC.5.NBT.5 5.NSO-C.19 MULTIPLY DECIMALS</p> <p>Sub-Skill 1: Objectives 9, 10, 11, 12</p> <p>Sub-Skill 2:</p>	<p>(no CC...enrichment) 5.NSO-N.5/N.6 NUMBER THEORY (CONCEPTS) (Factors)</p> <p>Sub-Skill 1: Objectives 4, 5</p> <p>Sub-Skill 2:</p>	<p>(no CC...enrichment) 5.NSO-N.7 NUMBER THEORY (PRIME FACTORIZATION)</p> <p>Sub-Skill 1: Objectives 1, 2, 3, 4</p> <p>Sub-Skill 2:</p>	<p>State Standard (no CC...enrichment) 5.NSO-F.8 UNDERSTANDING FRACTIONS Sub-Skill 1: Objectives 4, 5, 6</p> <p>Sub-Skill 2:</p>
<p>Focus for Week 5: Patterns / Wrap-Up</p> <p>Sub-Skills:</p>				
Monday, September 26, Day #24	Tuesday, September 27, Day #25	Wednesday, September 28, Day #26	Thursday, September 29, Day #27	Friday, September 30, Day #28
<p>State Standard CC.5.OA.3 5.PRA.1 Patterns (Number Sense)</p> <p>Sub-Skill 1: Geometric Patterns</p> <p>Sub-Skill 2: Rules for extending geometric patterns</p>	<p>Review Unit 5= Quiz State Standard CC.5.OA.3 5.PRA.1 Patterns (Number Sense)</p> <p>Sub-Skill 1: Symbolic Patterns</p> <p>Sub-Skill 2: Arithmetic, Geometric patterns</p>	<p>Review Unit 1-5 Interim Pre-test</p> <p>State Standard Unit 1-5</p> <p>Sub-Skill 1: Re-teach place value, multiplication, divisibility, patterns, exponents, fractions</p> <p>Sub-Skill 2:</p>	<p>Begin Unit 6-Dividing Whole Numbers and Decimals</p> <p>INTERIM #1 MATH</p>	<p>Start Unit 6, Interim # 2 State Standard CC.5.NBT.5,6,7 5.NSO-C.15 Divide Whole Numbers (Number Sense)</p> <p>Sub-Skill 1: Rules for Multiplying integers</p> <p>Sub-Skill 2: Rules for Dividing Integers</p>

Interim Cycle 2

Teacher: Miss Jesi Rosati

Subject: MATH

Grade: 5

<p>Focus for Week 1: Unit 6 Dividing Whole Numbers and Decimals/ Unit 7 Measuring, Identifying and Classifying Lines/Angles/Polygons and 3D</p> <p>Sub-Skills: Rules for $\div \times$ integers, divide decimals, mean of a data set</p>				
Monday, October 3, Day #29	Tuesday, October 4, Day #30	Wednesday, October 5, Day #31	Thursday, October 6, Day #32	Friday, October 7, Day #33 ½ Day – one hour block
<p>State Standard CC.5.NF.3,4(a-b),5,6,7(a-c) 5.NSO-C.16 Dividing Decimals (decimals)</p> <p>Sub-Skill 1: Divide whole numbers</p> <p>Sub-Skill 2: Divide decimals</p>	<p>Review Unit 6= Quiz State Standard CC.5.MD.2 5.DASP.1 Data and Central Tendency (mean) (Data and Graph)</p> <p>Sub-Skill 1: Mean of a data set</p> <p>Sub-Skill 2:</p>	<p>Start Unit 7 State Standard CC.5.G.3,4 5.G.1 Identify 2-D Shapes (Geometry)</p> <p>Sub-Skill 1: Polygons as closed plane figures (Geometry)</p> <p>Sub-Skill 2: Polygons based on sides/angles</p>	<p>State Standard CC.5.G.3,4 5.G.2 Identifying 3D Shapes (Geometry)</p> <p>Sub-Skill 1: 3D Figures (Geometry)</p> <p>Sub-Skill 2: Prisms and Pyramids</p>	<p>State Standard CC.5.G.1 5.G.3 Lines</p> <p>Sub-Skill 1: Line segments, points, planes (Geometry)</p> <p>Sub-Skill 2: Rays, Lines</p>
<p>Focus for Week 2: Unit 7 Measuring, Identifying and Classifying Lines/Angles/Polygons and 3D Shapes/ Unit 8</p> <p>Sub-Skills: Line/rotation Symmetry, Angles, Lines, Triangles, Quadrilaterals, Congruent, Segments, Polygons, Prisms, Pyramids</p>				
Monday, October 10, Day #34	Tuesday, October 11, Day #35	Wednesday, October 12, Day #36	Thursday, October 13, Day #37	Friday, October 14, Day #38
<p>State Standard Background knowledge: CC.4.MD.7 5.M.7 Measure and Classify</p>	<p>State Standard CC.5.G.3,4 5.G.4 Symmetry (Geometry)</p> <p>Sub-Skill 1: Line Symmetry</p>	<p>Review Unit 7=Quiz State Standard CC.5.G.3,4 5.G.4 Symmetry (Geometry)</p> <p>Sub-Skill 1: Line Symmetry</p>	<p>Begin Unit 8 State Standard CC.5.G.3,4 5.G.5 Congruency (geometry)</p>	<p>State Standard CC.5.G.3,4 5.G.6 Transformations</p> <p>Sub-Skill 1:</p>

Angles (Geometry) Sub-Skill 1: Obtuse, acute, right angles Sub-Skill 2: Classify Triangles	Sub-Skill 2: Rotational Symmetry	Sub-Skill 2: Rotational Symmetry	Sub-Skill 1: Define Congruent Sub-Skill 2: Congruent based on sides/angles	Identify Translation of a 2D Sub-Skill 2: Perform translation
Focus for Week 3: Unit 8 Symmetry/ Congruency/ Transformations Sub-Skills: Line Symmetry, Rotational Symmetry, Congruent, Translation, Rotation, Reflection				
Monday, October 17, Day #39	Tuesday, October 18, Day #40	Wednesday, October 19, Day #41	Thursday, October 20, Day #42	Friday, October 21, Day #43 ½ Day – one hour block
State Standard CC.5.G.3.4 5.G.6 Transformations (Geometry) Sub-Skill 1: Identify Rotation Sub-Skill 2: Perform Rotation	Review Unit 8–Quiz State Standard CC.5.G.3.4 5.G.6 Transformations (Geometry) Sub-Skill 1: Identify Reflections Sub-Skill 2: Perform Reflections	Begin Unit 9 State Standard Background Knowledge: CC.4.MD.3 5.M.1 Area and Perimeter (Measurement) Sub-Skill 1: Perimeter around 2D figure Sub-Skill 2: Triangle and rectangle	State Standard Background Knowledge: CC.4.MD.3 5.M.1 Area and Perimeter (Measurement) Sub-Skill 1: Area as the amount of space Sub-Skill 2: Area of a Rectangle	State Standard Background Knowledge: CC.4.MD.3 5.M.1 Area and Perimeter (Measurement) Sub-Skill 1: Area of a triangle Sub-Skill 2: Perimeter of a triangle
Focus for Week 4: Unit 9 Area and Perimeter Sub-Skills: Area and Perimeter of rectangles, triangles, parallelograms, circles, diameters, radius, circumference				
Monday, October 24, Day #44	Tuesday, October 25, Day #45	Wednesday, October 26, Day #46	Thursday, October 27, Day #47	Friday, October 28, Day #48
State Standard Background Knowledge: CC.4.MD.3 5.M.2 Area and Perimeter (Measurement) Sub-Skill 1: Parallelograms Sub-Skill 2: Area of a triangle	State Standard Enrichment: CC.7.G.4 5.M.4 Area and Perimeter (Measurement) Sub-Skill 1: Circle Sub-Skill 2: Diameter and radius	State Standard Enrichment: CC.7.G.4 5.M.4 Area and Perimeter (Measurement) Sub-Skill 1: Circumference Sub-Skill 2:	Review for Unit 9 Quiz State Standard Enrichment: CC.7.G.4 5.M.4 Area and Perimeter (Measurement) Sub-Skill 1: Area of a circle Sub-Skill 2:	Unit 9 Quiz State Standard Sub-Skill 1: Sub-Skill 2:
Focus for Week 5: Unit 9 Area and Perimeter Sub-Skills: Area and Perimeter of rectangles, triangles, parallelograms, circles (diameters, radius, and circumference)				
Monday, October 31, Day #49	Tuesday, November 1, Day #50	Wednesday, November 2, Day #51	Thursday, November 3, Day #52	Friday, November 4, Day #53 End of Quarter 1
Review Units 6-9 For IA#2 State Standard Units 6,7,8,9 Sub-Skill 1: Sub-Skill 2:	Unit 6-9 Test State Standard Sub-Skill 1: Sub-Skill 2:	Begin Interim #3 Standards INTERIM #2 MATH	Start Unit 10 State Standard CC.5.MD.1 5.M.3 Unit Conversions (Measurement) Sub-Skill 1: Identify proportional relationships between units Sub-Skill 2:	State Standard CC.5.MD.3 5.M.5 Volume (Measurement) Sub-Skill 1: SWBAT define volume as the amount a 3D figure can hold Sub-Skill 2:

Interim Cycle 3

Teacher: Miss Jesi Rosati

Subject: MATH

Focus for Week 1: Unit 10 Volume and Surface Area also Unit Conversions				
Sub-Skills: Surface Area, Volume, Units of Measure				
Monday, November 7, Day #54	Tuesday, November 8, Day #55	Wednesday, November 9, Day #56	Thursday, November 10, Day #57 ½ Day – one hour block	Friday, November 11, Day #58
<p>State Standard CC.5.MD.5b 5.M.5 Volume (Measurement) Sub-Skill 1: SWBAT find the volume of rectangular prisms Sub-Skill 2:</p>	<p>State Standard Enrichment: CC.7.G.4 5.M.5 Surface Area (Measurement) Sub-Skill 1: SWBAT define surface area as the sum of the areas of faces Sub-Skill 2:</p>	<p>Review Unit 10</p> <p>State Standard CC.5.MD.5b 5.M.5 Surface Area (Measurement) Sub-Skill 1: SWBAT find the volume of rectangular prisms Sub-Skill 2:</p>	<p>Unit 10 Quiz</p> <p>State Standard Unit 10 Sub-Skill 1: Sub-Skill 2:</p>	VETERANS DAY: NO SCHOOL
Focus for Week 2: Unit 11 Fraction Work				
Sub-Skills: GCF, Equivalent, Improper Fractions, Mixed Numbers, Conversions, Add and Subtract Fractions				
Monday, November 14, Day #58	Tuesday, November 15, Day #59	Wednesday, November 16, Day #60	Thursday, November 17, Day #61	Friday, November 18, Day #62
<p>State Standard Background Knowledge: CC.4.NF.3c 5.NSO-C.13 Add Fractions (Fractions) Sub-Skill 1: SWBAT add fractions with like denominators Sub-Skill 2:</p>	<p>State Standard CC.5.NF.1,2 5.NSO-C.13 Add Fractions (Fractions) Sub-Skill 1: SWBAT add fractions with unlike denominators w/LCM Sub-Skill 2:</p>	<p>State Standard Background Knowledge: CC.4.NF.3c 5.NSO-C.13 Subtract Fractions (Fractions) Sub-Skill 1: SWBAT subtract fractions with like denominators Sub-Skill 2:</p>	<p>State Standard CC.5.NF.1,2 5.NSO-C.13 Subtract Fractions (Fractions) Sub-Skill 1: SWBAT subtract fractions with unlike denominators w/LCM Sub-Skill 2:</p>	<p>State Standard Background Knowledge: CC.4.NF.2 CC.5.NF.2 5.NSO-C.18 Simplify Fractions (Fractions) Sub-Skill 1: SWBAT simplify fractions by identifying the GCF Sub-Skill 2:</p>
Focus for Week 3: Unit 11 Fraction Work				
Sub-Skills: GCF, Equivalent, Improper fractions, mixed numbers				
Monday, November 21, Day #63	Tuesday, November 22, Day #64	Wednesday, November 23	Thursday, November 24	Friday, November 25
<p>State Standard Background Knowledge: CC.4.NF.2 CC.5.NF.2 5.NSO-C.18 Simplify Fractions (Fractions) Sub-Skill 1: SWBAT determine if 2 fractions are equivalent Sub-Skill 2:</p>	<p>State Standard Background Knowledge: CC.4.NF.2 CC.5.NF.2 5.NSO-F.11 Simplify Fractions (Fractions) Sub-Skill 1: SWBAT define and write improper fractions Sub-Skill 2:</p>	THANKSGIVING BREAK: NO SCHOOL (PD DAY FOR TEACHERS)	THANKSGIVING BREAK: NO SCHOOL	THANKSGIVING BREAK: NO SCHOOL
Focus for Week 4: Unit 12 Equivalency and Number Line Work				
Sub-Skills: Percentages, equivalent fractions, conversions				
Monday, November 28, Day #65	Tuesday, November 29, Day #66	Wednesday, November 30, Day #67	Thursday, December 1, Day #68	Friday, December 2, Day #69
<p>State Standard Background Knowledge: CC.4.NF.2 CC.5.NF.2 5.NSO-F.11 Simplify Fractions (Fractions) Sub-Skill 1: SWBAT define and write mixed numbers Sub-Skill 2:</p>	<p>State Standard Background Knowledge: CC.4.NF.2 CC.5.NF.2 5.NSO-F.11 Simplify Fractions (Fractions) Sub-Skill 1: SWBAT convert and write improper fractions to mixed</p>	<p>State Standard Background Knowledge: CC.4.NF.2 CC.5.NF.2 5.NSO-F.11 Simplify Fractions (Fractions) Sub-Skill 1: SWBAT convert and write mixed fractions to improper Sub-Skill 2:</p>	<p>Review Unit 11</p> <p>State Standard Unit 11 review Sub-Skill 1: Sub-Skill 2:</p>	<p>Unit 11 Quiz</p> <p>State Standard Unit 11 quiz Sub-Skill 1: Sub-Skill 2:</p>

	Sub-Skill 2:			
Focus for Week 5: Unit 12 Equivalency and Number Line Work				
Sub-Skills: Percentages, Equivalent Fractions, Conversions				
Monday, December 5, Day #70	Tuesday, December 6, Day #71	Wednesday, December 7, Day #72	Thursday, December 8, Day #73	Friday, December 9, Day #74 ½ Day – one hour block
Begin Unit 12 State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.9 Equivalency (fractions) Sub-Skill 1: SWBAT define percentage Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.9 Equivalency (fractions) Sub-Skill 1: SWBAT express fractions as a percent (consider decimals) Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT define and write equivalent fractions Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT convert fractions to decimals Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT convert fractions to percents Sub-Skill 2:
Focus for Week 6: Unit 12 Equivalency				
Sub-Skills: Percents, Decimals, Fractions,GCF				
Monday, December 12, Day #75	Tuesday, December 13, Day #76	Wednesday, December 14, Day #77	Thursday, December 15, Day #78	Friday, December 16, Day #79
State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT convert decimals to percents Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT convert decimals to fractions Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT to convert percents to fractions Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-F.10 Equivalency (fractions) Sub-Skill 1: SWBAT convert percents to decimals Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 5.NSO-C.18 Equivalency (fractions) Sub-Skill 1: SWBAT simplify fractions by identifying the GCF Sub-Skill 2:
Focus for Week 7: Unit 12 Equivalency				
Sub-Skills: Percents, Decimals, fractions, GCF, integers, mixed numbers				
Monday, December 19, Day #80	Tuesday, December 20, Day #81	Wednesday, December 21, Day #82	Thursday, December 22, Day #83	Friday, December 23
State Standard Background Knowledge: CC.4.NF.2 5.NSO-C.18 Equivalency (fractions) Sub-Skill 1: SWBAT determine if 2 fractions are equivalent Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.6 5.NSO-N.3 Number Line (Decimals) Sub-Skill 1: SWBAT find and position integers on the #line Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.6 5.NSO-N.3 Number Line (Decimals) Sub-Skill 1: SWBAT find and position decimals on the number line Sub-Skill 2:	Review for Unit 12= Quiz State Standard Background Knowledge: CC.4.NF.6 5.NSO-N.3 Number Line (Decimals) Sub-Skill 1: SWBAT find and position fractions and mixed numbers on the number line Sub-Skill 2:	WINTER BREAK: NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 8: Unit 13 Evaluating Expressions/ Properties of Equalities/Models, Tables, Graphs				
Sub-Skills: Variables, values, expressions, equations				
Monday, January 2	Tuesday, January 3	Wednesday, January 4, Day #85	Thursday, January 5, Day #86	Friday, January 6, Day #87
WINTER BREAK: NO SCHOOL	WINTER BREAK: NO SCHOOL (PD DAY FOR TEACHERS)	CULTURE RESET (NO ACADEMIC CLASSES)	CULTURE RESET	CULTURE RESET
Focus for Week 9: Unit 13 Evaluating Expressions/ Properties of Equality/Models, Tables, and Graphs				
Sub-Skills: Variables, expressions, Values, Simplifying, Inverse Operations, Equations, Proportions, Ratios, tables				
Monday, January 9, Day #87	Tuesday, January 10, Day #88	Wednesday, January 11, Day #89	Thursday, January 12, Day #90	Friday, January 13, Day #91

State Standard CC.5.MD.2 5.DASP.2 Data in Plots, Tables, and Graphs (Data) Sub-Skill 1: Sub-Skill 2:	State Standard CC.5.MD.2 5.DASP.2 Data in Plots, Tables, and Graphs (Data) Sub-Skill 1: Sub-Skill 2:	State Standard CC.5.OA.2 5.PRA.6 Models, Tables, and Graphs (Data and Graphs) Sub-Skill 1: SWBAT define proportion as a statement that says 2 ratios = Sub-Skill 2:	State Standard CC.5.OA.2 5.PRA.6 Models, Tables, and Graphs (Data and Graphs) Sub-Skill 1: SWBAT create tables and graphs in order to solve proportional relationships Sub-Skill 2:	State Standard CC.5.OA.1,2 5.PRA.2 Evaluate Expressions Given Variables (Decimals) Sub-Skill 1: SWBAT define variable as a symbol that represents a # Sub-Skill 2:
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Focus for Week 10: Unit 13 Evaluatin Expressions/Properties of Equality/Models, Tables, and graphs

Sub-Skills: Addition, Subtraction, Multiplication, Division

Monday, January 16	Tuesday, January 17, Day #92	Wednesday, January 18, Day #93	Thursday, January 19, Day #94	Friday, January 20, Day #95
MLK DAY: NO SCHOOL	State Standard Enrichment: CC.6.EE.2c 5.PRA.2 Evaluate Expressions Given Variables (Decimals) Sub-Skill 1: SWBAT create tables and graphs in order to solve proportional relationships Sub-Skill 2:	State Standard CC.5.OA.1,2,3 5.PRA.3 Properties of Equality (Decimals) Sub-Skill 1: SWBAT use inverse operations in order to solve 1 step equations involving addition Sub-Skill 2:	State Standard CC.5.OA.1,2,3 5.PRA.3 Properties of Equality (Decimals) Sub-Skill 1: SWBAT use inverse operations in order to solve 1 step equations involving subtract Skill 2:	State Standard CC.5.OA.1,2,3 5.PRA.3 Properties of Equality (Decimals) Sub-Skill 1: SWBAT use inverse operations in order to solve 1 step equations involving multiply Sub-Skill 2:

Focus for Week 11: Unit 13 Evaluating Expressions/ Properties of Equality/Models, Tables, and Graphs

Sub-Skills: Inverse operations; add,subtract,multiply, divide

Monday, January 23, Day #96	Tuesday, January 24, Day #97	Wednesday, January 25, Day #98	Thursday, January 26, Day #99	Friday, January 27, Day #100
Review for test unit 10-13 State Standard CC.5.OA.1,2,3 5.PRA.3 Properties of Equality (Decimals) Sub-Skill 1: SWBAT use inverse operations in order to solve 1 step equations involving division Sub-Skill 2:	Unit 10-13 Test State Standard Unit 10-13 Test Sub-Skill 1: Sub-Skill 2:	Begin Interim #4 Units Interim #3 Math	Start Unit 14 State Standard CC.5.G.1 5.G.7 Graph Points with Coordinates (Geometry) Sub-Skill 1: SWBAT identify the x and y axes on the Cartesian Plane Sub-Skill 2: SWBAT identify the four quadrants on the Cartesian Pl	End of Quarter 2 State Standard CC.5.G.1 5.G.7 Graph Points with Coordinates (Geometry) Sub-Skill 1: SWBAT use coordinates to locate and plot points in the first two quadrants Sub-Skill 2:

Interim Cycle 4

Teacher: Miss Jesi Rosati

Subject: MATH

Grade: 5

Focus for Week 1: Unit 14 Interpret Graphs/ Graphing Points/ Models, Tables, and Graphs

Sub-Skills: Graphs, x axis, y axis, quadrants, coordinates, tables, graphs, models

Monday, January 30, Day #101	Tuesday, January 31, Day #102	Wednesday, February 1, Day #103	Thursday, February 2, Day #104	Friday, February 3, Day #105
			½ Day – one hour block	½ Day – one hour block
State Standard CC.5.OA.3 CC.5.G.1, 2 5.PRA.4 Models, Tables, and Graphs (Data and Graphs) Sub-Skill 1: SWBAT create tables in order to display real situations and	State Standard CC.5.OA.3 CC.5.G.1, 2 5.PRA.4 Models, Tables, and Graphs (Data and Graphs) Sub-Skill 1: SWBAT create graphs in order to display real situations and	State Standard CC.5.G.1, 2 5.PRA.7 Interpret Graphs (Data and Graphs) Sub-Skill 1: SWBAT analyze information in a graph that represents the relationship between 2variabl Sub-Skill 2:	Review Unit 14 State Standard CC.5.G.1, 2 5.PRA.7 Interpret Graphs (Data and Graphs) Sub-Skill 1: SWBAT interpret 411 in a graph that represents the relationship between 2 variabl Sub-Skill 2:	Quiz Unit 14 State Standard Unit 14 Quiz Sub-Skill 1: Sub-Skill 2:

mathematical relationships Sub-Skill 2:	math relationships Sub-Skill 2:			
Focus for Week 2: Unit 15 Integers/ Compare and Order/ Inverse Operations				
Sub-Skills: Integers, Positive, Negative				
Monday, February 6, Day #106	Tuesday, February 7, Day #107	Wednesday, February 8, Day #108	Thursday, February 9, Day #109	Friday, February 10, Day #110
State Standard CC.5.OA.1 5.NSO-C.12 Negative Numbers Sub-Skill 1: SWBAT add with negative #s Sub-Skill 2:	State Standard CC.5.OA.1 5.NSO-C.12 Negative Numbers Sub-Skill 1: SWBAT subtract positive integers from negative integer Sub-Skill 2:	State Standard CC.5.OA.1 5.NSO-C.12 Negative Numbers Sub-Skill 1: SWBAT form rules for +- Sub-Skill 2:	State Standard CC.5.OA.1 5.NSO-C.21 Inverse Relationships (Decimals) Sub-Skill 1: SWBAT define inverse operations Sub-Skill 2: SWBAT add and subtract integers using a number line	State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order (fractions) Sub-Skill 1: SWBAT compare integers using the symbols <=> Sub-Skill 2:
Focus for Week 3: Unit 15 Ordering and Comparing Decimals and Percents				
Sub-Skills: Ordering, comparing, inverse operations, number lines				
Monday, February 13, Day #111	Tuesday, February 14, Day #112	Wednesday, February 15, Day #113	Thursday, February 16, Day #114	Friday, February 17
State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order Sub-Skill 1: SWBAT order positive and negative integers Sub-Skill 2:	State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order Sub-Skill 1: SWBAT compare positive fractions and mixed numbers Sub-Skill 2:	State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order Sub-Skill 1: SWBAT order positive fractions and mixed numbers Sub-Skill 2:	State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order Sub-Skill 1: SWBAT compare decimals Sub-Skill 2:	NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 4: Unit 15 Ordering and Comparing Decimals and Percents				
Sub-Skills: Order Decimals, Compare Percents, Order Percents, Inverse Operation, Number Line				
Monday, February 20	Tuesday, February 21, Day #115	Wednesday, February 22, Day #116	Thursday, February 23, Day #117	Friday, February 24, Day #118
PRESIDENT'S DAY: NO SCHOOL	State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order (Fractions) Sub-Skill 1: SWBAT order decimals Sub-Skill 2:	State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order Sub-Skill 1: SWBAT compare percents Sub-Skill 2:	Review Unit 15 State Standard CC.5.NBT.3b 5.NSO-N.4 Compare and Order Sub-Skill 1: SWBAT order Percent Sub-Skill 2:	Unit 14 Quiz State Standard Unit 14 Quiz Sub-Skill 1: Sub-Skill 2:
Focus for Week 5: Unit 16 Exponents/ Order of Operations				
Sub-Skills: Repeated Multiplication, Powers, PEMDAS, expressions, operations, parenthesis				
Monday, February 27, Day #119	Tuesday, February 28, Day #120	Wednesday, February 29, Day #121	Thursday, March 1, Day #122	Friday, March 2, Day #123
State Standard CC.5.NF.6 5.NSO-C.20 Exponents (Decimals) Sub-Skill 1: SWBAT use exponents to represent repeated multiplying Sub-Skill 2:	State Standard CC.5.NF.6 5.NSO-C.20 Exponents (Decimals) Sub-Skill 1: SWBAT write powers of 10 using exponents Sub-Skill 2:	State Standard CC.5.OA.1 5.NSO-C.22 Order of Operations (Decimals) Sub-Skill 1: SWBAT use the PEMDAS acronym to solve expressions which include parenthesis. Sub-Skill 2:	State Standard CC.5.OA.1,2 5.PRA.5 Order of Operations (Decimals) Sub-Skill 1: SWBAT evaluate expressions that have parenthesis by evaluating operations in the parenthesis first. Sub-Skill 2:	State Standard CC.5.OA.1,2 5.PRA.5 Order of Operations (Decimals) Sub-Skill 1: SWBAT demonstrate order of operations in order to evaluate expressions containing different operation Sub-Skill 2:
Focus for Week 6: Unit 16 Exponents/ Order of Operations				
Sub-Skills: Expressions, Parenthesis, Ordering				
Monday, March 5, Day #124	Tuesday, March 6, Day #125	Wednesday, March 7, Day	Thursday, March 8, Day #127	Friday, March 9, Day #128

		#126		
<p>State Standard CC.5.OA.1,2</p> <p>5.PRA.5 Order of Operations (Decimals)</p> <p>Sub-Skill 1: SWBAT write expressions using parenthesis in order to indicate the order in which operations should be perform</p> <p>Sub-Skill 2:</p>	<p>State Standard CC.5.NF.2</p> <p>5. NSO-E.23 Estimate (all numbers)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard CC.5.NF.2</p> <p>5. NSO-E.23 Estimate (all numbers)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>Unit 16 Review</p> <p>State Standard CC.5.NF.2</p> <p>5.NSO-N.1 Estimate (all numbers)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>Unit 16 Quiz</p> <p>State Standard CC.5.NF.2</p> <p>5.NSO-N.1 Estimate (all numbers)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>
<p>Focus for Week 7: Unit 17 Multiply and Divide Fractions</p> <p>Sub-Skills: Reciprical, Multiplying, Dividing</p>				
Monday, March 12, Day #129	Tuesday, March 13, Day #130	Wednesday, March 14, Day #131	Thursday, March 15, Day #132	Friday, March 16
<p>State Standard 5.NSO-C.17 Multiply Fractions (Fractions)</p> <p>Sub-Skill 1: SWBAT multiply fractions</p> <p>Sub-Skill 2:</p>	<p>State Standard 5.NSO-C.17 Multiply Fractions (Fractions)</p> <p>Sub-Skill 1: SWBAT multiply positive fractions with whole numbers</p> <p>Sub-Skill 2:</p>	<p>State Standard 5.NSO-C.17 Divide Fractions (Fractions)</p> <p>Sub-Skill 1: SWBAT define reciprocal</p> <p>Sub-Skill 2:</p>	<p>State Standard 5.NSO-C.17 Divide Fractions (Fractions)</p> <p>Sub-Skill 1: SWBAT divide fractions</p> <p>Sub-Skill 2:</p>	<p>NO SCHOOL (PD DAY FOR TEACHERS)</p>
<p>Focus for Week 8: Unit 17 Multiply and Divide Fractions</p> <p>Sub-Skills: Multiply, divide, reciprocal</p>				
Monday, March 19, Day #133	Tuesday, March 20, Day #134	Wednesday, March 21, Day #135	Thursday, March 22, Day #136	Friday, March 23, Day #137
<p>State Standard CC.5.NF.3,4</p> <p>5.NSO-C.17 Divide Fractions (Fractions)</p> <p>Sub-Skill 1: SWBAT divide positive fractions by whole numbers</p> <p>Sub-Skill 2:</p>	<p>Unit 17 Review</p> <p>State Standard Unit 17 Review</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>Unit 7 Quiz</p> <p>State Standard Unit 17 quiz</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>Begin Unit 18</p> <p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1: SWBAT define probability as the likelihood of an event occurring</p> <p>Sub-Skill 2:</p>	<p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1: SWBAT define probability as the likelihood of an event occurring</p> <p>Sub-Skill 2:</p>
<p>Focus for Week 9: Unit 18 Probability</p> <p>Sub-Skills: Likelihood, events, favorable outcomes, possible outcomes</p>				
Monday, March 26, Day #138	Tuesday, March 27, Day #139	Wednesday, March 28, Day #140	Thursday, March 29, Day #141	Friday, March 30, Day #142
<p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1: SWBAT define probability as the likelihood of an event occurring</p> <p>Sub-Skill 2:</p>	<p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1: SWBAT find the probability of an event by dividing the number of favorable outcomes by the total number of possible outcomes</p> <p>Sub-Skill 2:</p>	<p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1: SWBAT find the probability of an event by dividing the number of favorable outcomes by the total number of possible outcomes</p> <p>Sub-Skill 2:</p>	<p>Review for Unit 18 quiz</p> <p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1: SWBAT find the probability of an event by dividing the number of favorable outcomes by the total number of possible outcomes</p> <p>Sub-Skill 2:</p>	<p>Unit 18 Quiz</p> <p>State Standard CC.5.MD.2</p> <p>5. DASP.3 Probability (Fractions)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>
<p>Focus for Week 10: Unit 18 Probability</p> <p>Sub-Skills: : Likelihood, events, favorable outcomes, possible outcomes</p>				
Monday, April 2, Day #143	Tuesday, April 3, Day #144	Wednesday, April 4, Day #145	Thursday, April 5, Day #146	Friday, April 6
Review for Unit 14	Review Unit 15	Review Unit 16	Review Unit 17-18	

State Standard	State Standard	State Standard	State Standard	SPRING BREAK: NO SCHOOL
Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:	
Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	
Focus for Week 11:				
Sub-Skills:				
Monday, April 16, Day #147	Tuesday, April 17, Day #148	Wednesday, April 18, Day #149	Thursday, April 19, Day #150	Friday, April 20, Day #151 End of Quarter 3
Review all units 14-18	Unit 14-18 Test	Begin DCAS UNITS		
State Standard	State Standard	INTERIM #4 MATH	State Standard CC.5.NF.2 5.NSO-E.23 Estimate (whole numbers)	State Standard CC.5.NF.2 5.NSO-E.23 Estimate (whole numbers)
Sub-Skill 1:	Sub-Skill 1:		Sub-Skill 1:	Sub-Skill 1:
Sub-Skill 2:	Sub-Skill 2:		Sub-Skill 2:	Sub-Skill 2:

(Post-Interims) Review; DCAS Testing Period

Teacher: Miss Jesi Rosati

Subject: MATH

Grade: 5

Focus for Week 1: (Post-Interims) Review; DCAS Testing Period				
Sub-Skills:				
Monday, April 23, Day #152	Tuesday, April 24, Day #153	Wednesday, April 25, Day #154	Thursday, April 26, Day #155	Friday, April 27, Day #156 ½ Day – one hour block
State Standard CC.5.NBT.1,2,4 5.NSO-N.1 Place Value	State Standard CC.5.NBT.1,2,4 5.NSO-N.1 Place Value	State Standard CC.5.OA.1 5.PRA.1 Patterns	State Standard CC.5.OA.1 5.PRA.1 Patterns	State Standard Quiz: Estimate, place value, patterns CC.5.NBT.1,2,4 5.NSO-N.1 Place Value CC.5.OA.1 5.PRA.1 Patterns
Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:
Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:
Focus for Week 2: (Post-Interims) Review; DCAS Testing Period				
Sub-Skills:				
Monday, April 30, Day #157	Tuesday, May 1, Day #158	Wednesday, May 2, Day #159	Thursday, May 3, Day #160	Friday, May 4, Day #161
State Standard CC.5.MD.2 5.DASP. 1 Data and Central Tendency	State Standard CC.5.MD.2 5.DASP. 1 Data and Central Tendency	State Standard CC.5.G.3,4 5.G.2 Identify 3-D Shapes	State Standard CC.5.G.3,4 5.G.2 Identify 3-D Shapes	State Standard CC.5.G.3,4 5.G.6 Quiz/ 5.G6 Transformations
Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:	Sub-Skill 1:
Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:

Focus for Week 3:				
Sub-Skills:				
Monday, May 7, Day #162	Tuesday, May 8, Day #163	Wednesday, May 9, Day #164	Thursday, May 10, Day #165	Friday, May 11, Day #166
<p>State Standard</p> <p>Background Knowledge: CC.4.MD.3 5.M1: Perimeter of shapes</p> <p>Sub-Skill 1: Define perimeter, find perimeter of a triangle and rectangle</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Background Knowledge: CC.4.MD.3 5.M1: Perimeter of shapes</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Background Knowledge: CC.4.MD.3 5.M1 Define area; area of rectangle</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Background Knowledge: CC.4.MD.3 Current Knowledge: CC.5.MD.5b Enrichment: CC.7.G.4 5.M1 Area of triangle & parallelogram</p> <p>Sub-Skill 1: Use the formula for area and perimeter of triangle</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Quiz 5.M1 Area and Perimeter</p> <p>Background Knowledge: CC.4.MD.3 Current Knowledge: CC.5.MD.5b Enrichment: CC.7.G.4</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>

Focus for Week 4: (Post-Interims) Review; DCAS Testing Period				
Sub-Skills:				
Monday, May 14, Day #167	Tuesday, May 15, Day #168	Wednesday, May 16, Day #169	Thursday, May 17, Day #170	Friday, May 18, Day #171
<p>State Standard</p> <p>CC.5.MD.2 5.DASP.2 Data in Plots, Tables and Graphs</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>CC.5.MD.2 5.DASP.2 Data in Plots, Tables and Graphs</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>CC.5.MD.1 5.M.3 Unit Conversions (within a system)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>CC.5.MD.1 5.M.3 Unit Conversions (within a system)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Quiz on Tables and metric measurement</p> <p>CC.5.MD.2 5.DASP.2 Data in Plots, Tables and Graphs CC.5.MD.1 5.M.3 Unit Conversions (within a system)</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>

Focus for Week 5: (Post-Interims) Review; DCAS Testing Period				
Sub-Skills:				
Monday, May 21, Day #172	Tuesday, May 22, Day #173	Wednesday, May 23, Day #174	Thursday, May 24, Day #175	Friday, May 25, Day #176 ½ Day – one hour block
<p>State Standard</p> <p>CC.5.NF.1,2 5.NSO-C.13 Add Fractions</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>CC.5.NF.1,2 5.NSO-C.13 Subtract Fractions</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Background Knowledge: CC.4.NF.2 5.NSO-C.18/F.11 Simplify Fractions</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Background Knowledge: CC.4.NF.2 5.NSO-C.18/F.11 Simplify Fractions</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>5.NSO-F.8 Understanding Fractions/Quiz on Fractions</p> <p>CC.5.NF.1,2 5.NSO-C.13 Add & Subtract Fractions</p> <p>Background Knowledge: CC.4.NF.2 5.NSO-C.18/F.11 Simplify Fractions</p> <p>Sub-Skill 1:</p>

				Sub-Skill 2:
Focus for Week 6: (Post-Interims) Review; DCAS Testing Period				
Sub-Skills:				
Monday, May 28	Tuesday, May 29, Day #177	Wednesday, May 30, Day #178	Thursday, May 31, Day #179	Friday, June 1, Day #180
MEMORIAL DAY: NO SCHOOL	State Standard Background Knowledge: CC.4.NF.2 Current Knowledge: CC.5.NBT.5 Percents Sub-Skill 1: Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 Current Knowledge: CC.5.NBT.5 Percents Sub-Skill 1: Sub-Skill 2:	State Standard Background Knowledge: CC.4.NF.2 Current Knowledge: CC.5.NBT.5 Percents Sub-Skill 1: Sub-Skill 2:	State Standard Percents/Quiz Background Knowledge: CC.4.NF.2 Current Knowledge: CC.5.NBT.5 Sub-Skill 1: Sub-Skill 2:
Focus for Week 7:				
Sub-Skills:				
Monday, June 4, Day #181	Tuesday, June 5, Day #182	Wednesday, June 6, Day #183	Thursday, June 7, Day #184	Friday, June 8, Day #185
State Standard CC.5.NBT.6, 7 Decimals Sub-Skill 1: Sub-Skill 2:	State Standard CC.5.NBT.6, 7 Decimals Sub-Skill 1: Sub-Skill 2:	State Standard CC.5.NBT.6, 7 Decimals Sub-Skill 1: Sub-Skill 2:	State Standard CC.5.NBT.6, 7 Decimals Sub-Skill 1: Sub-Skill 2:	State Standard Quiz Decimals CC.5.NBT.6, 7 Sub-Skill 1: Sub-Skill 2:
Focus for Week 8:				
Sub-Skills:				
Monday, June 11, Day #186	Tuesday, June 12, Day #187	Wednesday, June 13, Day #188 ½ Day - Finals	Thursday, June 14, Day #189 ½ Day – Finals	Friday, June 15, Day #190 ½ Day - Finals
State Standard Final Review Sub-Skill 1: Sub-Skill 2:	State Standard Final Review Sub-Skill 1: Sub-Skill 2:	MATH FINALS	ELA FINALS	SCIENCE/SS FINALS

Curriculum Scope & Sequence

School: Prestige Academy Charter School Grade or Course: Math/6th grade Teacher: Brunazzi/Patton

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Using Data to come to conclusions	<p>6.SP.1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. <i>For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.</i></p> <p>6.SP.2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.</p> <p>6.SP.3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.</p> <p>6.SP.4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</p> <p>6.SP.5. Summarize numerical data sets in relation to their context, such as by: A. Reporting the</p>	<p>Statistical questions have value in our world and are asked to answer a myriad of questions even when data tends to vary greatly.</p> <p>Data sets are collected and analyzed using means of central tendency (mean, median, spread, range, etc) in order for us to better understand our world and answer statistical questions.</p> <p>Using data to create graph and charts including scatter plots, histograms, stem and leaf plots, box plots, can help us visualize the data set and arrive at deeper understandings of the data.</p> <p>Display numerical data in plots and understand that while a measure of variation describes how its values vary with a single number.</p>	<p><i>Students will understand...</i></p> <p>How to construct graphs using a given set of data.</p> <p>How to calculate the mean, median, mode, and range of a given set of data</p> <p>How to gather data to answer a larger, real-world question.</p> <p>How to find quantitative measures of center and describe overall patterns and trends in data.</p> <p>How to display numerical data in plots and understand that while a measure of variation describes how its values vary with a single number.</p>

	<p>number of observations.</p> <p>B. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.</p> <p>C. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.</p> <p>D. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</p>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Using the Rules of the Road	<p>CC.6.NS.2. Fluently divide multi-digit numbers using the standard algorithm.</p> <p>CC.6.NS.3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.</p> <p>CC.6.EE.2b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms.</i></p> <p>CC.6.NS.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. <i>For example, express $36 + 8$ as $4(9 + 2)$. Apply and extend previous understandings of numbers to the system of rational numbers.</i></p> <p>CC.6.NS.1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by</p>	<p>When solving a complex mathematical problem an algorithm is helpful and in many cases necessary.</p> <p>Each part of an expression must be looked at as a distinct, yet related section that is often solved separately using one algorithm before solving the larger expression.</p> <p>Exponents or “powers” of a number relate to a specific mathematical operation.</p>	<p><i>Students will understand that...</i></p> <p>It is best to use an algorithm for order of operations when solving complex problems that involve subtraction, division, or exponents.</p> <p>Finding the greatest common factor is useful when reducing fractions and cross reducing fractions.</p> <p>Mathematical expressions can be used to represent and solve real-world and mathematical problems.</p> <p>Flexibility in manipulating expressions to suit a particular purpose (rewriting an expression to represent a quantity in a different way to make it more compact or to feature different information) helps with solving problems efficiently.</p>

	<p>fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, create a story context for $(2/3) \div (3/4)$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. (In general, $(a/b) \div (c/d) = ad/bc$.) How much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $3/4$-cup servings are in $2/3$ of a cup of yogurt? How wide is a rectangular strip of land with length $3/4$ mi and area $1/2$ square mi? Compute fluently with multi-digit numbers and find common factors and multiples.</i></p> <p>CC.6.EE.1. Write and evaluate numerical expressions involving whole-number exponents.</p>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Number Sense and Computation: Using Numbers to Determine Value, Compare and Contrast, and Identify and Graph/Plot Positive and Negative Integers	<p>CC.6.NS.5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.</p> <p>CC.6.NS.6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.</p> <p>A. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.</p> <p>B. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two</p>	<p>Rational numbers include integers, the quotient or fraction of whole numbers and can be expressed in varying ways.</p> <p>The distance on a number line between two integers in filled with many rational numbers that can be expressed in many ways.</p> <p>Positive and negative numbers (numbers and their opposites) are sued to make sense of everyday situations involving concepts such as debt, temperature, stocks, etc.</p> <p>The absolute value of a number is its distance from zero on a number line.</p>	<p><i>Students will understand that...</i></p> <p>Positive and negative numbers are used together to describe quantities having opposite directions or values.</p> <p>There are many situations involving numbers where comparison is necessary and statements of inequality can be expressed using symbols, words, or other equations.</p> <p>Numbers can be plotted on a number line as well as a coordinate plane in order to express their value.</p>

	<p>ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.</p> <p>C. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.</p> <p>CC.6.NS.7. Understand ordering and absolute value of rational numbers.</p> <p>A. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. <i>For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.</i></p> <p>B. Write, interpret, and explain statements of order for rational numbers in real-world contexts. <i>For example, write $-3^{\circ}\text{C} > -7^{\circ}\text{C}$ to express the fact that -3°C is warmer than -7°C.</i></p> <p>C. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive</p>		
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or negative quantity in a real-world situation.

For example, for an account balance of -30 dollars, write $|-30| = 30$ to describe the size of the debt in dollars.

D. Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.*

CC.6.NS.8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

CC.6.NS.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express $36 + 8$ as $4(9 + 2)$. Apply and extend previous understandings of numbers to the system of rational numbers.*

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Ratios and Proportions	<p>CC.6.RP.1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. <i>For example, “The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly three votes.”</i></p> <p>CC.6.RP.2. Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. <i>For example, “This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is $3/4$ cup of flour for each cup of sugar.” “We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger.”¹</i></p> <p>CC.6.RP.3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.</p> <p>A. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare</p>	<p>Ratios are a way of comparing two numbers in a way that creates a new number expression.</p>	<p><i>Students will understand that...</i></p> <p>When creating a ratio, the numerals need to correspond with the situation described.</p> <p>Ratios connect to many mathematical concepts, such as multiplication, fractions, etc.</p> <p>In order to scale a proportion up or down, multiplication or division is needed.</p> <p>Equivalent ratios are created when both numbers of the proportion are treated the same.</p>

	<p>ratios.</p> <p>B. Solve unit rate problems including those involving unit pricing and constant speed. <i>For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?</i></p> <p>C. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means $30/100$ times the quantity); solve problems involving finding the whole, given a part and the percent.</p> <p>D. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.</p>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Geometry and geometric relationships	<p>6.G.1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.</p> <p>6.G.2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.</p> <p>6.G.3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.</p> <p>6.G.4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and</p>	<p>Two-dimensional and three-dimensional shapes are a part of our world. We can use mathematical algorithms for volume and area to better understand these shapes.</p> <p>Polygons are separated into various shapes (triangles, rectangles, squares) in order to better understand them.</p>	<p><i>Students will understand that...</i></p> <p>Area involves measuring a surface in square units</p> <p>Surface Area involves measuring all faces of a 3-D shape in square units.</p> <p>Volume is connected to the idea of filling in all empty space in a three-dimensional object with cubic units.</p>

	mathematical problems.		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Applying arithmetic to Algebraic Expressions	<p>CC.6.EE.1. Write and evaluate numerical expressions involving whole-number exponents. (review)</p> <p>CC.6.EE.2. Write, read, and evaluate expressions in which letters stand for numbers.</p> <p>A. Write expressions that record operations with numbers and with letters standing for numbers. <i>For example, express the calculation "Subtract y from 5" as $5 - y$.</i></p> <p>B. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms. (review)</i></p> <p>C. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic</p>	<p>In mathematical expressions, variables are used to represent a number with an unknown value.</p> <p>Writing, solving, and evaluating expressions with variables can help us solve a myriad of real world problems.</p>	<p><i>Students will understand that...</i></p> <p>Using the order of operations, one can parse out single entities within a larger expression.</p> <p>Rules about familiar mathematical operations also apply to variables (variables can be added, multiplied, etc)</p> <p>Two equivalent expressions remain equivalent when a number is substituted for a variable.</p>

operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.*

CC.6.EE.3. Apply the properties of operations to generate equivalent expressions. *For example, apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$; apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$; apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.*

CC.6.EE.4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions $y + y + y$ and $3y$ are equivalent because they name the same number regardless of which number y stands for. Reason about and solve one-variable equations and inequalities.*

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Algebraic Reasoning with inequalities, equations, and variables.	<p>6.EE.5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.</p> <p>6.EE.6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.</p> <p>6.EE.7. Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.</p> <p>6.EE.8. Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.</p> <p>6.EE.9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of</p>	<p>In mathematical expressions, variables are used to represent a number with an unknown value.</p> <p>An equal sign represents equivalence.</p> <p>Equations with inequalities and/or variables represent real-world situations that can be solved and understood using mathematical and algebraic reasoning.</p> <p>Mathematical problems with independent and dependent variables can be represented using various formats (graphs, real-world scenarios, equations).</p>	<p><i>Students will understand that...</i></p> <p>Inequalities can be solved using the inverse of an operation.</p> <p>Solutions to equations and inequalities are the values that make the equations and inequalities true.</p> <p>Some inequalities have infinite solutions.</p> <p>Variables can be used to represent qualities that vary in relationship to one another.</p> <p>All independent and dependent variables have a relationship.</p>

	<p>the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.</p>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions

Curriculum Scope & Sequence

School: Prestige Academy Charter School Grade or Course: Math/6th grade Teacher: Brunazzi/Patton

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Number Sense and Computation: Using Numbers to Determine Value, Compare and Contrast, and Identify and Graph/Plot Positive and Negative Integers. 5 -6weeks	<p>CC.6.NS.5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.</p> <p>CC.6.NS.6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.</p> <p>A. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.</p> <p>B. Understand signs of numbers in ordered pairs as indicating</p>	<p>Rational numbers include integers, the quotient or fraction of whole numbers and can be expressed in varying ways.</p> <p>The distance on a number line between two integers in filled with many rational numbers that can be expressed in many ways.</p> <p>Positive and negative numbers (numbers and their opposites) are sued to make sense of everyday situations involving concepts such as debt, temperature, stocks, etc.</p> <p>The absolute value of a number is its distance from zero on a number line.</p>	<p><i>Students will understand that...</i></p> <p>Positive and negative numbers are used together to describe quantities having opposite directions or values.</p> <p>There are many situations involving numbers where comparison is necessary and statements of inequality can be expressed using symbols, words, or other equations.</p> <p>Numbers can be plotted on a number line as well as a coordinate plane in order to express their value.</p>

	<p>locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.</p> <p>C. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.</p> <p>CC.6.NS.7. Understand ordering and absolute value of rational numbers.</p> <p>A. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. <i>For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.</i></p> <p>B. Write, interpret, and explain statements of order for rational numbers in real-world contexts. <i>For example, write $-3^{\circ}\text{C} > -7^{\circ}\text{C}$ to express the fact that -3°C is warmer than -7°C.</i></p> <p>C. Understand the absolute value of a rational number as its distance from 0 on the</p>		
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	<p>number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. <i>For example, for an account balance of -30 dollars, write $-30 = 30$ to describe the size of the debt in dollars.</i></p> <p>D. Distinguish comparisons of absolute value from statements about order. <i>For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.</i></p> <p>CC.6.NS.8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.</p> <p>CC.6.NS.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. <i>For example, express $36 + 8$ as $4(9 + 2)$. Apply and extend previous understandings of numbers to the system of</i></p>		
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	<i>rational numbers.</i>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Using Data to come to conclusions. 3-4 weeks	<p>6.SP.1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. <i>For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.</i></p> <p>6.SP.2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.</p> <p>6.SP.3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.</p> <p>6.SP.4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</p> <p>6.SP.5. Summarize numerical data sets in relation to their context, such as by:</p> <ul style="list-style-type: none"> A. Reporting the number of observations. B. Describing the nature of the attribute under 	<p>Statistical questions have value in our world and are asked to answer a myriad of questions even when data tends to vary greatly.</p> <p>Data sets are collected and analyzed using means of central tendency (mean, median, spread, range, etc) in order for us to better understand our world and answer statistical questions.</p> <p>Using data to create graph and charts including scatter plots, histograms, stem and leaf plots, box plots, can help us visualize the data set and arrive at deeper understandings of the data.</p> <p>Display numerical data in plots and understand that while a measure of variation describes how its values vary with a single number.</p>	<p><i>Students will understand...</i></p> <p>How to construct graphs using a given set of data.</p> <p>How to calculate the mean, median, mode, and range of a given set of data</p> <p>How to gather data to answer a larger, real-world question.</p> <p>How to find quantitative measures of center and describe overall patterns and trends in data.</p> <p>How to display numerical data in plots and understand that while a measure of variation describes how its values vary with a single number.</p>

	<p>investigation, including how it was measured and its units of measurement.</p> <p>C. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.</p> <p>D. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</p>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Using the Rules of the Road. 4-5 weeks	<p>CC.6.NS.2. Fluently divide multi-digit numbers using the standard algorithm.</p> <p>CC.6.NS.3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.</p> <p>CC.6.EE.2b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms.</i></p> <p>CC.6.NS.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. <i>For example, express $36 + 8$ as $4(9 + 2)$. Apply and extend previous understandings of numbers to the system of rational numbers.</i></p> <p>CC.6.NS.1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by</p>	<p>When solving a complex mathematical problem an algorithm is helpful and in many cases necessary.</p> <p>Each part of an expression must be looked at as a distinct, yet related section that is often solved separately using one algorithm before solving the larger expression.</p> <p>Exponents or “powers” of a number relate to a specific mathematical operation.</p>	<p><i>Students will understand that...</i></p> <p>It is best to use an algorithm for order of operations when solving complex problems that involve subtraction, division, or exponents.</p> <p>Finding the greatest common factor is useful when reducing fractions and cross reducing fractions.</p> <p>Mathematical expressions can be used to represent and solve real-world and mathematical problems.</p> <p>Flexibility in manipulating expressions to suit a particular purpose (rewriting an expression to represent a quantity in a different way to make it more compact or to feature different information) helps with solving problems efficiently.</p>

	<p>fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, create a story context for $(2/3) \div (3/4)$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. (In general, $(a/b) \div (c/d) = ad/bc$.) How much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $3/4$-cup servings are in $2/3$ of a cup of yogurt? How wide is a rectangular strip of land with length $3/4$ mi and area $1/2$ square mi? Compute fluently with multi-digit numbers and find common factors and multiples.</i></p> <p>CC.6.EE.1. Write and evaluate numerical expressions involving whole-number exponents.</p>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Ratios and Proportions. 4-5 weeks	<p>CC.6.RP.1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. <i>For example, “The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly three votes.”</i></p> <p>CC.6.RP.2. Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. <i>For example, “This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is $3/4$ cup of flour for each cup of sugar.” “We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger.”¹</i></p> <p>CC.6.RP.3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.</p> <p>A. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare</p>	Ratios are a way of comparing two numbers in a way that creates a new number expression.	<p><i>Students will understand that...</i></p> <p>When creating a ratio, the numerals need to correspond with the situation described.</p> <p>Ratios connect to many mathematical concepts, such as multiplication, fractions, etc.</p> <p>In order to scale a proportion up or down, multiplication or division is needed.</p> <p>Equivalent ratios are created when both numbers of the proportion are treated the same.</p>

	<p>ratios.</p> <p>B. Solve unit rate problems including those involving unit pricing and constant speed. <i>For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?</i></p> <p>C. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means $30/100$ times the quantity); solve problems involving finding the whole, given a part and the percent.</p> <p>D. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.</p>		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Geometry and geometric relationships. 3-4 weeks	<p>6.G.1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.</p> <p>6.G.2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.</p> <p>6.G.3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.</p> <p>6.G.4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and</p>	<p>Two-dimensional and three-dimensional shapes are a part of our world. We can use mathematical algorithms for volume and area to better understand these shapes.</p> <p>Polygons are separated into various shapes (triangles, rectangles, squares) in order to better understand them.</p>	<p><i>Students will understand that...</i></p> <p>Area involves measuring a surface in square units</p> <p>Surface Area involves measuring all faces of a 3-D shape in square units.</p> <p>Volume is connected to the idea of filling in all empty space in a three-dimensional object with cubic units.</p>

	mathematical problems.		
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Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Applying arithmetic to Algebraic Expressions. 4-5 weeks	<p>CC.6.EE.1. Write and evaluate numerical expressions involving whole-number exponents. (review)</p> <p>CC.6.EE.2. Write, read, and evaluate expressions in which letters stand for numbers.</p> <p>A. Write expressions that record operations with numbers and with letters standing for numbers. <i>For example, express the calculation "Subtract y from 5" as $5 - y$.</i></p> <p>B. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. <i>For example, describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms. (review)</i></p> <p>C. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic</p>	<p>In mathematical expressions, variables are used to represent a number with an unknown value.</p> <p>Writing, solving, and evaluating expressions with variables can help us solve a myriad of real world problems.</p>	<p><i>Students will understand that...</i></p> <p>Using the order of operations, one can parse out single entities within a larger expression.</p> <p>Rules about familiar mathematical operations also apply to variables (variables can be added, multiplied, etc)</p> <p>Two equivalent expressions remain equivalent when a number is substituted for a variable.</p>

operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.*

CC.6.EE.3. Apply the properties of operations to generate equivalent expressions. *For example, apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$; apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$; apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.*

CC.6.EE.4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions $y + y + y$ and $3y$ are equivalent because they name the same number regardless of which number y stands for. Reason about and solve one-variable equations and inequalities.*

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Algebraic Reasoning with inequalities, equations, and variables. 4-5 weeks.	<p>6.EE.5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.</p> <p>6.EE.6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.</p> <p>6.EE.7. Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.</p> <p>6.EE.8. Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.</p> <p>6.EE.9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of</p>	<p>In mathematical expressions, variables are used to represent a number with an unknown value.</p> <p>An equal sign represents equivalence.</p> <p>Equations with inequalities and/or variables represent real-world situations that can be solved and understood using mathematical and algebraic reasoning.</p> <p>Mathematical problems with independent and dependent variables can be represented using various formats (graphs, real-world scenarios, equations).</p>	<p><i>Students will understand that...</i></p> <p>Inequalities can be solved using the inverse of an operation.</p> <p>Solutions to equations and inequalities are the values that make the equations and inequalities true.</p> <p>Some inequalities have infinite solutions.</p> <p>Variables can be used to represent qualities that vary in relationship to one another.</p> <p>All independent and dependent variables have a relationship.</p>

	<p>the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.</p>		
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Unit Title: Number Sense and Computation: Using Numbers to Determine Value, Compare and Contrast, and Identify and Graph/Plot Positive and Negative Integers

Grade Level(s): 6th

Subject/Topic Areas: Number Line, Number Theory, Inverse Relationships, Rational Numbers

Key Vocabulary: Less than, greater than, equal to, absolute value, factor, multiple, common multiple, least common factor, greatest common factor, prime, composite, inverse.

Designed By:

Time Frame: 5 weeks

Date:

SUMMARY OF PURPOSE: In this 6th grade Number Theory unit, students will learn about how numbers help us determine value and placement. They will be able to compare and contrast numbers, find the inverse relationship, and plot and graph numbers given or products found from number problems.

Stage 1: Desired Results

Common Core/ Delaware Standards

CC.6.NS.5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

CC.6.NS.6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.

Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.

Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.

Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

CC.6.NS.7. Understand ordering and absolute value of rational numbers.

Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.*

Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write $-3^{\circ}\text{C} > -7^{\circ}\text{C}$ to express the fact that -3°C is warmer than -7°C .*

Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of -30 dollars, write $|-30| = 30$ to describe the size of the debt in dollars.*

Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.*

CC.6.NS.8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

CC.6.NS.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express $36 + 8$ as $4(9 + 2)$. Apply and extend previous understandings of numbers to the system of rational numbers.*

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Key Concepts/Big Ideas

Rational numbers include integers, the quotient or fraction of whole numbers and can be expressed in varying ways.

The distance on a number line between two integers is filled with many rational numbers that can be expressed in many ways.

Positive and negative numbers (numbers and their opposites) are used to make sense of everyday situations involving concepts such as debt, temperature, stocks, etc.

The absolute value of a number is its distance from zero on a number line.

Enduring Understandings

Students will understand that...

Positive and negative numbers are used together to describe quantities having opposite directions or values.

There are many situations involving numbers where comparison is necessary and statements of inequality can be expressed using symbols, words, or other equations.

Numbers can be plotted on a number line as well as a coordinate plane in order to express their value.

Essential Questions

- How are numbers used to compare and contrast information given on a number line?
- How is absolute value used to interpret quantity?
- What is the distance between a number and its opposite?

Real World Context

- Multiple: money, time, distance and distance.

Learning Targets/Goals

Students will know...

- How to add numbers and their opposites.
- How to use symbols to compare and contrast as well as identify situations where comparison is needed.

Students will be able to... (21st century skills)

- Distinguish comparisons of absolute value from statements of order.
- Explain the meaning of zero in real-world contexts.
- Find the relative location of any given set of numbers and their opposites on a number line.

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

You and your two partners have been asked to develop factor trees for a given set of numbers. After you complete the factor trees, you will need to plot the base line factors for each number on a number line. Please be sure to include all of the digits in between the numbers you are plotting to show the complete number line. Once the number line is complete for each number, please explain, in paragraph format, how factor trees are important in helping to find the least common multiple (LCM) and greatest common factor (GCF) of two numbers.

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1
Number Line	Factors are clearly marked using an asterisk and all numbers in between are present.	Factors are clearly marked but only some numbers in between are present.	Factors are not clearly marked and all numbers in between are not present.	Factors are not clearly marked and no numbers in between are present.
Explanatory paragraph	The paragraph has no grammatical or spelling errors and it is clearly evident why factor trees are helpful in finding the LCM and GCF using evidence from the assignment.	The paragraph has less than four combined grammatical and/or spelling errors and it is clear why factor trees are helpful in finding the LCM and GCF but does not use evidence from the assignment.	The paragraph has less than six combined grammatical and/or spelling errors and it is not clear why factor trees are helpful in finding the LCM and GCF.	The paragraph has more than six combined grammatical and/or spelling errors and it is not clear why factor trees are helpful in finding the LCM and GCF.

Formative Assessments:(e.g., tests, quizzes, prompts, work samples, observations)
All copies can be found in Appendix A.

Summative Assessments:

Comprehensive exams
Aligned to standards

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Student Self-Assessment and Reflection

Pairs Communication Activity

Directions: Working in pairs, both students will be given one list each, different from their partners; of mathematical problems that includes all four basic operations, addition, subtraction, multiplication, and division. The student will solve all of his worksheet problems and then the students will switch. In order to correct the partners worksheet, the student will have to perform the inverse operation to make sure that the problem was solved correctly, showing all work, and the answer provided was correct.

Reflection:

1. Why do you think it is important to correct your work using the inverse operation?
2. Was it more difficult to solve the problems that you were given or to correct your partners work?
3. How did you deliver the news to your partner that they may have gotten an answer wrong? Was it polite and if not could your delivery been done another way?

Instructional Resources

Summer Link Super Edition
Math-aids.com
Math-drills.com
Superteacherworksheets.com
Triand.net
Achievementnetwork.ork

Differentiation

Stopwatch, using time constraints
Graph paper
Number line paper
Homeroom chants/school wide chants to keep and boost morale
Smartboard
Projector

Enrichment

Students will apply what they have learned create their own project-based application of these skills

Stage 3: Learning Plan

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Key learning tasks needed to achieve unit goals

- Factor trees
- Graph and number line paper
- More paired and group work

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1

General Topics: Introduction of integers, both positive and negative, as well as the number line and vocabulary that will be used.

Key Vocabulary: Integer, Compare, Contrast, Absolute Value.

- 1.) We will use shaded boxes to compare numbers, including fractions.
- 2.) We will use number lines to compare and order sets of whole numbers as well as use symbols to compare and contrast integers and absolute value.
- 3.) We will use ‘do now’ to assess prior knowledge of number lines by having the students order negative numbers on a number line.
- 4.) We will use guided notes to help the students understand the vocabulary and the meaning behind the words we use.
- 5.) We will have students work individually as well as in pairs and small groups to assess their own understanding as well as the comprehension of the class which will enable small peer-driven tutoring sessions.
- 6.) We will use call and response to gauge how much we have learned during the lesson, what needs to be taught again, and what has been mastered.

Lesson 2

General Topics: Prime Numbers, Composite Numbers, GCM, LCM, Factor Trees

Key Vocabulary: Prime, Composite, Factor, Least Common Multiple, Greatest Common Factor

- 1.) We will use division with the digits two and three to determine whether a given number is prime or composite.
- 2.) We will state and give examples of prime and composite numbers.
- 3.) We will write the prime factorization of any given number.
- 4.) We will use guided notes to help the students understand the vocabulary and the meaning behind the words we use.
- 5.) We will have students work individually as well as in pairs and small groups to assess their own understanding as well as the comprehension of the class which will enable small peer-driven tutoring sessions.
- 6.) We will use call and response to gauge how much we have learned during the lesson, what needs to be taught again, and what we have mastered.

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Lesson 3

General Topics: Inverse Relationships

Key Vocabulary: Inverse

- 1.) We will use the four basic operations, which are addition, subtraction, multiplication, and division to have student's complete mathematical problems and find the inverse of the product they received.
- 2.) We will use the inverse operation to correct answers to mathematical problems.
- 3.) We will graph and plot our data.
- 4.) We will use guided notes to help the students understand the vocabulary and the meaning behind the words we use.
- 5.) We will have students work individually as well as in pairs or small groups to assess their own understanding as well as the comprehension of the class which will enable small peer-driven tutoring sessions.
- 6.) We will use call and response to gauge how much we have learned during the lesson, what needs to be taught again, and what we have mastered.

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Unit Title: Using the Rules of the Road

Grade Level(s): 6th

Subject/Topic Areas: Order of Operations, Using the Appropriate Operation, Exponents

Key Vocabulary: PEMDAS, Exponent, Associative Property, Commutative Property, Power, Squared, Cubed

Designed By:

Time Frame: 3-4 weeks

Date:

SUMMARY OF PURPOSE: In this 6th grade Order of Operations and Exponents unit, students will learn about the rules of problem solving and how to decide which operation to perform first when they have a complex mathematical problem.

Stage 1: Desired Results

Common Core/ Delaware Standards

- CC.6.NS.2. Fluently divide multi-digit numbers using the standard algorithm.
- CC.6.NS.3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
- CC.6.EE.2b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms.*
- CC.6.NS.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express $36 + 8$ as $4(9 + 2)$. Apply and extend previous understandings of numbers to the system of rational numbers.*
- CC.6.NS.1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for $(2/3) \div (3/4)$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. (In general, $(a/b) \div (c/d) = ad/bc$.) How much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $3/4$ -cup servings are in $2/3$ of a cup of yogurt? How wide is a rectangular strip of land with length $3/4$ mi and area $1/2$ square mi? Compute fluently with multi-digit numbers and find common factors and multiples.*
- CC.6.EE.1. Write and evaluate numerical expressions involving whole-number exponents.

Key Concepts/Big Ideas

When solving a complex mathematical problem an algorithm is helpful and in many cases necessary.

Each part of an expression must be looked at as a distinct, yet related section that is often solved

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separately using one algorithm before solving the larger expression.

Exponents or “powers” of a number relate to a specific mathematical operation.

Enduring Understandings

Students will understand that...

It is best to use an algorithm for order of operations when solving complex problems that involve subtraction, division, or exponents.

Finding the greatest common factor is useful when reducing fractions and cross reducing fractions.

Essential Questions

- What is a complex mathematical problem?
- What does PEMDAS mean and how is it used?

Real World Context

- Using an algorithm to divide fractions can be useful to solve equations and also make sense of real world situations such as dividing a recipe in half.

Learning Targets/Goals

Students will know...

- The words behind the acronym PEMDAS.
- In what order to process a complex mathematical problem.

Students will be able to... (21st century skills)

- Find the answer to a complex mathematical problem using order of operations.
- Evaluate exponential growth.

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

You and your partner are both given the same set of complex mathematical problems. Your partner is told to solve the problems using order of operations and you are told you can solve the problems any way you would like except using the correct order of operations. Once you have completed the worksheet, you will compare your answers. In paragraph form, you and your partner must both write the differences seen in the way each of you has solved the mathematical problem. Please answer the following questions: In what order was each problem solved? Can you identify the associative or commutative property? Why is it important to always use the correct order of operations?

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1
Worksheet	All work is shown and incorrect answers have been corrected.	All work is shown but only some incorrect answers are corrected.	Some work is shown and some incorrect answers are corrected.	No work is shown and no incorrect answers are corrected.

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Explanatory paragraph	The paragraph has no grammatical or spelling errors and all questions have been answered.	The paragraph has less than four combined grammatical and/or spelling errors and all questions have been answered.	The paragraph has less than six combined grammatical and/or spelling errors and some of the questions are answered.	The paragraph has more than six combined grammatical and/or spelling errors and no questions are answered.
<p>Formative Assessments:(e.g., tests, quizzes, prompts, work samples, observations) All copies can be found in Appendix A.</p>				
<p>Summative Assessments: Comprehensive exams Aligned to standards</p>				

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Student Self-Assessment and Reflection

Pairs Communication Activity

Directions: Working in pairs, one student will be given a power activity to complete. In this activity, the student will take a piece of paper and fold it multiple times. The student will document how many folds they make, how many sections result from each fold, and what power is represented by each section. The other student will need to complete a tree diagram using the following: 'Suppose Elijah has just learned that Mr. Coleman is getting married and he wants to tell all of his friends. Elijah is the only person that knows at first. Each night, he calls three people. The next night the previous three people call three additional people. The cycle continues until the entire school knows.' Once both students have completed their worksheet, they will come back together and discuss their findings as well as answer the reflection questions below.

Reflection:

- 1.) What did each of you find from completing your problem?
 - 2.) Why is it important to show your work when dealing with exponents and exponential growth?
 - 3.) Explain your assignment and findings to your partner and explain why it was relevant to the lesson.
- BE SURE TO INCLUDE A COLLABORATIVE LEARNING ACTIVITY

Instructional Resources

Summer Link Super Edition
Math-aids.com
Math-drills.com
Superteacherworksheets.com
Triand.net
Achievementnetwork.ork
Dadsworksheets.com
The Complete Book of Algebra and Geometry
PLC with Mr. Coleman

Differentiation

Stopwatch, using time constraints
Multi-level Order of Operation problems
Loose-leaf paper
Homeroom chants/school wide chants to keep and boost morale
Smartboard
Projector

Enrichment

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- Understanding of PEMDAS
- Word problems utilizing Tree diagrams
- Paired work

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1

General Topics: Introduction of order of operations, the acronym PEMDAS, and vocabulary that will be used.

Key Vocabulary: PEMDAS

- 1.) We will use basic division problems as a warm-up for this lesson.
- 2.) We will use the ‘rules of the road’ to explain the concept of order of operations in comparison to drivers having to follow very specific driving rules to get from place to place.
- 3.) We will use word problems to help the students understand order of operations and why it is important.
- 4.) We will use guided notes to help the students understand the vocabulary and the meaning behind the words we use.
- 5.) We will have students work individually as well as in pairs and small groups to assess their own understanding as well as the comprehension of the class which will enable small peer-driven tutoring sessions.
- 6.) We will have oral drills using multiplication and division so that the students stay on top of their basic facts, to ensure accuracy when completing their complex mathematical problems.
- 7.) We will use the four basic operations, which are addition, subtraction, multiplication, and division to have student’s complete mathematical problems using order of operations.

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Lesson 2

General Topics: Associative Property, Commutative Property

Key Vocabulary: Associative, Commutative

- 1.) We will use basic division problems as their 'do now' to help the students stay on top of their facts.
- 2.) We will state and give examples of the associative and commutative property.
- 3.) We will write in sentence format what operations are associative and commutative and explain why they are or are not.
- 4.) We will use guided notes to help the students understand the vocabulary and the meaning behind the words we use.
- 5.) We will have students work individually as well as in pairs and small groups to assess their own understanding as well as the comprehension of the class which will enable small peer-driven tutoring sessions.
- 6.) We will have oral drills using multiplication and division so that the students stay on top of their basic facts, to ensure accuracy when completing their complex mathematical problems.
- 7.) We will use the four basic operations, which are addition, subtraction, multiplication, and division to have student's complete mathematical problems using order of operations.

Lesson 3

General Topics: Exponents

Key Vocabulary: Exponent, Power, Squared, Cubed

- 1.) We will use the four basic operations, which are addition, subtraction, multiplication, and division as well as parenthesis to have student's complete mathematical problems involving order of operations as their 'do now'.
- 2.) We will use guided notes to help the students understand the vocabulary and the meaning behind the words we use, as well as the concept of powers and naming powers.
- 3.) We will have students work individually as well as in pairs or small groups to assess their own understanding as well as the comprehension of the class which will enable small peer-driven tutoring sessions.
- 4.) We will have oral drills using multiplication and division so that the students stay on top of their basic facts.
- 5.) We will use the four basic operations along with parenthesis and exponents to assess order of operations.

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Unit Title: Using Data to Come to Conclusions

Grade Level(s): 6th

Subject/Topic Areas: Data, Central Tendency, Plots, Tables, Graphs, Quartiles.

Key Vocabulary: Central Tendency, Data, Mean, Median, Mode, Range, Box-and-Whisker Graph, Quartile, Minimum, Maximum, observations, statistics,

Designed By:

Time Frame: 2-3 weeks

Date:

SUMMARY OF PURPOSE: In this 6th grade Data, Central Tendency, and Graphs unit students will understand and be able to construct box-and-whisker plots, interpret data to calculate the mean, median, mode, and range, and find missing numbers when given a set of data.

Stage 1: Desired Results

Common Core/ Delaware Standards

- CC.6.SP.1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, “How old am I?” is not a statistical question, but “How old are the students in my school?” is a statistical question because one anticipates variability in students’ ages.*
- CC.6.SP.2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
- CC.6.SP.3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

- CC.6.SP.4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
- CC.6.SP.5. Summarize numerical data sets in relation to their context, such as by:
 - Reporting the number of observations.
 - Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.
 - Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
 - Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

Key Concepts/Big Ideas

Statistical questions have value in our world and are asked to answer a myriad of questions even when data tends to vary greatly.

Data sets are collected and analyzed using means of central tendency (mean, median, spread, range, etc) in order for us to better understand our world and answer statistical questions.

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Using data to create graph and charts including scatter plots, histograms, stem and leaf plots, box plots, can help us visualize the data set and arrive at deeper understandings of the data.

Display numerical data in plots and understand that while a measure of variation describes how its values vary with a single number.

Enduring Understandings

Students will understand...

How to construct graphs using a given set of data.

How to calculate the mean, median, mode, and range of a given set of data

How to gather data to answer a larger, real-world question.

How to find quantitative measures of center and describe overall patterns and trends in data.

How to display numerical data in plots and understand that while a measure of variation describes how its values vary with a single number.

Essential Questions

- What do the words mean, median, mode, and range mean?
- How does finding patterns help with reading data?

Real World Context

- Interpreting data is used every day at work, in school, at home.
- Multiple scenarios in 'real life' where mean, median, mode, and range are used.

Learning Targets/Goals

Students will know...

- The definitions of mean, median, mode, and range.
- What a stem-and-leaf plot is.

Students will be able to... (21st century skills)

- Find the mean, median, mode, and range of a given set of data.
- Find the missing number of a given set of data.
- Construct and label graphs and plots.

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

Students will need to collect data, based on a topic of their choice, from their fellow classmates. An example of data they can collect could be shoe size. Once the data is collected, the students will need to find the mean, median, mode, minimum, maximum, and range of their data. They will then, based on their findings, construct a graph. They can use a box-and-whisker graph, circle graph, or stem-in-leaf plot. Once they complete their graph or plot, they will need to write a summary paragraph about

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their findings including showing calculations.

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1
Graph and Worksheet	There is a title, everything is properly labeled, and spaces between the data are even. All calculations are shown on the worksheet.	There is a title, everything is properly labeled, and spaces between the data are even. Some work is shown.	There is missing information on the graph/plot. Some work is shown.	There is missing or no information on the graph/plot. There is no work shown.
Explanatory paragraph	The paragraph has no grammatical or spelling errors and all questions in regards to data and calculations have been answered.	The paragraph has less than four combined grammatical and/or spelling errors and all questions have been answered.	The paragraph has less than six combined grammatical and/or spelling errors and some questions regarding data have been answered.	The paragraph has more than six combined grammatical and/or spelling errors and no questions are answered.

Formative Assessments:(e.g., tests, quizzes, prompts, work samples, observations)
All copies can be found in Appendix A.

Summative Assessments:

Comprehensive exams
Aligned to standards

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Student Self-Assessment and Reflection

Pairs Communication Activity

Directions: Working in pairs, the students will be given a ‘word problem attack’ to complete together. On the worksheet they will be given a word problem and a set of data. The students will need to determine which one will do what part of the calculations. There are 10 total questions. They can do all of them and then come back together to check their answers or they can split the questions and compare answers. Whichever way they decide to work, they have to check each other’s work and agree on the answers before they submit their answers. They must show all work, regardless of how they choose to answer the questions.

Reflection:

- 1.) What did each of you find from completing your data analysis?
- 2.) Why is it important to check, not only your work, but your partners work?
- 3.) Explain to the class one of the 10 questions, how you found your answer, and how you checked your answer to make sure it was correct.

- BE SURE TO INCLUDE A COLLABORATIVE LEARNING ACTIVITY

Instructional Resources

Mathworksheets4kids.com
Math-aids.com
Math-drills.com
Superteacherworksheets.com
Triand.net
Achievementnetwork.ork
Dadsworksheets.com
The Complete Book of Algebra and Geometry

Differentiation

Stopwatch, using time constraints
Multi-level Central Tendency problems
Pairing of high-level students with medium and low-level students
Word problems
Loose-leaf paper
Homeroom chants/school wide chants to keep and boost morale
Smartboard
Projector

Enrichment

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- Understanding of key vocabulary
- Word problems utilizing temperature (a familiar concept)
- Paired work

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1

General Topics: Introduction of central tendency and vocabulary that will be used.

Key Vocabulary: Data, Mean, Median, Mode, Range, Minimum, Maximum

- 1.) We will use word problems to help the students understand central tendency and why it is important.
- 2.) We will use guided notes to help the students understand the vocabulary and the meaning behind the words we use as well giving examples of each vocabulary word to lock in each concept.
- 3.) We will have students work individually as well as in pairs and small groups to assess their own understanding as well as the comprehension of the class which will enable small peer-driven tutoring sessions.
- 4.) We will use multiple sets of data to solidify the vocabulary concepts with practice.
- 5.) We will use data to construct basic box-and-whisker plots.

Lesson 2

General Topics: Quartiles

Key Vocabulary: First quartile, Second quartile, Third quartile

- 1.) We will use guided notes to help the students understand the vocabulary and the meaning behind the words we use.
- 2.) We will have students work individually as well as in pairs and small groups to assess their own understanding as well as the comprehension of the class which will

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enable small peer-driven tutoring sessions.

- 3.) We will use worksheets and student-provided data to construct in-depth box-and-whisker plots.
- 4.) We will use our peers and individual knowledge to analyze the data.

Lesson 3

General Topics: Stem-and-Leaf plots

Key Vocabulary: Stem-and-leaf

- 1.) We will use our previous knowledge of box-and-whisker plots to construct a simple graph using given data.
- 2.) We will use guided notes to help the students understand the vocabulary and the meaning behind the words we use, as well as the concept of powers and naming powers.
- 3.) We will have students work individually as well as in pairs or small groups to assess their own understanding as well as the comprehension of the class which will enable small peer-driven tutoring sessions.
- 4.) We will construct detailed stem-and-leaf plots with given data as well as student-provided data.
- 5.) We will analyze our data findings as well as our stem-and-leaf plots.

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Unit Title: Percents

Grade Level(s): 7

Subject/Topic Areas: Pre-Algebra

Key Vocabulary: Percent, percent of change, percent of increase, percent of decrease, markup, discount, tax, tip.

Designed By:

Time Frame: 12 to 15 hours

Date:

SUMMARY OF PURPOSE: In this 7th grade Math unit, students will learn about Percents. Students will form a solid base of percents that will be vital in future Math classes, as well as everyday life. Students will learn how percents relate to real life situations and use their skills to solve problems.

Stage 1: Desired Results

Common Core/ Delaware Standards

Primary: Numeric Reasoning

CC.7.RP.1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.

CC.7.RP.2. Recognize and represent proportional relationships between quantities.

CC.7.RP.3. Use proportional relationships to solve multi-step ratio and percent problems.

Secondary: Problem Solving

- Build a base for Pre-Algebra and Algebra.
- Use this new mathematical knowledge to solve problems involving percents
- Be able to communicate how to calculate tip
- Use all integral vocabulary associated with this unit
- Develop mathematical arguments.
- Communication

Key Concepts/Big Ideas

Percents are used every day and in real life.

Enduring Understandings

Students will understand that...

Percents will be an integral part of their lives inside and out of school.

Essential Questions

- How do you set up a percent proportion?
- How do you write a percent equation?
- How do you solve percent problems in real life?

Real World Context

- Real world situations and problems

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- Multiple and purposeful opportunities for students to participate and make new connections

Learning Targets/Goals

Students will know...

- Relate percents to fractions.
- Write percent proportions and solve them
- Write percent equations

Students will be able to... (21st century skills)

- Solve percent problems in real life.
- Be able to calculate tip, discount and markup in real life.

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

To evaluate percent proportions. Students will first appropriately set-up, then solve the percent proportion.

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1
Percent and proportion set-up	Show correct set-up. Cross multiplication is correct. Answer is circled.	Show correct set-up. Cross multiplication is correct. There may be one calculation error. Answer is circled.	Proportion is not set up correctly, but student has attempted to correctly place values. Answer is circled.	No work is shown. An answer may or may not be circled.

Formative Assessments:(e.g., tests, quizzes, prompts, work samples, observations)
All copies can be found in Appendix A.

Summative Assessments:

Comprehensive exams
Aligned to standards

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Student Self-Assessment and Reflection

Pairs Communication Activity

Directions:

Students will work on a team-building assignment. Students will calculate discounts from advertisements and decide what items they can purchase. Students will also write in complete sentences how they can figure out the proper tip to leave at a restaurant, without using a calculator.

Reflection:

1. Which of the percent calculations were most difficult for you? Why?
2. Can you determine the amount for a tip, given the bill total, without a calculator?

Instructional Resources

Achievement Network

Class zone website

Various websites

Various Pre-Algebra textbooks

Differentiation

Students will pair up with a classmate to solve problems with a team approach.
Students will get one-on-one time with teacher.

Enrichment

Students will pair up with a classmate to solve problems with a team approach.
Students will receive the most difficult skill based problems as well as real-life word problems.

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

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- **Set up and solve percent proportions.**
- **Calculate tax, tip, discount and markup without a calculator.**

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1

General Topics: Percents and Fractions

Key Vocabulary: percent,

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Explore that the word percent means per hundred. A percent is a ratio whose denominator is 100.
4. Have students brainstorm for as many items in the world that are based on a percent.

Check for Understanding:

Lesson 2

General Topics: Percents and Proportions

Key Vocabulary: proportions

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Explore how to solve a percent problem.
4. Develop the idea of percent of a bill for a tip.

Check for Understanding:

Lesson 3

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General Topics: Percent Equations

Key Vocabulary: prior vocabulary

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Develop the concept of the percent equation.
4. Student may also write a percent proportion or percent equation to solve a percent problem.

Check for Understanding:

Lesson 4

General Topics: Percent Applications

Key Vocabulary: markup, wholesale, discount, tax, tip

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Solve many and various percent problems in real-life, including markup, whole-sale and discount problems, as well as tax and tip.

Check for Understanding:

Score _____
50

Show all work. Simplify all answers completely. Circle your answers.

1. Write 92% as a fraction in simplest form.
2. Write $\frac{3}{4}$ as a percent.
3. What percent of 5 is 2?
4. What number is 12% of 60?
5. 6 is 75% of what number?
6. What number is 75% of 44?
7. What is 3%, as a decimal?
8. What is 120% as a decimal?
9. What is .65 as a percent?
10. You earn a monthly salary of \$1000 plus a 2% commission on your total sales for the month. Your total sales for this month were \$10,500. What were your total earnings for this month?

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100

Name _____

Pre-Algebra

Date _____

Show all work and set-ups wherever possible! Simplify answers completely. Circle all answers.

1. Write the fraction as a percent.

$$\frac{3}{10}$$

2. Use the given information to find the new amount.

Original price: \$14.01

Markup percent: 45%

New price: _____

3. Identify the percent of change as an *increase* or a *decrease*. Then find the percent of change. Round your answer to the nearest tenth if necessary.

Original: 30

New: 50

Percent of change: _____

Increase or Decrease?

4. For an account that earns simple interest, find the balance of the account.

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$$P = \$175, r = 6\%, t = 7 \text{ years}$$

5. Use the simple interest formula to find the unknown quantity.

$$I = \$90$$

$$P = \underline{\quad ? \quad}$$

$$r = 4\%$$

$$t = 3 \text{ years}$$

6. In 1991, the circulation of a local newspaper was 2780. In 1992, its circulation was 2480. Find the percent of change in the newspaper's circulation. Is this a percent of increase or decrease? Round your answer to the nearest whole percent.

7. Write the percent as a fraction.

$$92\%$$

8. What percent of 25 is 64?

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9. A jewelry store keeps track of the number of different types of jewelry it sells. Last week 31% of the jewelry sold were necklaces and $\frac{3}{10}$ of the jewelry sold were earrings. Which type represents a larger percent of the jewelry sold last week?

10. Write the decimal as a percent.

0.03

11. Write a proportion and answer the question. Your answer should contain two decimal places.

46% of 47 is what number?

12. Write the percent as a decimal.

66.2%

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13. Faye scored 26 points in her basketball game. This score accounts for 13% of the total points she has scored during the season. How many points has Faye scored during the season?

14. Write the decimal as a percent.

2.3

15. At the end of the summer, lawn furniture selling at a market price of \$474 is on sale for 21% off. What is the discount?

16. Write a proportion and answer the question.

10% of what number is 46?

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Reference: [7.1.4]

[1] 30%

Reference: [7.6.57]

[2] \$20.31

Reference: [7.5.46]

[3] [D]

Reference: [7.7.72]

[4] \$263.14

Reference: [7.7.67]

[5] [D]

Reference: [7.5.54]

[6] [D]

Reference: [7.1.2]

[7] $\frac{23}{25}$

Reference: [7.2.13]

[8] [D]

Reference: [7.1.8]

[9] necklaces

Reference: [7.3.25]

[10] 3%

Reference: [7.2.12]

[11] [B]

Reference: [7.3.27]

[12] [A]

Reference: [7.2.20]

[13] [D]

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Reference: [7.3.24]

[14] 230%

Reference: [7.6.65]


[15] \$99.54

Reference: [7.2.14]

[16] $\frac{46}{b} = \frac{10}{100}$

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***This lesson is typically taught in February, usually near Valentine's Day.



7.2 Percents and Proportions

There are several different ways to solve percent problems. In this section, we will learn to solve percent equations using proportions

Warm Up

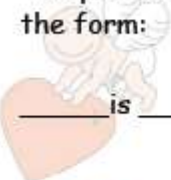
$200 \times 28 = \underline{\hspace{2cm}}$

$400 \times 42 = \underline{\hspace{2cm}}$

$300 \times \frac{16}{100} = \underline{\hspace{2cm}}$

$200 \times \frac{72}{100} = \underline{\hspace{2cm}}$

The percent problems in section 2 take the form:

 $\underline{\hspace{1cm}}$ is $\underline{\hspace{1cm}}$ % of $\underline{\hspace{1cm}}$


The form above is made out of three parts:

percent, base, and part of the base

(drag words to correct line)

$\underline{\hspace{1cm}}$ is $\underline{\hspace{1cm}}$ % of $\underline{\hspace{1cm}}$

part of base percent base



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Solving percent problems is as easy as remembering.....


$$\frac{\text{is}}{\text{of}} = \frac{\%}{100}$$

Example:

What % of 7 is 4?


$$\frac{4}{7} = \frac{x}{100}$$
$$7x = 400$$
$$x = 57\frac{1}{7}\%$$

What % of 15 is 2?

$$\frac{\square}{\square} = \frac{\square}{100}$$


A vertical green double-headed arrow is positioned between the two example problems.


What number is 24% of 200?

$$\frac{\square}{\square} = \frac{\square}{100}$$



The background is light orange with faint hearts.

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What number is 45% of 400?


$$\frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{100}$$


81 is 27% of what number?

$$\frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{100}$$


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A baseball player gets 152 hits in 570 times at bat.
What % of the times at bat were hits?

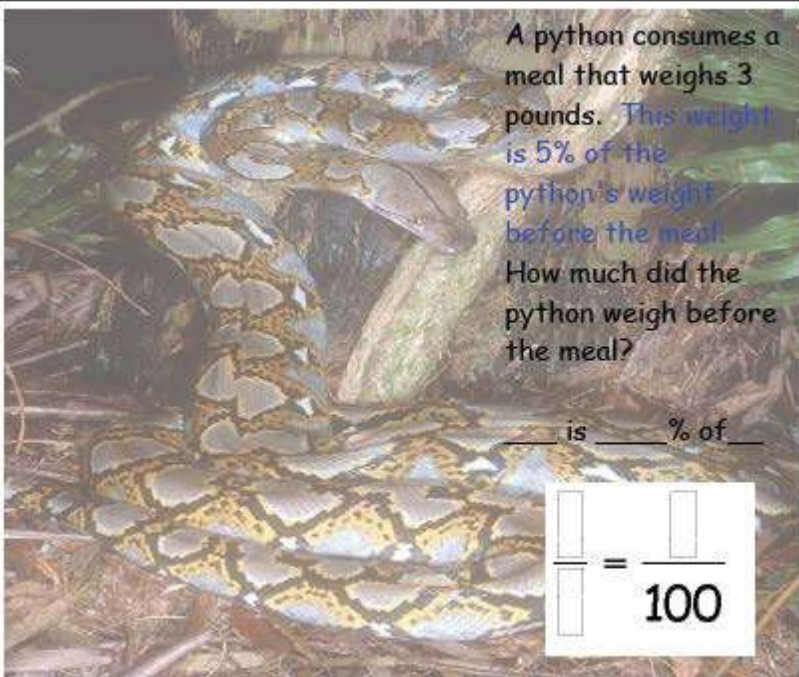


/ = / 100

A python consumes a meal that weighs 3 pounds. This weight is 5% of the python's weight before the meal.
How much did the python weigh before the meal?

is % of

/ = / 100



Unit Title: Solving Equations

Grade Level(s): 7

Subject/Topic Areas: Pre-Algebra

Key Vocabulary: additive identity, multiplicative identity, equivalent numerical expressions, equivalent variable expressions, term, coefficient, constant term, like terms, equation, solution of an equation, solving an equation, inverse operations, equivalent equations.

Designed By:

Time Frame: 12 to 15 hours

Date:

SUMMARY OF PURPOSE: In this 7th grade Math unit, students will learn how to solve equations. Students will form a solid base that is important for future study in Pre-Algebra and Algebra. Students will learn how solving equations can relate to real life situations and use their skills to solve problems. Students will start with one-step equations involving adding and subtracting, then work up to solving equations with multiplication and division.

Stage 1: Desired Results

Common Core/ Delaware Standards

Primary: Expressions and Equations

CC.7.EE.1. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

CC.7.EE.2. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.

CC.7.EE.3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

CC.7.EE.4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

Secondary: Problem Solving

- Build a base for Pre-Algebra and Algebra.
- Use this new mathematical knowledge to write and solve problems using equations
- Apply the distributive
- Use all integral vocabulary associated with this unit
- Develop mathematical arguments.
- Communication

Key Concepts/Big Ideas

Solving equations is an essential building block to Algebra.

Enduring Understandings

Students will understand that...

Solving equations are the basis for a solid Algebra knowledge.

Essential Questions

- What is a one-step equation?
- How do you solve a one-step equation?
- How do you know which operation to use to solve an equation?
- What are inverse operations?

Real World Context

- Real world situations and problems
- Multiple and purposeful opportunities for students to participate and make new connections

Learning Targets/Goals

Students will know...

- How to identify inverse operations.
- Understand how to solve equations
- Identify the distributive property and apply it
- Identify how to simplify variable expressions

Students will be able to... (21st century skills)

- Understand equations in real-life situations.
- Understand that equations can be used to solve problems like balancing a checkbook.

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

To solve equations, the student will use the funnel method, also known as the inverted triangle method.

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1
Funnel or inverted triangle method to solve an equation	Show step-by-step correct work. Funneled work and circle answer.	Step-by-step work is shown, but there may be one calculation error. An answer is circled.	Step-by-step work has been attempted but there are some conceptual errors. An answer is circled.	No work is shown. An answer may or may not be circled.

Formative Assessments:(e.g., tests, quizzes, prompts, work samples, observations)
All copies can be found in Appendix A.

Summative Assessments:

Comprehensive exams
Aligned to standards

Student Self-Assessment and Reflection

Pairs Communication Activity

Directions:

Students will participate in a cooperative learning activity in this unit. Students will translate words to an equation, and then take turns solving the equation, while checking each other's work. Students will also participate in math equation scrabble and form as many equations as they can.

Reflection:

1. Was it more difficult for you to translate or to solve? Why?
2. Can you identify the inverse operation used to solve an equation?
3. Was it difficult for you to model an equation in equation scrabble? Why?

- BE SURE TO INCLUDE A COLLABORATIVE LEARNING ACTIVITY

Instructional Resources

Achievement Network
Class zone website
Various websites
Various Pre-Algebra textbooks
Equation Scrabble

Differentiation

Students will pair up with a classmate to solve problems with a team approach.
Students will get one-on-one time with teacher.
Students will attempt to play a game of scrabble involving balancing equations.

Enrichment

Students will pair up with a classmate to solve problems with a team approach.
Students will receive the most difficult skill based problems as well as real-life word problems.
Students will assist a struggling classmate during independent practice.

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- **Solve equations using addition, subtraction, multiplication and division.**
- **Relate solving equations to real life situations.**

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1

General Topics: Properties and Operations

Key Vocabulary: additive identity, multiplicative identity

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Explore the commutative and associative properties.
4. Develop the concept of substituting a value in for a variable.

Check for Understanding:

Lesson 2

General Topics: Distributive Property

Key Vocabulary: equivalent numerical expressions, equivalent variable expressions

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Explore the definition of the distributive property and how it works.
4. Identify that doing the reverse of distributing is something called factoring

Check for Understanding:

Lesson 3

General Topics: Simplify Variable Expressions

Key Vocabulary: terms, coefficients, constant term, like terms

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Develop the concept of simplifying an expression.
4. Simplify a variable expression after applying the distributive property.

Check for Understanding:

Lesson 4

General Topics: Variables and Equations

Key Vocabulary: equations, solution, solving equations

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Develop how to take words and translate them into math.
4. Substitute values in for variables and evaluate.

Check for Understanding:

Lesson 5

General Topics: Solving Equations using Addition and Subtraction

Key Vocabulary: inverse operations, equivalent equations

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Explore the procedure of how to solve an equation using addition and subtraction.

Check for Understanding:

Lesson 6

General Topics: Solving Equations using Multiplication and Division

Key Vocabulary: prior vocabulary

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Explore the procedure of how to solve an equation using multiplication and division.

Check for Understanding:

Lesson 7

General Topics: Solving Equations using Decimals and Fractions

Key Vocabulary: prior vocabulary

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Model that the rules and procedures for solving an equation with decimals or fractions is the same procedure for solving equations using integers.
4. Have students explore that it is possible to wipe out fractions by multiplying by the lcm.
5. Have students explore that it is possible to wipe out the decimals by multiplying by a power of ten.

Check for Understanding:

Solve One-Step Equations

If you open the window, when you're finished _____ the window.

If you open the door, when you're finished _____ the door.

If you turn on the t.v., when you're finished _____ the t.v.

Inverse operations undo each other!!!

In Pre Algebra class, a sentence may look like this:

$$12 - y = 15$$

$$-54 = -9g$$

An equation is a mathematical sentence formed by placing an equal sign between two expressions.

A solution of an equation with a variable is a number that produces a true statement when it is substituted for the variable. Find the solutions above!

An animal shelter charges \$75 to adopt a puppy. One week, they collected \$1500.

How many puppies were adopted that week?

1. $x + 7 = 4$

$$x + 9 = 3$$

$$x = 6$$

$$x = -6$$

2. $x - 12 = 3$

$$x - 2 = 11$$

$$x = 2$$

$$x = 13$$

3. $-6x = 48$

$$-4x = -28$$

$$x = -8$$

$$x = 7$$

4. $\frac{x}{4} = 5$

$$\frac{x}{3} = 7$$

$$x = 20$$

$$x = 21$$

5.

$$-\frac{2}{7}x - 4$$

$$\frac{3}{5}x = -9$$

$$x = -14$$

$$x = -15$$

*"Taking or sharing information in any form about the material on this quiz/test before, during, or after the assessment is **cheating**. Presenting another's ideas, words, or analyses as one's own is*

Score _____
100

Name _____

Test Ch. 2

Date _____

Simplify all answers. Show all work. No work, no credit!

1. Write an equation equivalent to the verbal statement "three times the sum of a number n and 7 is 16."

1. _____

2. $5(x - 11) + 8(x - 6)$

2. _____

3. $-2 - 6(8 + x) - 9x$

3. _____

Use the distributive property to write an equivalent variable expression.

4. $3(4x - 7y)$

4. _____

Solve the equation. Be sure to check your solution.

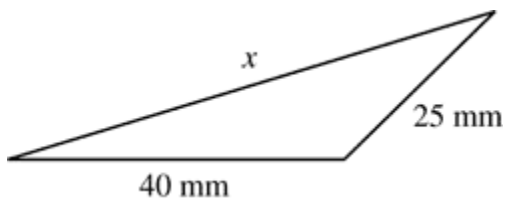
5. $164 = x - 59$

5. _____

6. $17 + e = 7$

6. _____

7. The perimeter of the triangle is 115 millimeters. Which equation could be used to find the side length labeled x ?



a.	$25(40) = x$
b.	$115 = x + 40 + 25$
c.	$x = 25 + 40 - 50$
d.	$x = 40 + 25$

7. _____

8. $4b + 7 - 5b - 19$

Do not combine like terms yet!

How many terms? _____

What are the constants? _____

What are the coefficients? _____

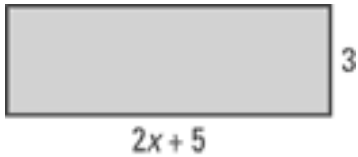
Now simplify or combine like terms: _____

Evaluate the expression when $x = 20$ and $y = -3$.

9. $y^2(5x)$

9. _____

10. Consider the rectangle shown. Find the Area and Perimeter!



Area: _____

Perimeter: _____

Solve the equation.

11. $14x = -728$

11. _____

12. $\frac{t}{3} = 9$

12. _____

Identify the property illustrated in the statement.

13. $5b(1) = 5b$

a. Identity property of addition

b.	Identity property of multiplication
c.	Commutative property of multiplication
d.	Commutative property of addition

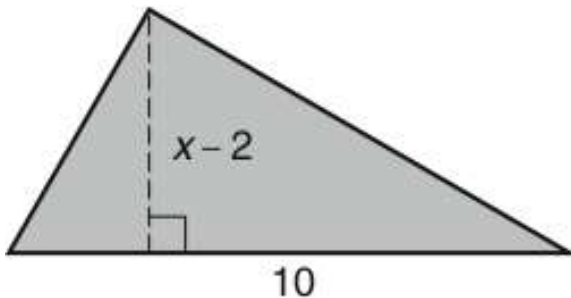
13. _____

14. The students in Mrs. Krager's class are holding a car wash to raise money for their end-of-year field trip. They washed 45 cars by noon, and their goal is to wash 110 cars by the end of the day. Write and solve an addition equation to find c , the number of cars they still need to wash to meet their goal.

14. _____

Find the area of the triangle.

15.



15. _____

16.

$$-4(x - 4)$$

17. $-\frac{4}{5}x = 20$

16. _____

17. _____

18. $2x = -28$

18. _____

19. $-16 = \frac{8}{9}x$

19. _____

20. $10 = -22 + x$

20. _____

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tpalgch2

Answer Section

- ANS:
 $3(n + 7) = 16$

PTS: 1 DIF: Level B REF: MHT10018
TOP: Lesson 2.4 Variables and Equations KEY: variable | translate |
word | symbol
BLM: comprehension NOT: 978-0-618-79813-1
- ANS: A PTS: 1 DIF: Level B REF: MLPA0073
NAT: NCTM 6-8.ALG.2.d STA: DE 8.2.3.1 | DE 8.2.3.4
TOP: Lesson 2.3 Simplifying Variable Expressions
KEY: simplify | variable | property | expression | distributive | distribute
BLM: comprehension NOT: 978-0-618-79813-1
- ANS:
 $-15x - 50$

PTS: 1 DIF: Level B REF: MLPA0076 NAT: NCTM 6-8.ALG.2.d
STA: DE 8.2.3.1 | DE 8.2.3.4 TOP: Lesson 2.3 Simplifying Variable Expressions
KEY: simplify | distribute | combine | like terms BLM: comprehension
NOT: 978-0-618-79813-1
- ANS: A PTS: 1 DIF: Level B REF: MALG0305
TOP: Lesson 2.2 The Distributive Property
KEY: property | parentheses | distributive BLM: knowledge
NOT: 978-0-618-79813-1
- ANS:
223

PTS: 1 DIF: Level B REF: MLPA0093 NAT: NCTM 6-8.ALG.2.d
STA: DE 8.2.3.6 | DE K-11.5.4
TOP: Lesson 2.5 Solving Equations Using Addition or Subtraction
KEY: solve | equation | add | subtraction BLM: comprehension
NOT: 978-0-618-79813-1
- ANS: B PTS: 1 DIF: Level B REF: MLPA0091
NAT: NCTM 6-8.ALG.2.d STA: DE K-11.5.4 | DE 8.2.3.6
TOP: Lesson 2.5 Solving Equations Using Addition or Subtraction
KEY: solve | equation | addition BLM: comprehension
NOT: 978-0-618-79813-1
- ANS: B PTS: 1 DIF: Level B REF: MLPA0085
NAT: NCTM 6-8.ALG.2.c
TOP: Lesson 2.5 Solving Equations Using Addition or Subtraction
KEY: solve | variable | triangle | perimeter BLM: comprehension
NOT: 978-0-618-79813-1
- ANS: D PTS: 1 DIF: Level A REF: MLPA0071
NAT: NCTM 6-8.ALG.2.d STA: DE 8.2.3.4 | DE 8.2.3.1
TOP: Lesson 2.3 Simplifying Variable Expressions
KEY: identify | coefficient | constant | like term BLM: knowledge
NOT: 978-0-618-79813-1
- ANS: C PTS: 1 DIF: Level B REF: MLPA0063

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STA: DE 8.1.2.1 TOP: Lesson 2.1 Properties and Operations

KEY: evaluate | expression

BLM:

knowledge

NOT: 978-0-618-79813-1

10. ANS:

a. $6x + 15$

b. 27 square units

PTS: 1

DIF: Level A

REF: PA.02.02.MS.02

NAT: NCTM 6-8.MEA.1.c | NCTM 6-8.ALG.2.d | NCTM 6-8.MEA.2.c

STA: DE 8.1.2.4 TOP: Lesson 2.2 The Distributive Property

KEY: area | evaluate | algebraic | variable | expression | distributive property

BLM: comprehension

NOT: 978-0-618-79813-1

11. ANS: D

PTS: 1

DIF: Level B

REF: MLPA0100

NAT: NCTM 6-8.ALG.2.d

STA:

DE 8.2.3.6

TOP: Lesson 2.6 Solving Equations Using Multiplication or Division

KEY: solve | equation | division | multiplication

BLM: comprehension

NOT: 978-0-618-79813-1

12. ANS:

27

PTS: 1

DIF: Level B

REF: MLPA0785

NAT: NCTM 6-8.ALG.2.d

STA: DE 8.2.3.6 TOP: Lesson 2.6 Solving Equations Using Multiplication or Division

KEY: solve | equation | multiply

BLM: comprehension

NOT: 978-0-618-79813-1

13. ANS: B

PTS: 1

DIF: Level B

REF: MLPA0061

TOP: Lesson 2.1 Properties and Operations

KEY: identify | property |

multiplication

BLM: knowledge NOT: 978-0-618-79813-1

14. ANS:

$c + 45 = 110$, 65 cars

PTS: 1

DIF: Level B

REF: MLPA0084

NAT: NCTM 6-8.ALG.2.d | NCTM 6-8.ALG.2.c

STA: DE 8.2.3.6

TOP: Lesson 2.4 Variables and Equations

KEY: solve | equation | word | add | addition

BLM: application

NOT: 978-0-618-79813-1

15. ANS:

$5x - 10$

PTS: 1

DIF: Level B

REF: 7fad4dab-cdbb-11db-b502-0011258082f7

TOP: Lesson 2.2 The Distributive Property

KEY: Area | distributive property

BLM: Knowledge NOT: 978-0-618-79813-1

16. ANS: D

PTS: 1

DIF: Level B

REF: MALG0308

TOP: Lesson 2.2 The Distributive Property

KEY: distributive

BLM: knowledge NOT: 978-0-618-79813-1

Prestige Academy Charter School

Unit Title: Variables, Expressions, and Integers

Grade Level(s): 7

Subject/Topic Areas: Pre-Algebra

Key Vocabulary: Numerical expression, variable, variable expression, evaluate, verbal model, power, exponent, base, order of operations, integer, negative integer, positive integer, absolute value, opposite, additive inverse, coordinate plane, x-axis, y-axis, origin, quadrant, ordered pair, x-coordinate, y-coordinate, scatter plot.

Designed By:

Time Frame: 12 to 15 hours

Date:

SUMMARY OF PURPOSE: In this 7th grade Math unit, students will learn about Variables, Expressions and Integers. Students will form a solid base that is important for future study in Pre-Algebra and Algebra. Students will learn how integers relate to real life situations and use their skills to solve problems.

Stage 1: Desired Results

Common Core/ Delaware Standards

Primary: The Number System

CC.7.NS.1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

CC.7.NS.2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.

CC.7.NS.3. Solve real-world and mathematical problems involving the four operations with rational numbers.

Secondary: Problem Solving

- Build a base for Pre-Algebra and Algebra.
- Use this new mathematical knowledge to solve problems involving integers, exponents, order of operations and integers.
- Be able to communicate how to locate points verbally and on the coordinate plane.
- Use all integral vocabulary associated with this unit
- Develop mathematical arguments.
- Communication

Key Concepts/Big Ideas

Variables, expressions and integers are an essential building block to Algebra.

Enduring Understandings

Students will understand that...

Variables, expressions and integers are the basis for a solid Algebra basis.

Essential Questions

- How do you evaluate expressions and number sentences?

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- What are the methods or rules used to add, subtract, multiply and divide integers?
- How do you locate points in the coordinate plane?

Real World Context

- Real world situations and problems
- Multiple and purposeful opportunities for students to participate and make new connections

Learning Targets/Goals

Students will know...

- How to add, subtract, multiply and divide integers.
- Understand how to evaluate powers, order of operations
- Identify expressions and variables
- How to locate points on a coordinate plane

Students will be able to... (21st century skills)

- Understand integers in real-life situations.
- Understand that the coordinate plane is really just a method to locate something

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

To evaluate order of operations, powers and exponents and compute with integers, the student will use the funnel method, also known as the inverted triangle method.

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1
Funnel or inverted triangle method	Show step-by-step correct work. Funneled work and circle answer.	Step-by-step work is shown, but there may be one calculation error. An answer is circled.	Step-by-step work has been attempted but there are some conceptual errors. An answer is circled.	No work is shown. An answer may or may not be circled.

Formative Assessments:(e.g., tests, quizzes, prompts, work samples, observations)
All copies can be found in Appendix A.

Summative Assessments:

Comprehensive exams
Aligned to standards

Student Self-Assessment and Reflection

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Pairs Communication Activity

Directions:

Students will participate in two cooperative learning games in this unit. Students will play “integer dice” where a set of green and red dice are thrown. Red dice represent negative numbers and green dice represent positive numbers. Students will combine the dice to get an answer. Students will start with two dice and then work their way up. Students will participate in integer war using a deck of cards. Students will each flip their card over. Student with the highest absolute value card will begin. Students will add or subtract the cards and the winner will keep the cards.

Reflection:

1. Which of the integer games were most difficult for you? Why?
2. Which of the integer games did you feel you were strong? Why?

Instructional Resources

Achievement Network
Class zone website
Various websites
Various Pre-Algebra textbooks
Dice and Cards

Differentiation

Students will pair up with a classmate to solve problems with a team approach.
Students will get one-on-one time with teacher.
Students will get their own dice to use in attacking problems.

Enrichment

Students will pair up with a classmate to solve problems with a team approach.
Students will receive the most difficult skill based problems as well as real-life word problems.

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- Use number lines and manipulatives to explore integers.
- Comprehend all rules to calculate powers, order of operations and integer operations.

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1

General Topics: Expressions and Variables

Key Vocabulary: numerical expression, variable, variable expression, evaluate, verbal model

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Explore the definition of a numerical expression, variable, variable expression and what it means to evaluate a variable expression.
4. Have students brainstorm for as many words as they can, related to the four operations.

Check for Understanding:

Lesson 2

General Topics: Powers

Key Vocabulary: power, base, exponent

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Explore the definition of a power while delivering the concept of base and exponent. Substitute values in for a variable and then evaluate.
4. Have students list out the first 20 perfect squares.

Check for Understanding:

Lesson 3

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General Topics: Order of operations

Key Vocabulary: order of operations

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Develop the concept of order of operations.
4. Present correct order of operations problems, then have students work independently or in a team setting.

Check for Understanding:

Lesson 4

General Topics: Adding Integers

Key Vocabulary: integers, negative integers, positive integers, additive inverse

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Develop the concept that adding integers can be visualized by movement on the number line.

Check for Understanding:

Lesson 5

General Topics: Subtracting Integers

Key Vocabulary: integers, negative integers, positive integers, additive inverse

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Explore the procedure of subtracting an integer by adding its opposite.

Check for Understanding:

Lesson 6

General Topics: Multiplying and Dividing Integers

Key Vocabulary: integers, negative integers, positive integers, additive inverse

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Develop the rules for multiplying and dividing integers.
4. Have students explore that a double negative is in fact a positive.

Check for Understanding:

Lesson 6

General Topics: The Coordinate Plane

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Key Vocabulary: x-axis, y-axis, origin, coordinates, ordered pair, quadrant I II III IV, x-coordinate, y-coordinate

1. Lessons will be formatted on a power point presentation, and then presented on the smart board.
2. Lessons will include, in this order: do-now, delivery of content, independent practice, exit slip, homework.
3. Develop all of the above listed vocabulary.
4. Have students explore the coordinate plane by identifying all pivotal points on their own coordinate plane.

Check for Understanding:

Name: _____

Date: _____

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MATH

Homeroom:

Exit Slip: Mult/Div Integers

_____ / _____ = _____ %

1. $9(-11)$

2. $(-4)(-6)$

3. $(-2)(8)$

4. $(-1)(2)(-5)$

5. $(-10)(-10)$

6. $24 \div (-6)$

7. $-98 \div 2$

8. $(-22) \div (-11)$

9. $(-72) \div (36)$

10. How is the statement: "I DON'T have negatives make a positive?"

NO money" an example of how two

Name: _____

Date: _____

MATH

Homeroom: _____

Independent Practice

Countdown: _____

Why Did the Snail Have an "S" Painted on His VW?

Do each exercise below and find your answer in the corresponding set of answer boxes. Print the letter of that exercise in the box containing the answer.

- | | |
|---|---|
| <p>Y $(-4)(3)$</p> <p>E $(-10)(4)$</p> <p>E $(-5)(-8)$</p> <p>O $-9 \cdot 7$</p> <p>R $-12(-4)$</p> <p>O $16(-3)$</p> | <p>L $-3 \cdot 4 \cdot 2$</p> <p>O $(-4)(-5)(-6)$</p> <p>O $(-3)(-4)(2)$</p> <p>W $(-9)(4)(-10)$</p> <p>U $5(-1)(12)$</p> <p>S $(5)(3)(-11)$</p> <p>D $5(-1)(-12)$</p> <p>T $(-15)(-2)4$</p> <p>U $(-3)(-3)(-3)$</p> <p>H $(-90)(-90)(0)$</p> |
|---|---|

12	-48	-64	100	-40	48	-12	-63	-100	40	360	24	-27	-24	60	-165	0	-120	-60	120
----	-----	-----	-----	-----	----	-----	-----	------	----	-----	----	-----	-----	----	------	---	------	-----	-----

- | | |
|---|---|
| <p>E $(-40)(60)$</p> <p>T $(-80)(-20)$</p> <p>O $2(-360)$</p> <p>T $(-4)(-4)(-4)$</p> <p>A $(8)(-1)(12)$</p> | <p>H $(-7)(6)(-2)$</p> <p>L $3(-25)(-2)$</p> <p>S $(-2)(-4)8$</p> <p>O $-4 \cdot 7 \cdot 3$</p> <p>K $(10)(10)(-16)$</p> |
|---|---|



150	-84	-720	-1600	-96	1600	-64	84	-2400	64	800	600	-720	720	-600
-----	-----	------	-------	-----	------	-----	----	-------	----	-----	-----	------	-----	------

1800 OBJECTIVE 2-e: To multiply integers.

1800 A-21

Name: _____

MATH

Homework # : _____

Date: _____

Parent Signature

What did ZORNA say when she married a 3-foot Pygmy?

Do any exercise below and find your answer in one of the boxes at the bottom of the page. Write the letter of the exercise in that box. The answers are arranged in order from smallest to largest. Keep working and you will discover the answer to the title question.

A	$-12 \div 4 =$	$-100 \div -2 =$	D	$\frac{-670}{-10} =$	T	$\frac{300}{-2} =$
E	$60 \div 15 =$	$67 \div -1 =$	E	$\frac{9100}{-100} =$	H	$\frac{1000}{100} =$
T	$45 \div -9 =$	$-80 \div -40 =$	O	$\frac{-45}{3} =$	B	$\frac{3110}{-10} =$
A	$-48 \div -4 =$	$150 \div -5 =$	A	$\frac{600}{4} =$	N	$\frac{900}{300} =$
R	$-49 \div -7 =$	$-30 \div 5 =$	V	$\frac{39}{3} =$	S	$\frac{81}{-9} =$
A	$3 \div -3 =$	$1700 \div -10 =$	O	$\frac{-54}{-6} =$	L	$\frac{-430}{-2} =$
E	$-60 \div 5 =$	$100 \div 20 =$	L	$\frac{311}{1} =$	H	$\frac{-48}{6} =$
O	$-200 \div 4 =$	$13 \div -13 =$	N	$\frac{38}{-19} =$	L	$\frac{-48}{3} =$
A	$-90 \div 9 =$	$120 \div 4 =$	V	$\frac{-63}{3} =$	T	$\frac{-91}{-1} =$
H	$0 \div -7 =$	$-100 \div 25 =$				
D	$77 \div -7 =$	$-42 \div 3 =$				
E	$-215 \div 1 =$	$80 \div 5 =$				
T	$96 \div 12 =$	$\frac{36}{-2} =$				
E	$-75 \div -5 =$	$\frac{-50}{-2} =$				
O	$56 \div -8 =$	$\frac{100}{-4} =$				
A	$750 \div 10 =$					
E	$-42 \div -7 =$					
R	$-150 \div 2 =$					

-311	-215	-170	-150	-91	-75	-67	-50	-30	-25	-21	-18	-16	-15	-14	-12	-11	-10
-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	
8	9	10	12	13	15	16	25	30	50	67	75	91	150	215	311		

AA-29

1962

1.7 Multiplying and Dividing Integers

1. Multiplication Rules

Circle one and cross out the other!!

$$(+)\cdot(+)=\text{positive}\quad \text{negative}$$

$$(+)\cdot(-)=\text{positive}\quad \text{negative}$$

$$(-)\cdot(-)=\text{positive}\quad \text{negative}$$

2. Division Rules

$$(+)\div(+)=\text{positive}\quad \text{negative}$$

$$(+)\div(-)=\text{positive}\quad \text{negative}$$

$$(-)\div(-)=\text{positive}\quad \text{negative}$$

Practice with these six problems!

$$(-3) \times (-12)$$

$$-7(9)$$

$$(6)(5)$$

$$(-48) / (-6)$$

$$56 / (-8)$$

$$\frac{-35}{7}$$

$$-36$$

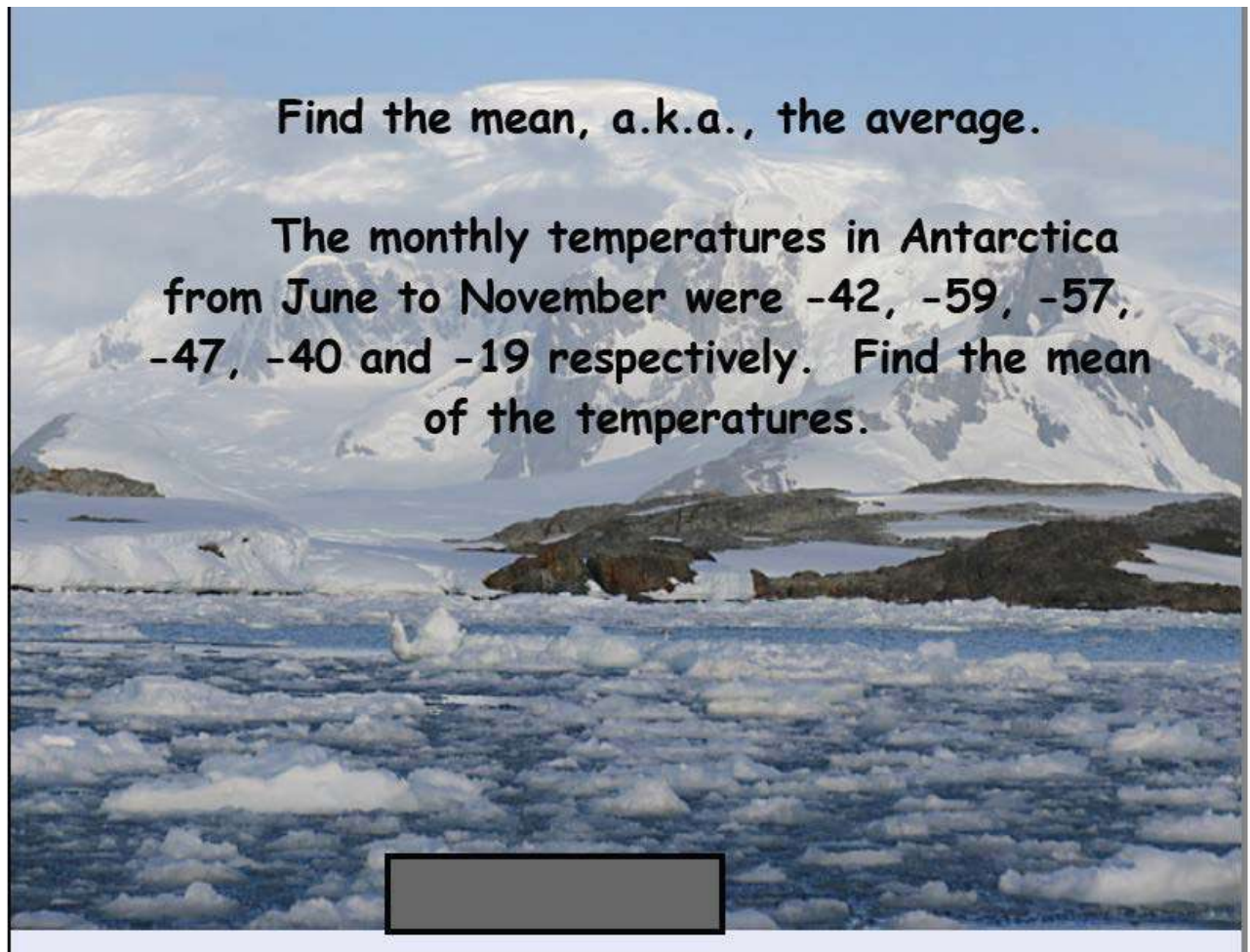
$$-63$$

$$30$$

$$8$$

$$-7$$

$$-5$$



Find the mean, a.k.a., the average.

The monthly temperatures in Antarctica from June to November were -42 , -59 , -57 , -47 , -40 and -19 respectively. Find the mean of the temperatures.

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During the last Eagle's game, on first down, they gained 8 yards on a run, then lost 12 yards when McNabb was sacked on second down. On third down they completed a screen pass for a gain of 15 yards. Did they make a first down, or do they need to punt the ball?

(A first down is when a team has a net gain of 10 yards.)



FIRST DOWN!!!!!!!!!!!!!!

$$8 \cdot (-2) =$$

$$8 \cdot (-8) =$$

$$-7 \cdot (3) =$$

$$(-1) \cdot (-1) \cdot 1 =$$

$$12 \cdot (-2) =$$

$$2 \cdot (-6) \cdot 4 =$$

$$(-1) \cdot (-1) \cdot (-1) =$$

$$-2 \cdot 2 \cdot 2 =$$

$$-3 \cdot (-2) =$$

$$(-1) \cdot (-2) \cdot (-3) =$$

$$-4 \cdot (-2) =$$

$$(-1) \cdot (-1) =$$

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Division

$$-8 \div (-2) =$$

$$-7 \div (-1) =$$

$$-8 \div (-4) =$$

$$7 \div (-1) =$$

$$-9 \div 3 =$$

$$12 \div 4 =$$

$$-27 \div \frac{1}{3} =$$

$$22 \div (-11) =$$

Mixed Review

$$3 \cdot (-2) \div (-6)$$

$$12 \div (-6) \cdot (-3)$$

Take a five question, online quiz!

Now play Multiplication Football with Dice!

Curriculum Scope & Sequence

School Prestige Academy Grade or Course 7th Grade Math Teacher Troiano

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Variables, Expressions and Integers 4-5 Weeks	CC.7.NS.1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. CC.7.NS.2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. CC.7.NS.3. Solve real-world and mathematical problems involving the four operations with rational numbers.	-Expressions and Variables -Powers and Exponents -Order of Operations -Comparing and Ordering Integers -Adding Integers -Subtracting Integers -Multiplying and Dividing Integers -The Coordinate Plane	-How do you evaluate and write variable expressions? -How do you apply proper order of operations? -Compare and order integers -Perform operation on integers -Locate points on a coordinate plane
Solving Equations and Inequalities 4-5 Weeks	CC.7.EE.1. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. CC.7.EE.2. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. CC.7.EE.3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. CC.7.EE.4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.	-Properties and Operations -The Distributive Property -Simplifying Variable Expressions -Variables and Equations -Solving One-Step, Multi-Step Equations and Inequalities: Using Addition, Subtraction, Multiplication and Division -Solve Equations with Variables on Both Sides -Operations and Equations with Decimals	-Use addition, multiplication and distributive properties -Simplify variable expressions -Solve equations using mental math -Solve equations using addition, subtraction, multiplication or division -Solve equations with decimals

Curriculum Scope & Sequence

School Prestige Academy **Grade or Course** 7th Grade Math **Teacher** Troiano

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Factors, Fractions and Exponents 3-4 Weeks	CC.7.RP.1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. CC.7.RP.2. Recognize and represent proportional relationships between quantities. CC.7.RP.3. Use proportional relationships to solve multistep ratio and percent problems.	-Factors and Prime Factorization -Greatest Common Factor -Equivalent Fractions -Least Common Multiple -Rules of Exponents -Negative and Zero Exponents -Scientific Notation	-Factoring numbers and monomials -Finding common factors and common multiples -Simplifying and comparing fractions -Multiplying and dividing powers -Writing numbers in scientific notation
Rational Numbers and Equations 3-4 Weeks	CC.7.NS.1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. CC.7.NS.2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. CC.7.NS.3. Solve real-world and mathematical problems involving the four operations with rational numbers. CC.7.EE.3 CC.7.EE.4	-Rational Numbers -Adding and Subtracting Like Fractions -Adding and Subtracting Unlike Fractions -Multiplying Fractions -Dividing Fractions -Using Multiplicative Inverses to Solve Equations -Equations and Inequalities with Rational Numbers	-How do you identify rational numbers -Writing decimals as fractions and vice versa -Performing operations with fractions and mixed numbers -Solving equations and inequalities with rational numbers

Curriculum Scope & Sequence

School Prestige Academy Grade or Course 7th Grade Math Teacher Troiano

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
Ratio, Proportion and Probability 4-5 Weeks	CC.7.RP.1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. CC.7.RP.2. Recognize and represent proportional relationships between quantities. CC.7.RP.3. Use proportional relationships to solve multi-step ratio and percent problems. CC.7.SP.7. Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. CC.7.SP.8. Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. CC.7.G.1. Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	-Ratios and Rates -Writing and Solving Proportions -Solving Proportions Using Cross Products -Similar and Congruent Figures -Similarity and Measurement -Scale Drawings -Probability and Odds -The Counting Principle	-Finding ratios and unit rates -Writing and solving proportions -Identify similar and congruent figures -Finding unknown side lengths of similar figures -Finding probabilities
Percents 3-4 Weeks	CC.7.RP.1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. CC.7.RP.2. Recognize and represent proportional relationships between quantities. CC.7.RP.3. Use proportional relationships to solve multi-step ratio and percent problems.	-Percents and Fractions -Percents and Proportions -Percents and Decimals -The Percent Equation -Percent of Change -Percent Applications -Simple Interest	-Finding the percent of a number -Solving percent problems -Finding the percent of change in a quantity -Finding markups, discounts, sales tax and tips -Calculating interest earned and account balances

Curriculum Scope & Sequence

School Prestige Academy **Grade or Course** 7th Grade Math **Teacher** Troiano

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
<p>Real Numbers and Right Triangles 3-4 Weeks</p> <p>Measurement, Area and Volume 4-5 Weeks</p>	<p>CC.7.RP.1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. CC.7.RP.2. Recognize and represent proportional relationships between quantities. CC.7.RP.3. Use proportional relationships to solve multistep ratio and percent problems.</p> <p>CC.7.G.2. Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. CC.7.G.3. Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. CC.7.G.4. Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle. CC.7.G.6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.</p>	<p>-Square Roots -Simplifying Square Roots -The Pythagorean Theorem -Real Numbers -The Tangent Ratio -The Sine and Cosine Ratio</p> <p>-Triangles -Polygons and Quadrilaterals -Areas of Parallelograms and Trapezoids -Circumference and Area of a Circle -Surface Area of Prisms and Cylinders -Surface Area of Pyramids and Cones -Volumes of Prisms and Cylinders -Volumes of Pyramids and Cones</p>	<p>-Use square roots -Solve problems using the Pythagorean theorem -Comparing and ordering real numbers -Apply the tangent, sine and cosine ratios</p> <p>-Classify triangles and polygons -Find areas of parallelograms and trapezoids -Find circumference and areas of circles -Find surface area and volume of solids</p>

Curriculum Scope & Sequence

School Prestige Academy Grade or Course 7th Grade Math Teacher Troiano

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
<p>Polynomials 3-4 Weeks</p> <p>Angle Relationships and Transformations 4-5 Weeks</p>	<p>CC.7.EE.1. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.</p> <p>CC.7.EE.2. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.</p> <p>CC.7.G.1. Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.</p> <p>CC.7.G.2. Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</p> <p>CC.7.G.3. Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.</p> <p>CC.7.G.4. Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.</p> <p>CC.7.G.5. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.</p> <p>CC.7.G.6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.</p>	<ul style="list-style-type: none"> -Polynomials -Adding and Subtracting Polynomials -Multiplying Monomials and Polynomials -Multiplying Binomials -Other Rules of Exponents -Exponential Growth and Decay -Angle Relationships -Angles and Parallel Lines -Angles and Polygons -Translations -Reflections and Symmetry -Rotations and Symmetry -Dilations 	<ul style="list-style-type: none"> -Classify and simplify polynomials -Adding, subtracting and multiplying polynomials -Use the power of a product, power of a quotient and power of a power properties -Calculate growth and decay equations -Classify special angle pairs -Identify angles formed by a transversal intersecting two lines -Finding measures of interior and exterior angles of polygons -Forming figures in a coordinate plane -Describing line symmetry and rotational symmetry

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Unit Title: Operations with Rational Numbers	Grade Level(s): 8
Subject/Topic Areas: Operations with whole numbers, decimals and fractions.	
Key Vocabulary: Numerator, denominator, reciprocal, integer, absolute value	
Designed By: Kacie Versaci	Time Frame: 7 Days
	Date: 9/7/2011 – 9/16/11

SUMMARY OF PURPOSE: Unit 1: Operations was designed to familiarize scholars with basic arithmetic skills in order to prepare them for solving higher level problems. The majority of this unit is reviewing previously learned material and practicing said skills to mastery.
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Stage 1: Desired Results
Common Core/ Delaware Standards Primary: Numeric Reasoning (Standard 1) CC.8.NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number. CC.8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\sqrt{2}$). For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.
Key Concepts/Big Ideas Working with rational numbers requires following consistent rules.
Enduring Understandings <i>Students will understand that...</i> <ul style="list-style-type: none">Operations with rational numbers require commonality (ex: same denominators)
Essential Questions <ul style="list-style-type: none">How do I add, subtract, multiply and divide decimals?How do I add, subtract, multiply and divide fractions?How do I add, subtract, multiply and divide integers?How do I estimate the solutions with basic computation problems?
Real World Context <ul style="list-style-type: none">Real world situations including measurement, economics, and data all to be explored in word problems.
Learning Targets/Goals

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Students will know...

- The basic rules for computing with decimals and fractions.
- The basic rules for computing with integers

Students will be able to... (21st century skills)

- Add, subtract, multiply and divide decimals, fractions, and integers
- Estimate solutions
- Determine the reasonability of a solution

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Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

In small groups, students will be given chart paper and a set of markers. Their task is to make a poster “advertising” a specific property (must include: Property Name, Graphic, Definition, and a Numeric Example). Scholars will get a chance to post and view each other’s posters, as well as explain their property to the class.

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1	0
Property Name and Definition	Includes complete definition using mathematical vocabulary	Includes complete definition in plain English	Includes partial definition	Includes inaccurate definition	Definition missing
Graphic	Graphic is colorful, neat, and relevant	Graphic is in black and white or messy	Graphic is neat and colorful but irrelevant	Graphic is messy, black and white, and irrelevant	Graphic is missing
Numeric Example	Numeric example accurately illustrates property. Both addition and multiplication are included	Numeric example accurately illustrates property. Addition or multiplication is included	Numeric example contains one error	Numeric example contains two or more errors	Numeric example missing
Presentation	Group presentation is clear, accurate, comprehensive and uses technical math vocabulary.	Group presentation is clear, accurate, comprehensive and uses plain English	Group presentation contains no more than three errors but is still professional	Group presentation includes more than three errors or is unprofessional	Group presentation contains more than three errors and is unprofessional

Formative Assessments:(e.g., tests, quizzes, prompts, work samples, observations)
All copies can be found in Appendix A.

Summative Assessments:

- Weekly quizzes
- Unit Assessment
- Daily Exit slips

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Student Self-Assessment and Reflection

Pairs Communication Activity

Directions:

Upon completing summative assessments, scholars work in pairs to process and evaluate their assessment data.

Reflection:

1. What standards did you master?
2. What standards do you need more work on?

Scholars will complete an action plan to address how standards not mastered will be relearned and reassessed.

-

Instructional Resources

Achievement Network

Triand.com

Quia.com

IXL.com

McDougal/Littell Algebra and Pre-Algebra Texts

Differentiation

IEP accommodations and modifications

Read aloud

Teacher notes

Clear break down of steps

Visual and pneumonic devices

Manipulatives

Enrichment

Peer tutoring

Challenge questions

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- Identify, understand and apply numeric properties
- Add, subtract, multiply and divide rational numbers (integers, fractions and decimals)

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1

General Topics: SWBAT apply and identify the following properties:

- Inverse (addition and multiplication)
- Identity (addition and multiplication)
- Zero (multiplication)
- Distributive
- Associative
- Commutative

INM: Using a guided notes power point presentation, students will fill out boxes that include what each property states, details on that property, an algebraic and a numeric example.

IP: 1) In small groups, students will be given chart paper and a set of markers. Their task is to make a poster “advertising” a specific property (must include: Property Name, Graphic, Definition, and a Numeric Example). Scholars will get a chance to post and view each other’s posters.

2) Independent class work to include identifying properties and applying the distributive property.

Key Vocabulary: Inverse, Identity, Distribute, Associative and Commutative

Check for Understanding: During notes, various CFU slides contain “Prove It” sample problems (cold call students for answers to these)

Lesson 2

General Topic: SWBAT

- add and subtract decimals

-review properties

-round and estimate with decimals

-determine the reasonability of an answer

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Brain pop video and quiz as a class

INM: Using a guided notes power point presentation, students will work through examples that emphasize lining up decimal points and using zeroes as place holders. We will work through 6 examples that address different types of problems.

IP: 1) In shoulder partners, students will work through “shopping” activity that requires them to find the total of items and how much change they should receive. Hamburger Hut and WP activity: use fake menu, requires students to work through ordering scenarios. (14 problems total)

2) Independently, students will work on a class work assignment

Key Vocabulary: Round, Estimate, Reasonable(ity)

Check for Understanding: During notes, guided release within the context of the examples.

Lesson 3

General Topics: SWBAT

- multiply and divide decimals
- round and estimate with decimals
- determine the reasonability of an answer

INM: Using a guided notes power point presentation, students will work through examples that address multiplying decimals (don't line up, count digits) and Dec/W#, W#/Dec and Dec/Dec.

IP: First in shoulder partners, then independently, scholars will work through puzzle sheets that require them to multiply and divide decimals in order to crack codes and solve riddles

Key Vocabulary: None

Check for Understanding: During notes, guided release within the context of the examples.

Lesson 4

General Topics: SWBAT

- multiply and divide fractions with like and unlike denominators
- round and estimate with fractions
- determine the reasonability of an answer

INM: Using a guided notes power point presentation, students will work through examples that address rounding, multiplying (cancellation, across, and simplify) and dividing fractions (flip into reciprocal and multiply) .

IP: 1) After splitting the class in half, we will have a relay. In teams, scholars will “vs” each other at the board to solve problems involving the multiplication and division of fractions

2) Independently, scholars will complete a class work exercise that practices and multiplying and dividing fractions

Key Vocabulary: Denominator, Numerator, Simplest Form, Reciprocal

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Check for Understanding GP: During notes, guided release within the context of the examples.

Lesson 5

General Topics

- add and subtract fractions with like and unlike denominators
- round and estimate with fractions
- determine the reasonability of an answer

INM: Using a guided notes power point presentation, students will work through examples that address adding like fractions, adding unlike fractions, subtracting like fractions and unlike fractions (with and without borrowing) .

IP: 1) In small groups (2-4 scholars), they will rotate in stations to practice the different types of adding and subtracting fractions.

2) Independently, scholars will complete a class work exercise that practices adding and subtracting like and unlike fractions

Key Vocabulary:

Check for Understanding GP: During notes, guided release within the context of the examples.

Lesson 6

General Topics

- define absolute value
- compare expressions using absolute value
- simplify expressions involving absolute value
- define integer
- compare and order integers
- place integers on a number line

INM: Using a guided notes power point presentation, students will work through examples that address absolute value, simplifying with absolute value, integers, comparing and ordering. Stress treating absolute value brackets like parentheses.

IP: 1) Independently, scholars will complete a class work exercise that practices simplifying with absolute value, comparing and ordering integers

Key Vocabulary: Absolute Value, Integer, Positive, Negative

Check for Understanding GP: During notes, guided release within the context of the examples.

Lesson 7

General Topics

- add, subtract, multiply, and divide integers

INM: Using a guided notes power point presentation, students will work through examples that address the rules of

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adding and subtracting integers (keep, change, change; same sign add and keep, different sign subtract) and multiplication and division (same sign +, different signs -).

IP: 1) As a class, we will create foldable graphic organizers to be kept in our binders that outline the rules of integer operations.

2) Independently, scholars will complete a class work exercise that practices adding, subtracting, multiplying and dividing integers.

Check for Understanding GP: During notes, guided release within the context of the examples.

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Name: _____

Date: _____

MATH

Homeroom: _____

DAY #9 Independent Practice

IA 1 Countdown: 16 DAYS

- 1.) Which property allows you to write $4 + (3 + 9) = (4 + 3) + 9$? _____
- 2.) Explain how the commutative property of multiplication can help you evaluate the product of $5 \cdot 17 \cdot 2$ mentally. Write your answer using complete sentences!

Identify the property that the statement illustrates.

- 3.) $mn + 0 = mn$ _____
- 4.) $19 \cdot 5^3 = 5^3 \cdot 19$ _____
- 5.) $(2x + 3y) + z = 2x + (3y + z)$ _____
- 6.) $\frac{1}{5} + \frac{3}{5} = \frac{3}{5} + \frac{1}{5}$ _____
- 7.) $(-7u)(1) = -7u$ _____
- 8.) $\frac{2}{9} + \left(\frac{1}{9} + \frac{6}{4}\right) = \left(\frac{2}{9} + \frac{1}{9}\right) + \frac{6}{4}$ _____
- 9.) The calories in a McDonald's Egg McMuffin come from three sources: 144 calories are from carbohydrates, 108 calories are from fat, and 56 calories are from protein. Use properties of addition to find the total number of calories in the sandwich.

Answer: _____ calories

- 10.) During the summer, you work 4 hours each day as a cashier at Wal-Mart and earn \$7 each hour. Use properties of multiplication to find how much money you earn during a 5 day work week.

Answer: _____ dollars

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11.) Are putting on your socks and putting on your shoes commutative activities (hint, think back to the definition of the commutative property!)? Explain your answer.

Identify the property being illustrated (example: Commutative Property of Addition). Write your answer in the space provided.

12.) $-5.25(1) = -5.25$ _____ Property of _____

13.) $(7 \cdot 6) \cdot 43 = 7 \cdot (6 \cdot 43)$ _____ Property of _____

14.) $(8 + 4) + 19 = (4 + 8) + 19$ _____ Property of _____

15.) $4 + (23 + 12) = (4 + 23) + 12$ _____ Property of _____

16.) $12 \cdot (-14) \cdot 56 = -14 \cdot 56 \cdot 12$ _____ Property of _____

17.) $0 + (-0.354) = (-0.354)$ _____ Property of _____

Name the property and find the value of the missing integer.

18.) $-7 \cdot \underline{\hspace{1cm}} = -7$ _____

19.) $6(8 - 2) = (6 \cdot \underline{\hspace{1cm}}) - (6 \cdot 2)$ _____

20.) $\underline{\hspace{1cm}} = -2 + 0$ _____

21.) $6[4 + (-5)] = 6 \cdot 4 + 6 \cdot \underline{\hspace{1cm}}$ _____

22.) $4(-6) + 4(\underline{\hspace{1cm}}) = 4(-6 + 9)$ _____

Use the distributive property to evaluate the expression.

23.) $2(3 + 5)$

24.) $5(9 - 3)$

25.) $(10 - 4)7$

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26.) $10(18 + 8)$

27.) $(6 + 21)^3$

28.) $3(y + 9)$

Name: _____

Date: _____

MATH

Homeroom: _____

Exit Slip: Properties

_____ /10 = _____ %

For #1 - #5, identify the property being illustrated. (Identity of Addition or Multiplication, Inverse of Addition or Multiplication, Associative, or Commutative)

1.) $2 + 5 = 5 + 2$ _____

2.) $7 \cdot 1 = 7$ _____

3.) $(a + b) + c = a + (b + c)$ _____

4.) $-4 + 4 = 0$ _____

5.) $n \cdot \frac{1}{n} = 1$ _____

For #6 - #10, use the Distributive Property to evaluate each expression.

6.) $2(7 + 3)$

7.) $5(11 - 6)$

8.) $(12 + 3)6$

9.) $7(20 + 8)$

10.) Ms. Versaci and Mr. Troiano are purchasing calculators for the class. Ms. Versaci bought calculators from Staples that cost \$12 each. Mr. Troiano bought calculators from Office Max for \$8 each. Use the distributive property in the expression to find the total cost, in dollars.

$5(12 + 8)$

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Name: _____

Date: _____

MATH

Homeroom: _____

Homework #9: Properties

Part 1: Fill in the Blank

Directions: Use the word bank to fill in the blank. _____ing

Parent Signature

Associative	Inverse	Addition
Distributive	Commutative	Zero

- The _____ property states that when adding or multiplying numbers, the grouping does not affect the answer. For example, $(2 + 4) + 5$ is the same as $2 + (4 + 5)$.
- Zero is the identity of _____ because when applying it to a number, you end up with the same answer.
- We use the _____ property to multiply numbers to the contents of parentheses.
- Because of the _____ property, you can add or multiply numbers in any order and get the same answer. However, you cannot do this when subtracting or dividing.
- When you multiply a number (n) and its reciprocal ($\frac{1}{n}$), your answer is always one due to the _____ property of multiplication.
- Any number multiplied by _____ is zero.

Part 2: Name that Property

Directions: For each example, identify which property it is illustrating. You may abbreviate.

- $4 + 0 = 4$ _____
- $7 \cdot 51 = 51 \cdot 7$ _____
- $3(2 + 1) = 3 \cdot 2 + 3 \cdot 1$ _____
- $4 \cdot (2 \cdot 5) = (4 \cdot 2) \cdot 2$ _____

Part 3: Create Your Own

Directions: Using numbers, create and write an example for each of the following properties.

- Commutative Property of Addition _____

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- 12. Identity Property of Addition _____
- 13. Commutative Property of Multiplication _____
- 14. Identity Property of Multiplication _____
- 15. Inverse Property of Multiplication _____

Part 4: Distributive Practice

Directions: Choose the solution that correctly applies the Distributive Property.

- 16.) $4(7 + 11)$
(a) $4 \cdot 7 + 11$ (b) $4 \cdot 7 + 4 \cdot 11$ (c) $4 + 7 \cdot 11$
- 17.) $2(a + 13)$
(a) $2a + 13$ (b) $2 + 13a$ (c) $2a + 2 \cdot 13$
- 18.) $15 \cdot 9 - 15 \cdot 4$
(a) $15 + 9 - 4$ (b) $15(9 - 4)$ (c) $15(9)(4)$
- 19.) $9(8 - 3)$
(a) $9 \cdot 8 - 9 \cdot 3$ (b) $9 - 9 \cdot 3$ (c) $9 \cdot 8 - 3$
- 20.) $8 \cdot 3 + 8 \cdot 6$
(a) $8(8 + 3)$ (b) $3(8 + 6)$ (c) $8(3 + 6)$



Comment [k1]: Please click on slide show to view. This is the student version that they receive as a hard copy to take notes on.



Comment [k2]: This slide show is the master that would be presented on the screen as part of the Introduction to New Material.

Objective Mastery Opportunity: Numeracy

*Directions: Read each problem. Go slowly. **Show all of your work in the space provided.** Mark your final answer on the scantron sheet.*

- 1.) Which of the following properties is illustrated by the algebraic expression $a + b = b + a$?
a) Associative b) Identity c) Commutative d) Inverse

- 2.) Which expression correctly illustrates the Inverse of Multiplication Property?
a) $-2 \cdot 2$ b) $-2 \cdot 1$ c) $-2 \cdot 0$ d) $-2 \cdot (-\frac{1}{2})$

- 3.) Simplify the expression $4(x + 2)$ using the Distributive Property.
a) $4x + 8$ b) $8x$ c) $6x$ d) $4x \cdot 2$

- 4.) What is 0.823 rounded to the nearest tenths place?
a) 0.9 b) 0.8 c) 0.82 d) 0.83

- 5.) Sarah and Jen participated in the Frisbee toss on field day. Sarah threw the Frisbee 30.95 meters. Jen threw the Frisbee 39.31 meters. How much farther did Jen throw the Frisbee than Sarah?

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- a) 9.64 m b) 8.36 m c) 8.64 m d) 9.36 m

6.) Sergio paid for the items listed below with a \$20 bill.

- One jar a of peanut butter for \$2.39
- One loaf of bread for \$2.75

What was the total amount of money Sergio got back after he paid for the items?

- a) \$14.14 b) \$14.86 c) \$15.14 d) \$15.86

7.) Roberto paid \$43.08 for 3 CDs. All 3 CDs were the same price. How much did each CD cost?

- a) \$11.36 b) \$14.36 c) \$40.08 d) \$46.08

8.) Which of these is the best estimate for $4.382 \cdot 2.641 \cdot 6.438$?

- a) 48 b) 72 c) 90 d) 105

9.) One month Tony's puppy grew $\frac{7}{8}$ of an inch. The next month his puppy grew $\frac{5}{8}$ of an inch. How many inches did Tony's puppy grow in two months?

- a) $\frac{2}{8}$ b) $\frac{35}{64}$ c) $1\frac{1}{2}$ d) $1\frac{1}{4}$

10.) Solve: $\frac{9}{10} - \frac{3}{4}$

- a) $\frac{6}{6}$ b) $\frac{6}{20}$ c) $\frac{3}{20}$ d) $\frac{6}{14}$

11.) Solve: $\frac{5}{7} \cdot \frac{4}{15}$

- a) $\frac{4}{21}$ b) $\frac{75}{28}$ c) $\frac{3}{28}$ d) $\frac{20}{22}$

12.) Solve : $\frac{3}{4} \div 8$

- a) 6 b) $\frac{24}{4}$ c) $\frac{3}{32}$ d) $\frac{24}{32}$

13.) Evaluate $|x + 3| - |-4|$ if $x = -5$

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- a) 12 b) -2 c) 4 d) -6

14.) Which symbol correctly completes $-4 \underline{\hspace{1cm}} 3$?

- a) $>$ b) $<$ c) $=$ d) \heartsuit

15.) Which set shows the integers ordered from least to greatest?

- a) 3, -5, -11 b) -11, 3, -5 c) -5, -11, 3 d) -11, -5, 3

Unit Title: Foundations of Algebra

Grade Level(s): 8

Subject/Topic Areas: Exponents, radicals, order of operations, irrational numbers.

Key Vocabulary: Exponent, power, root, radical, square, irrational number

Designed By: Kacie Versaci

Time Frame: 5 Days

Date: 9/17/2011 – 9/20/11

SUMMARY OF PURPOSE:

Unit 2: Foundations of Algebra was designed to equip scholars with the intermediate skills needed to solve linear and quadratic equations, as well as build a stable foundation needed to use the Pythagorean Theorem. It will also allow scholars to hone their algebraic vocabulary.

Stage 1: Desired Results

Common Core/ Delaware Standards

Primary: Number Systems (Standard 1) and Expressions (Standard 2)

CC.8.NS.1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.

CC.8.NS.2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*

CC.8.EE.1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.

CC.8.EE.2. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.

Secondary:

CC.8.EE.3. Use numbers expressed in the form of a single digit times a whole-number power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3 times 10^8 and the population of the world as 7 times 10^9 , and determine that the world population is more than 20 times larger.*

CC.8.EE.4. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

Key Concepts/Big Ideas
Exponents and roots are the building blocks of algebraic functions.
Enduring Understandings
<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> • Exponents are repeated multiplications • Squares and roots are inverses • Irrational numbers are any real number that cannot be expressed as a fraction • The order of operations must be followed to correctly evaluate numeric expressions
Essential Questions
<ul style="list-style-type: none"> • How are exponents simplified? • What is the difference between an irrational and irrational number? • How can we estimate roots? • In what order do we evaluate numeric expressions?
Real World Context
<ul style="list-style-type: none"> • Real world situations including measurement, economics, and data all to be explored in word problems.
Learning Targets/Goals
<p><i>Students will know...</i></p> <ul style="list-style-type: none"> • The difference between rational and irrational numbers • Exponents represent repeated multiplication • The order of operations (PEMDAS) <p><i>Students will be able to... (21st century skills)</i></p> <ul style="list-style-type: none"> • Classify real numbers • Compare, order, and estimate real numbers • Simplify algebraic expressions, including exponents

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

Individually, scholars will create layered foldable graphic organizer to define, illustrate, and clarify the laws for multiplying and raising exponents.

(SEE APPENDIX A FOR STUDENT EXAMPLE)

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1	0
Content	All three laws are accurately and completed defined with a correctly applied example	Contains 1 – 2 errors	Contains 3 – 4 errors OR 1 law is incomplete	Contains More than 4 errors OR 2 laws are incomplete	All 3 laws are incomplete
Following directions	All relevant information pertaining to the law is included. Example is clearly labeled.	Contains 1 error	Contains 2 - 3 errors	Contains 4 errors	Contains more than 4 errors
Neatness and organization	Foldable is neat in appearance, legible, and colorful	Foldable is organized and legible, but may be slightly wrinkled or contain 1 – 2 handwriting errors	Foldable is legible but unorganized. OR Appearance of foldable is unprofessional	Foldable is both unorganized and unprofessional	Foldable is unreadable

Formative Assessments:(e.g., tests, quizzes, prompts, work samples, observations)
All copies can be found in Appendix A.

Summative Assessments:

Weekly quizzes
Unit Assessment
Daily Exit slips

Student Self-Assessment and Reflection

Pairs Communication Activity

Directions:

Upon completing summative assessments, scholars work in pairs to process and evaluate their assessment data.

Reflection:

1. What standards did you master?
2. What standards do you need more work on?

Scholars will complete an action plan to address how standards not mastered will be relearned and reassessed.

Instructional Resources

Achievement Network

Triand.com

Quia.com

IXL.com

McDougal/Littell Algebra and Pre-Algebra Texts

Differentiation

IEP accommodations and modifications

Read aloud

Teacher notes

Clear break down of steps

Visual and pneumatic devices

Manipulatives

Enrichment

Peer tutoring

Challenge questions

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- **Define, differentiate between, identify, classify, compare and order rational and irrational numbers**
- **Evaluate exponents**
- **Find the power of a product**
- **Find the power of a power**
- **Evaluate expressions using PEMDAS**
- **Find the root of a perfect square**
- **Estimate the square root of a number that is not a perfect square**

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know

Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1

General Topic

- define exponent and base
- apply the rule for adding exponents when multiplying exponential expressions with like bases (properties of exponents)
- apply the rule for multiplying exponents when raising a power to a power.
- compute the value of exponential expressions

Discuss “laws of math” and how numbers, much like us, have to follow certain rules. Break the rules, the result will not be what you intended

INM: Using a guided notes power point presentation, students will work through examples that address simplifying powers and the laws of exponents.

IP: 1) Independently, scholars will complete a class work exercise that practices applying the laws of exponents.

Key Vocabulary: Exponent, power, base

Check for Understanding:

GP: During notes, guided release within the context of the examples.

Lesson 2

General Topic: - simplify expressions involving exponents (order of operations)

Order of operations was created so mathematicians could reach the same answers. Spin as story about compromise.

INM: Using a guided notes power point presentation, students will work through examples that address evaluating expressions with and without grouping symbols, including fraction bars.

IP: 1) In 2 teams, we will have a Dual Board challenge where scholars will face off to evaluate different expressions with PEMDAS.
2) Independently, scholars will complete a class work exercise that practices evaluating expressions using PEMDAS.

Check for Understanding: During notes, guided release within the context of the examples.

Lesson 3

General Topics: SWBAT

- - define irrational numbers
- differentiate between rational and irrational numbers
- plot an irrational number on a number line
- compare an irrational number to a rational number or another irrational number
- order groups of numbers that include both rational and irrational numbers

Discuss the word irrational. Possible synonyms (angry, disobedient, misbehaving)
Irrational numbers “don’t behave”.

INM: Using a guided notes power point presentation, students will work define rational and irrational numbers. We will look at examples, classify numbers, and walk through the steps of “restraining” irrational numbers by estimating so they can be compared and ordered with rational numbers

IP: 1) As a class, we will play a quick game where scholars will use hand signals to show if a number is rational or irrational. We will pause and I will CFU by asking certain scholars to justify their choice.
2) Independently, scholars will complete a class work exercise that practices classifying, comparing, and ordering rational and irrational numbers.

Key Vocabulary: Rational numbers, irrational numbers

Check for Understanding: During notes, guided release within the context of the examples.

Lesson 4

General Topics:

- define square root and perfect square
- find the square root of a perfect square
- approximate the square root of a number that is not a perfect square between two integers
- locate an irrational square root between two integers

Revisit discussion about irrational numbers, explain that we will be digging a little deeper today

INM: Using a guided notes pp model, students will define square root and related vocabulary, work through examples of evaluating expressions with square roots, approximating square roots, and ordering rational and

irrational numbers by creating a number line.

IP: 1) Whole class activity scholars will each receive a card with a number on it. First they must organize themselves as irrational or irrational numbers. Then they will have to order themselves from least to greatest.

2) Independently, a class work exercise requires them to evaluate roots, approximate roots, order roots, and solve word problems using square roots.

Key Vocabulary: Root, Perfect Square, Radicand, Radical

Check for Understanding During notes, various CFU slides contain Try These problems

Lesson 5

General Topics

- - read and understand numbers written in scientific notation
- convert between standard and scientific notation
- convert between the verbal description of a number and scientific notation
- understand the proper format for writing numbers in scientific notation
- solve problems involving numbers written in scientific notation
- understand addition and subtraction rules for exponents when multiplying and dividing, respectively
- multiply and divide two numbers expressed in scientific notation

INM: Using a guided notes pp model, students will define scientific notation and work through writing numbers in both scientific notation and standard form. We will then practice multiplying and dividing numbers in scientific notation.

IP: 1) Independently, a class work exercise will require scholars convert between scientific notation and standard form, multiply, and divide numbers in scientific notation.

Key Vocabulary: Scientific Notation

Check for Understanding GP: During notes, guided release within the context of the examples.

Name: _____

Date: _____

MATH

Homeroom: _____

Class Work #16

IA 1 Countdown: 9 DAYS

Directions: Read each statement regarding the laws of exponents and circle the word in the parentheses that best completes the statement.

- 1.) When you multiply like bases, you can (add/multiply) the exponents.
- 2.) Raising a power to a power requires you to (add/multiply) the exponents.
- 3.) Exponents (do/do not) distribute when there is a sum inside the parentheses.
- 4.) Any base raised to the power of zero equals (one/zero).
- 5.) When a negative number is the base and the exponent is (odd/even), the product will be negative.

Directions: Complete the product chart by applying the laws of exponents. Write all products as powers. You do not have to simplify.

6.)

•	3^2	3^x	3^4
3^4			
3^a			
-3^2			

•		$2a$	3^4
b^{-4}	b^4		
a^8			
		$(2ab)^4$	

Directions: For #7 - #9, solve each multiple choice questions. Show all of your work.

7.) $2^9 \cdot 2^3$

a) 4^{27}

b) 2^{12}

c) 4^{12}

d) 2^{27}

8.) $8^9 \cdot 8^7 \cdot 8^8$

a) 512^{24} b) 8^{24}

c) 8^{504}

d) 24^{24}

9.) $(-7)^5(-7)^9$

a) 49^{14} b) 49^{45}

c) $(-7)^{14}$

d) $(-7)^{45}$

For #10 - #13, simplify each expression. Show all of your work.

10.) $(5xy)^2$

11.) $(10^3)^4$

12.) $[(x + 4)^5]^2$

13.) $(11 \cdot 17)^9$

For #14 - #15, look at each solved problem. Describe in a full sentence what the scholar did incorrectly, then correct the error by showing the right answer.

14.) **Simplify:** $c \cdot c^4 \cdot c^5$

$$\begin{aligned} c \cdot c^4 \cdot c^5 &= c \cdot c^4 \cdot c^5 \\ &= c^{1 \cdot 4 \cdot 5} \\ &= c^{20} \end{aligned}$$

What did the scholar do wrong? _____

Fix it: Simplify: $c \cdot c^4 \cdot c^5$

15.) **Simplify:** $(2 + 3)^2$

$$\begin{aligned} (2 + 3)^2 &= (2 + 3)^2 \\ &= 2^2 + 3^2 \\ &= 4 + 9 \\ &= 13 \end{aligned}$$

What did the scholar do wrong? _____

Fix it: Simplify: $(2 + 3)^2$

Name: _____

Date: _____

MATH

Homeroom:

Exit Slip: Laws of Exponents

$\underline{\hspace{2cm}}/10 = \underline{\hspace{2cm}}\%$
--

For #1 - #4, evaluate each power. Show all of your work. Draw a box around your final answer.

1.) 6^2

2.) 5^3

3.) 9^4

4.) 10^8

For #5 - #10, simplify each expression. Show all of your work. Draw a box around your final answer.

5.) $2^3 \cdot 2^5$

6.) $4 \cdot 4^3$

7.) $x^6 \cdot x^{11}$

8.) $(\frac{2}{5}d)^2$

9.) $(a^3x^2)^4$

10.) $(2^3)^2$

Name: _____

Date: _____

MATH

Homeroom: _____

Homework #16: Laws of Exponents

<u>Parent Signature</u>

Directions: Read each statement regarding the laws of exponents. Use the word bank to fill in the blanks.

Sum	Square	Add	Negative
Positive	Repeated	Multiply	Cube

- 16.) When a power is raised to a power, you can _____ the exponents.
- 17.) When we _____ a number, it is raised to the second power.
- 18.) If there is a _____ inside parentheses, you cannot distribute the power.
- 19.) A negative integer raised to an even power will result in a _____ integer.
- 20.) When we _____ a number, it is raised to the third power.
- 21.) A negative integer raised to an odd power will result in a _____ integer.
- 22.) Multiplying like bases allows to you to _____ their exponents.
- 23.) An exponent represents _____ multiplication.

Directions: Complete the product chart by applying the laws of exponents. Write all products as powers. You do not have to simplify.

24.)

•	2^4	2^x	2^7
2^2			
2^a			
-2^5			

•		$4a$	3^4
b^{-2}	b^3		
a^8			
		$(4ab)^4$	

Name: _____

Date: _____

MATH

Homeroom: _____

Homework #19: Square Roots

Parent Signature

For #1 - #3, evaluate each expression.

1.) $\pm\sqrt{256}$

2.) $\sqrt{484}$

3.) $-\sqrt{49}$

4.) Suppose an unusual chessboard is a square with an area of 729 square meters. What is the length (in meters) of each side of the board?

5.) The top of a folding table is a square whose area is 1243 square inches. Approximate the side length of the tabletop to the nearest inch.

6.) Approximate the square root of 491 to the nearest integer

7.) Approximate the negative square root of 15 to the nearest integer

8.) Approximate the negative square root of 386 to the nearest integer

9.) Order the number from least to greatest: $\frac{5}{4}, -3.5, \sqrt{3}, -\sqrt{6}$

10.) True or false: $\sqrt{97}$ is irrational.

Name: _____

Date: _____

MATH

Homeroom: _____

Exit Slip: Square Roots

_____ / 8 = _____ %

- 1.) Which of the following numbers is a perfect square?
a) 14 b) 12 c) 16 d) 20

For #2 - #4, evaluate each expression.

2.) $\pm\sqrt{100}$

3.) $\sqrt{121}$

4.) $-\sqrt{400}$

For #5 - #7, approximate the square root to the nearest integer.

5.) $\sqrt{32}$

6.) $\sqrt{103}$

7.) $-\sqrt{48}$

For #8, order the numbers from least to greatest.

8.) $\frac{4}{3}, -\sqrt{5}, \sqrt{13}, -2.5, \sqrt{9}$

Name: _____

Date: _____

MATH

Homeroom: _____

Class Work #19

IA 1 Countdown: 6 DAYS



Directions: For #1 - #5, match each term to its definition by writing the letter on the blank.

- | | | |
|-----------------------|-------|---|
| 1.) Radical | _____ | a) The square root of a whole number that is not a perfect square |
| 2.) Perfect Square | _____ | b) The symbol for square root ($\sqrt{\quad}$) |
| 3.) Irrational Number | _____ | c) The number of expression inside the radical |
| 4.) Radicand | _____ | d) The square of an integer |
| 5.) Square Root | _____ | e) All positive numbers have 2 of these—a positive and a negative one |

For #6 - #15, evaluate each expression.

- | | |
|-------------------|-----------------------|
| 6.) $\sqrt{4}$ | 11.) $\pm\sqrt{121}$ |
| 7.) $-\sqrt{49}$ | 12.) $-\sqrt{256}$ |
| 8.) $-\sqrt{9}$ | 13.) $-\sqrt{225}$ |
| 9.) $\pm\sqrt{1}$ | 14.) $\pm\sqrt{169}$ |
| 10.) $\sqrt{196}$ | 15.) $\pm\sqrt{1600}$ |

For #16 - #21, approximate each square root to the nearest integer.

- | | |
|-------------------|------------------|
| 16.) $\sqrt{10}$ | 21.) $\sqrt{40}$ |
| 17.) $-\sqrt{18}$ | |
| 18.) $-\sqrt{3}$ | |
| 19.) $\sqrt{150}$ | |
| 20.) $-\sqrt{86}$ | |

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For #22 – 23, order the numbers from least to greatest.

22.) $\sqrt{49}, 8, -\sqrt{4}, -3$

23.) $\sqrt{8}, -\frac{2}{5}, -1, 0.6, \sqrt{6}$

For #24 - #25, read each word problem carefully and solve. Show all work.

24.) The area of a square painting is 3600 square inches. Find the side length of the painting in inches.

25.) Some soccer drills are practiced in the square section of a field. If the section of the field for a soccer drill is 1,620 square yards, find the side length of the section. Round your answer to the nearest yard.

Objective Mastery Opportunity: Foundations of Algebra

*Directions: Read each problem. Go slowly. **Show all of your work in the space provided.** Mark your final answer on the scantron sheet.*

1.) Simplify: $(x^5)(x^7)$

a) $12x$

b) $35x$

c) x^{12}

d) x^{35}

2.) Simplify: $(y^4)^7$

a) y^{28}

b) y^{11}

c) $11y$

d) $28y$

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3.) Simplify: $(a^4b^6)^2$

a) (a^6b^{12})

b) (a^8b^8)

c) (a^6b^8)

d) (a^8b^{12})

4.) Simplify: $k^4 \cdot (k^3)^5$

a) k^{19}

b) k^{12}

c) k^{60}

d) k^{32}

5.) Simplify: $5x^9 \cdot 3x^2$

a) $8x^{11}$

b) $15x^{11}$

c) $8x^{18}$

d) $15x^{18}$

For #6- #10, mark A for a rational number and mark B for an irrational number.

6.) $-\frac{1}{2}$

a) rational

b) irrational

7.) π

a) rational

b) irrational

8.) $\sqrt{12}$

a) rational

b) irrational

9.) $\sqrt{16}$

a) rational

b) irrational

10.) $0.\bar{3}$

a) rational

b) irrational

11.) Estimate: $-\sqrt{20}$

a) ~ -4

b) ~ -5

c) ~ 4

d) ~ 5

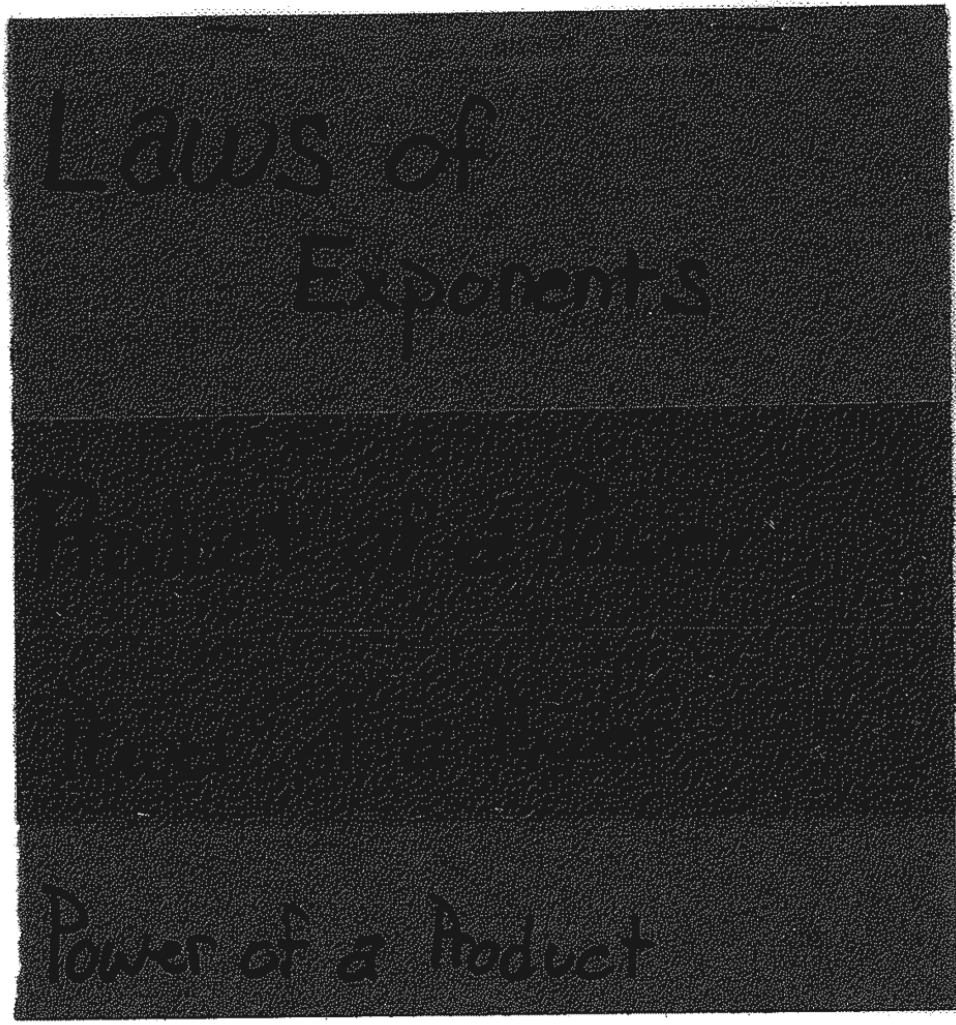
12.) Which two integers $\sqrt{55}$ in between?

a) 5 and 6

b) 6 and 7

c) 7 and 8

d) 8 and 9



- Raising a power to another power

Ex: $(a^2 b^3)^5$ Multiply Exponents
 $a^{10} b^{15}$

* Does NOT work with addition

$$(x+y)^2 \neq x^2 + y^2$$

Power of a Power

Power of a Product

Unit Title: Solving Linear Equations	Grade Level(s): 8
Subject/Topic Areas: Equations	
Key Vocabulary: Expression, equation, inequality, variable, inverse operation	
Designed By: Kacie Versaci	Time Frame: 10 Days
	Date: 9/26/2011 – 10/07/11

SUMMARY OF PURPOSE:
Unit 3: Solving Linear Equations lays the foundation of linear algebra, preparing scholars to graph linear equations, solve systems of equations, and represent linear relationships with functions.

Stage 1: Desired Results

Common Core/ Delaware Standards

Primary: Expressions and Equations (Standard 2)

CC.8.EE.7 Solve linear equations in one variable.

CC.8.EE.7a Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

CC.8.EE.8b Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property

Key Concepts/Big Ideas

Linear equations are solved by isolating the variable with inverse operations

Enduring Understandings

Students will understand that...

- Variables represent an unknown number
- Inverse operations “undo” each other and allow us to isolate the variable
- Equations can have no solution, one solution, or infinite solutions

Essential Questions

- How do we isolate a variable?

Real World Context

- Real world situations including measurement, economics, and data all to be explored in word problems.
- Using equations to represent real life situations and solve for the unknown

Learning Targets/Goals
<i>Students will know...</i> <ul style="list-style-type: none">• The difference between expressions, equations, and inequalities• Solving an equation requires isolating a variable <i>Students will be able to...</i> (21 st century skills) <ul style="list-style-type: none">• Solve equations with one variable• Solve equations with one, two, and multiple steps• Write equations from real life scenarios• State if an equation has no, one or many solutions

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

Scholars will solve a multi-step equation and show all work using the “funnel” or inverted triangle method.

(SEE APPENDIX A FOR STUDENT EXAMPLE)

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1	0
Funnel or Inverted Triangle	Show step-by-step correct work. Funneled work and circle answer	Step-by-step work is shown, but there may be one calculation error. An answer is circled	Step-by-step work has been attempted but there are some conceptual errors. An answer is circled	No work is shown. An answer may or may not be circled	

Formative Assessments:(e.g., tests, quizzes, prompts, work samples, observations)

All copies can be found in Appendix A.

Summative Assessments:

- Weekly quizzes
- Unit Assessment
- Daily Exit slips

Student Self-Assessment and Reflection

Pairs Communication Activity

Directions:

Upon completing summative assessments, scholars work in pairs to process and evaluate their assessment data.

Reflection:

1. What standards did you master?
2. What standards do you need more work on?

Scholars will complete an action plan to address how standards not mastered will be relearned and reassessed.

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McDougal/Littell Algebra and Pre-Algebra Texts

Differentiation

IEP accommodations and modifications

Read aloud

Teacher notes

Clear break down of steps

Visual and pneumonic devices

Manipulatives

Enrichment

Peer tutoring

Challenge questions

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- Solve one variable equations
- Solve one, two, and multi-step equations

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1

General Topic

- define numeric and algebraic expressions, equations, and inequalities
- distinguish between numeric and algebraic expressions, equations, and inequalities
- verbal phrases into algebraic expressions

translate verbal sentences into equations and inequalities

Tie into grammar: How do you know the difference between a sentence and a fragment (complete vs incomplete thought)

INM: Using a guided notes power point presentation, students will learn the vocabulary, look at examples and non examples, and practice translating verbal phrases and sentences into expressions, equations, and inequalities

IP: 1) As a class, we will play an online game using the smart board. Scholars will be chosen to come up to the smart board to choose a challenge question and type in their answer. [Challenge Game](#)

2) Independently, scholars will complete a class work exercise that practices translating verbal phrases and sentences into expressions, equations, and inequalities

Key Vocabulary: Expression, equation, inequality, variable

Check for Understanding:

GP: During notes, guided release within the context of the examples.

Lesson 2

- **General Topic:** write linear equations to model and analyze proportional relationships (writing equations from word problems)

Using a guided notes power point presentation, students will work through examples that address reading a word problem and constructing an expression, equation, or inequality to represent the relationship

Check for Understanding: During notes, guided release within the context of the examples.

Lesson 3

General Topics: SWBAT

- solve one-step equations
- solve two-step equations

INM: Using a guided notes power point presentation, students will solve one step equations, two step equations, with and without rational coefficients

Key Vocabulary:

Check for Understanding: During notes, guided release within the context of the examples.

Lesson 4

General Topics:

- use the distributive property to solve equations
- combine like terms

Key Vocabulary: Like terms

Check for Understanding During notes, various CFU slides contain Try These problems

Lesson 5

General Topics

Solve equations with one, no, or infinite solutions

Key Vocabulary:

Check for Understanding GP: During notes, guided release within the context of the examples.

Name: _____

Date: _____

MATH

Homeroom: _____

Class Work #24

IA 1 Countdown: 2 DAYS

WRITING EXPRESSIONS, EQUATIONS AND INEQUALITIES

Directions: For #1 - #6, decide if the example is an expression (EX), equation (EQ) or inequality (IQ).

1.) $5x + 8 = 10$ _____

2.) $\frac{4}{y+2}$ _____

3.) $m - 14 \geq 12$ _____

4.) $15 + \frac{1}{2}z$ _____

5.) $4 < k < 10$ _____

6.) $3.8(d - 7) = 22.7$ _____

For #7 - #11, translate each verbal phrase into an algebraic expression.

- 7.) $\frac{1}{2}$ of a number m _____
- 8.) The difference of 7 and a number n _____
- 9.) 50 divided by a number h _____
- 10.) 3 less than the square of a number p _____
- 11.) The product of 6 and number y _____

For #12 - #16, translate each verbal sentence into an equation.

- 12.) The sum of a number b and 3 is 16. _____
- 13.) 12 divided by the quantity 3 plus a number q is 100. _____
- 14.) The difference of 42 and a number n equals 51. _____
- 15.) 5 times a number w is $\frac{3}{5}$. _____
- 16.) The cube a number g increased by 4 equals 28. _____

For #17 - 21, translate each verbal sentence into an inequality.

- 17.) The product of 9 and the quantity 8 times a number k is less than 6. _____
- 18.) 29 divided by a number u is at least 3. _____
- 19.) Twice a number b is at most 12. _____
- 20.) The difference of a number t and 7 is greater than 10 and less than 20. _____

21.) 4 more than twice a number k is no greater than the sum of k and 11.

For #22 – 25, read each multiple choice question and select the best answer choice.

22.) Which expression represents the phrase “the product of 15 and the quantity 12 more than a number x ”?

- a) $15 + 12 \cdot x$ b) $(15 + 12)x$ c) $15(x + 12)$ d) $15 \cdot 12 + x$

23.) Which expression represents the phrase “twice the quotient of 50 and the sum of a number y and 8”?

- a) $\frac{2 \cdot 50}{y} + 8$ b) $2\left(\frac{50+y}{8}\right)$ c) $2\left(\frac{50}{y+8}\right)$ d) $\frac{2}{50} + (y + 8)$

24.) Which inequality corresponds to the sentence “The product of a number b and 3 is no less than 12”?

- a) $3b < 12$ b) $3b \leq 12$ c) $3b > 12$ d) $3b \geq 12$

25.) Which equation corresponds to the sentence “Half of a number z increased by 9 equals 23”?

- a) $\frac{1}{2}z + 9 = 23$ b) $\frac{1}{2} + 9z = 23$ c) $\frac{1}{2}(z + 9) = 23$ d) $\frac{1}{2}z \cdot 9 = 23$

Name: _____

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Exit Slip: Express Linear Relationships

_____/10 = _____%

For #1 - #3, decide if the example is an expression, equation, or inequality

1.) $4x + 3 > 11$ _____

2.) $\frac{3y}{7a}$ _____

3.) $y = 2x + 4$ _____

For #4 - #6, translate each verbal phrase into an algebraic expression.

4.) The product of 12 and a number y _____

5.) The quotient of the square of a number w and 5 _____

6.) The product of 15 and the quantity 12 more than x _____

For #7 - #10, translate each verbal sentence into an equation or inequality.

7.) The sum of 42 and a number n is equal to 51. _____

8.) 9 times the quantity of 5 plus a number t is less than 6 _____

9.) The sum of a number b and 3 is greater than 8 _____

10.) The sum of twice a number r and 3 is 11 _____

Name: _____

Date: _____

MATH

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Homework #24: Writing Expressions, Equations and Inequalities

Parent Signature



What did the cucumber say to the vinegar?

To find out, choose the correct algebraic expression for each word phrase. Then find the letter associated with each expression you wrote to complete the answer below.

1. 8 more than twice n

$8 - 2n$ **T** $8n + 2$ **U**

$2n - 8$ **V** $8 + 2n$ **P**

2. 3 less than the product of 4 and n

$3 - 4n$ **F** $3n - 4$ **G**

$4n - 3$ **K** $4n + 3$ **L**

3. 9 more than the product of 6 and n

$9 - 6n$ **F** $6n + 9$ **E**

$9n + 6$ **D** $6n - 9$ **G**

4. 3 more than the quotient of 4 and r

$\frac{4}{n} + 3$ **C** $\frac{n}{4} + 3$ **D**

$\frac{(n+3)}{4}$ **E** $\frac{n}{3} + 4$ **F**

5. 1 divided by the sum of 2 and n

$\frac{1}{2} + n$ **J** $\frac{(n+1)}{2}$ **K**

$\frac{1}{n} + 2$ **L** $\frac{1}{(2+n)}$ **I**

6. 5 less than n divided by 6

$\frac{n}{6} - 5$ **L** $\frac{n}{5} - 6$ **Q**

$5 - \frac{n}{6}$ **M** $6 - \frac{n}{5}$ **U**

7. $\frac{1}{3}$ of the sum of 9 and n

$9 + \frac{n}{3}$ **M** $\frac{1}{3}(9) + n$ **O**

$\frac{1}{3}(n+9)$ **N** $\frac{1}{3} + 9n$ **I**

8. 12 times the sum of 8 and n

$12(8) + n$ **S** $12(n - 8)$ **T**

$12(n+8)$ **R** $12n + 8$ **U**

9. half the sum of n and 20

$\frac{1}{2}(20n)$ **B** $\frac{1}{2} + 20n$ **L**

$\frac{(n+20)}{2}$ **A** $\frac{n}{2} + 20$ **R**

10. twice the quotient of n and 10

$2(\frac{n}{10})$ **W** $2n + 10$ **M**

$2n - 10$ **N** $2 + \frac{n}{10}$ **O**

10	3	9	8	3	5	7
9	1	5	4	2	6	3

Directions: Translate each sentence into an algebraic equation or inequality.

11. The sum of a number and eleven times the same number y is 84.

12. A number d increased by 2 is 26.

13. 5 less than the product of 9 and a number t is at least 22.

14. The sum of 43 and a number x is greater than 61 but less than 100.

15. One-tenth of a number b is 20.

16. 8 times a number b equals 8.

17. 12 times a number n added to 10 is no greater than 22.

18. The sum of 10 and the quantity of 4 plus a number k is 27.

19. One-sixth of a number w is less than 66.

20. The product of 10 and the quantity of 5 plus a number j is 55.

Name: _____

Date: _____

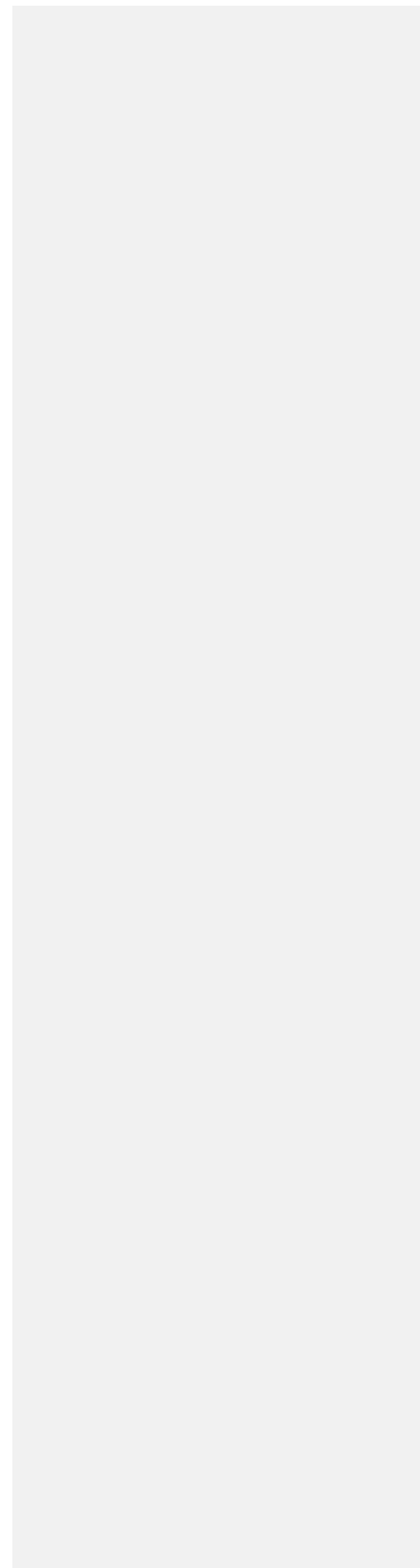
MATH

Homeroom: _____

Class Work #26

IA 1 Countdown: 0 DAYS

ONE AND TWO STEP EQUATIONS



$$1.) -3 = 5 + a$$

$$2.) 5g = 20$$

$$3.) 8 = \frac{x}{6}$$

$$4.) -187 = -17r$$

$$5.) \frac{1}{3}c = 32$$

$$6.) 5h + 4 = 19$$

$$7.) \frac{b}{2} - 9 = 11$$

$$8.) 2g - 13 = 3$$

$$9.) 17 = \frac{w}{5} = 13$$

$$10.) 10 = \frac{2}{7}n + 4$$

Name: _____

Date: _____

MATH

Homeroom: _____

Exit Slip: Solve One Variable Equations

_____ / 10 = _____ %

Directions: Solve for the variable. Show all of your work. Draw a box around your final answer.

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1. $6x = 42$

2. $y + 9 = 26$

3. $-13 - w = -3$

4. $\frac{b}{13} = 9$

5. $a - 11 = -4$

6. $3k + 7 = -5$

7. $\frac{c}{5} - 11 = -6$

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8. $(d + 9) \div 3 = 19$

9. $7d + 8 = 43$

10. $\frac{z+10}{2} = -8$

Name: _____

Date: _____

MATH

Homeroom: _____

Homework #26: One and Two Step Equations

Parent Signautre

Solve the equation. Remember to work backwards! Make sure you are showing every step when solving. Please circle your answer and check your work!

1.) $20 = 8t + 4$

2.) $8 + 2g = 30$

3.) $10 = 7w - 18$

4.) $\frac{x}{2} - 3 = 15$

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5.) Put the steps for solving the equation $7x - 10 = -3$ in order (by writing the letters in the correct order on the lines below).

- A. Add 10 to each side. B. Check your answer. C. Divide each side by 7.

_____ first second _____ third _____

6.) Which equation has a solution of -12 ?

(a) $\frac{y}{-2} - 2 = 4$

(b) $2y - 2 = -8$

(c) $-2y + 4 = -20$

(d) $\frac{y}{-2} + 4 = -2$

Tell whether each statement is true or false.

7.) To solve the equation $11x + 9 = -4$, you first subtract 9 from each side, then divide each side by 11.

8.) To solve the equation $\frac{x}{5} - 7 = 3$, you first multiply each side by 5, then add 7 to each side.

Match the equation with its solution.

_____ 9.) $2y - 3 = 1$

A. $y = -\frac{1}{3}$

_____ 10.) $2y + 3 = 1$

B. $y = -1$

_____ 11.) $3y - 2 = 1$

C. $y = 1$

Prestige Academy Charter School

_____ 12.) $3y + 2 = 1$

D. $y = 2$

13.) Is $x = 2$ a solution of the equation $7x - 3 = 11$? *Show all of your work.*

Circle your answer: Yes

No

14.) Is $c = 20$ a solution of the equation $\frac{c}{5} - 8 = 12$? *Show all of your work.*

Circle your answer: Yes

No

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Name: Patrick Duff

Date: 1-29-11

MATH

Homeroom: Amey Jais

Exit Slip: Solve One Variable Equations

$8/8 = 100\%$ 😊

 / 10 = %

Directions: Solve for the variable. Show all of your work. Draw a box around your final answer.

1. $6x = 42$

$$\begin{array}{r} 6x = 42 \\ \hline x = 7 \end{array} \quad C$$

2. $y + 9 = 26$

$$\begin{array}{r} y + 9 = 26 \\ -9 \quad -9 \\ \hline y = 17 \end{array} \quad C$$

3. $-13 - w = -3$

$$\begin{array}{r} -13 - w = -3 \\ +13 \quad +13 \\ \hline w = 10 \end{array}$$

4. $\frac{b}{13} = 9$

$$\begin{array}{r} 13 \left(\frac{b}{13} \right) = (9) 13 \\ \hline b = 117 \end{array} \quad C$$

5. $a - 11 = 4$

$$\begin{array}{r} a - 11 = 4 \\ +11 \quad +11 \\ \hline a = 15 \end{array} \quad C$$

6. $3k + 7 = -5$

$$\begin{array}{r} 3k + 7 = -5 \\ -7 \quad -7 \\ \hline 3k = -12 \\ \hline k = -4 \end{array} \quad C$$

7. $\frac{c}{5} - 11 = -6$

$$\begin{array}{r} 5 \left(\frac{c}{5} \right) - (5) 11 = (5) (-6) \\ \hline c - 55 = -30 \\ \hline c = 25 \end{array} \quad C$$

8. $(d + 9) \div 3 = 19$

$$\begin{array}{r} (d + 9) \div 3 = 19 \\ \times 3 \quad \times 3 \\ \hline d + 9 = 57 \\ -9 \quad -9 \\ \hline d = 48 \end{array} \quad C$$

9. $7d + 8 = 43$

$$\begin{array}{r} 7d + 8 = 43 \\ -8 \quad -8 \\ \hline 7d = 35 \\ \hline d = 5 \end{array} \quad C$$

10. $\frac{z + 10}{2} = -8$

~~$$\begin{array}{r} z + 10 = -16 \\ -10 \quad -10 \\ \hline z = -26 \end{array} \quad C$$~~

Comment [k1]: Student work sample. Shows "funnel" method

Curriculum Scope & Sequence

School: Prestige Academy

Grade or Course Math (8th Grade)

Teacher K. Versaci

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
<p>Unit 1: Rational Number Operations 9/7/11 – 9/16/11</p>	<p>CC.8.NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.</p> <p>CC.8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\sqrt{2}$). For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations</p>	<p>Working with rational numbers requires following consistent rules</p>	<p>How do I add, subtract, multiply and divide decimals?</p> <p>How do I add, subtract, multiply and divide fractions?</p> <p>How do I add, subtract, multiply and divide integers?</p> <p>How do I estimate the solutions with basic computation problems?</p>
<p>Unit 2: Foundations of Algebra 9/17/11 – 9/20/11</p>	<p>CC.8.NS.1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.</p> <p>CC.8.NS.2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.</p> <p>CC.8.EE.1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.</p> <p>CC.8.EE.2. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.</p>	<p>Exponents and roots are the building blocks of algebraic functions.</p>	<p>Students will understand that...</p> <p>Exponents are repeated multiplications</p> <p>Squares and roots are inverses</p> <p>Irrational numbers are any real number that cannot be expressed as a fraction</p> <p>The order of operations must be followed to correctly evaluate numeric expressions</p>

<p>Unit 3: Solving Linear Equations 9/26/11 – 10/07/11</p>	<p>CC.8.EE.7 Solve linear equations in one variable.</p> <p>CC.8.EE.7a Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).</p> <p>CC.8.EE.8b Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property</p>	<p>Linear equations are solved by isolating the variable with inverse operations</p>	<p>Students will understand that...</p> <p>Variables represent an unknown number</p> <p>Inverse operations “undo” each other and allow us to isolate the variable</p> <p>Equations can have no solution, one solution, or infinite solutions</p> <p>How do I isolate a variable?</p>
<p>Unit 4: Graphing Linear Equations 10/08/11 – 11/21/11</p>	<p>CC.8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.</p> <p>CC.8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.</p> <p>CC.8.F.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.</p>	<p>Linear equations correspond to lines on the coordinate plane.</p>	<p>Students will understand that...</p> <p>Slope is the ratio of vertical change to horizontal change on a line.</p> <p>The intercept of a line is where it passes over the axis.</p>
<p>Unit 5: Writing Linear Equations 11/22/11 – 12/22/11</p>	<p>CC.8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.</p> <p>CC.8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.</p> <p>CC.8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.</p>	<p>Lines on the coordinate plane can be represented by various forms of linear equations.</p>	<p>Students will understand that...</p> <p>Slope-intercept form, standard form, and point slope form are different ways to represent straight lines.</p>

<p>Unit 6: Systems of Equations 1/4/12 – 2/28/12</p>	<p>CC.8.EE.8 Analyze and solve pairs of simultaneous linear equations.</p> <p>CC.8.EE.8a Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.</p> <p>CC.8.EE.8b Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.</p> <p>CC.8.EE.8c Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.</p>	<p>The solution to a pair of linear equations is the point (ordered pair) where they intersect.</p>	<p>Students will understand...</p> <p>Systems of equations can be solved through substitution and isolation.</p> <p>Systems of equations can be solved by graphing.</p>
<p>Unit 7: Data and Statistics 2/29/12 – 4/30/12</p>	<p>CC.8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.</p> <p>CC.8.SP.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.</p> <p>CC.8.SP.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.</p> <p>CC.8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?</p>	<p>Central tendency (mean, median and mode) can be used to draw conclusions about sets of data.</p>	<p>Students will understand...</p> <p>Data can be described by central tendency.</p> <p>Data can be represented graphically in charts and tables.</p>
<p>Unit 8: Geometry 5/1/12 – 6/12/12</p>	<p>CC.8.G.1 Verify experimentally the properties of rotations, reflections, and translations:</p> <p>CC.8.G.1a Lines are taken to lines, and line segments to line segments of the same length.</p> <p>CC.8.G.1b Angles are taken to angles of the same measure.</p> <p>CC.8.G.1c Parallel lines are taken to parallel lines.</p> <p>CC.8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and</p>	<p>Investigate both two and three dimensional figures.</p>	<p>Understand congruence and similarity using physical models, transparencies, or geometry software.</p> <p>Understand and apply the Pythagorean theorem.</p> <p>Solve real-world and mathematical problems involving volume of</p>

	<p>translations; given two congruent figures, describe a sequence that exhibits the congruence between them.</p> <p>CC.8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.</p> <p>CC.8.G.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.</p> <p>CC.8.G.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.</p> <p>CC.8.G.6 Explain a proof of the Pythagorean Theorem and its converse.</p> <p>CC.8.G.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.</p> <p>CC.8.G.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.</p> <p>CC.8.G.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.</p>		<p>cylinders, cones and spheres.</p>
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Prestige Academy Charter Renewal
Math Department

Differentiated Instructional Strategies and Inquiry-Based Formative Assessments

At Prestige Academy, our math classes incorporate differentiated, instructional strategies and activities on a daily basis.

Differentiated Instructional Strategies	Formative Assessments
Marker Talk- Students work silently to solve a problem together.	Student “making their thinking public” by explaining in written form how they arrived at a particular answer.
Place value strips- Students create and manipulate numbers within the chart.	Student work portfolios
White boards used for formative review games/quizzes	Binder checks (rubric-graded by teacher)
Group activities (including review games, Jeopardy, and projects)	Rubric-based short answer and extended response prompts
KWL charts and other graphic organizers	Nightly homework assignments (involving computation, word problems, creating charts and graphs)
Think-Pair-Share	Daily exit slips
Scholar swap- Student is coached by the teacher and then leads the lesson.	
Technology use in the classroom (Smart Board, web-based activities using classroom laptops	
Choral response; call-and-response	
Using Graphing calculators	
Online math games and activities	
Hundreds multiplication charts	
Songs and Chants	

Differentiation Implementation:

At Prestige Academy Charter School, our staff attends regular training on differentiation and meeting the needs of all learners. These topics were introduced at our Professional Development over the summer and continue to be revisited during our Wednesday Professional Learning Communities. During lesson plan checks and Leadership walkthroughs our Administrative Team actively notes differentiated learning tools used to help students master all objectives. During our bi-weekly check-ins with staff our Administrative Team discusses student data and brainstorms strategies to help teachers meet the needs of all learners in the classroom.

Incorporating Essential Questions

Prestige’s Math instructors post each lesson’s essential question on their agenda boards below the Common Core standard. Each essential question is referenced at the beginning of a lesson, during direct instruction, and is summarized by scholars at the end of class (either in written or oral form).

Inquiry and Higher Order Thinking Projects in Math
Recipe for Fractions

After previewing a video clip from *Cooking with Neely's*, scholars received a base recipe for a certain amount of dinner guests. Their task was to calculate the new recipe quantities if the amount of dinner guests was doubled, tripled, and so forth. The project was extended by scholars writing their own recipes and then increasing the fraction quantities. They must include a sketch of their fraction pieces. Scholars further extend their practice by reviewing and evaluating each other's projects.

Standards addressed in this project:

Ratios and Proportional Relationships

6.RP

Understand ratio concepts and use ratio reasoning to solve problems.

- Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."* **CC.6.RP.1**
- Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is $3/4$ cup of flour for each cup of sugar." "We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger."¹* **CC.6.RP.2**
- Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. **CC.6.RP.3**

¹ Expectations for unit rates in this grade are limited to non-complex fractions.

Statistics Mania

Scholars will write formal surveys and polls and use them to collect data. Their task is to transform the results and represent the information visually in various graphs and charts. They will also have to calculate central tendency. Scholars will then write a formal essay explaining their findings and the mathematical significance. The graphs and information will be displayed on poster boards and shown during an in-class presentation.

Standards addressed in this project:

Investigate patterns of association in bivariate data.

- Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association. **CC.8.SP.1**
- Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line. **CC.8.SP.2**
- Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.* **CC.8.SP.3**
- Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?* **CC.8.SP.4**

City of Geometry

Using 3-Dimensional geometry, scholars will design their own cities and build models using any choice of mixed-media. All figures used will be clearly labeled. Students will choose 3 of their models and use a scale-model method, calculate the actual dimensions of a true-to-life version of their building.

Standards addressed in this project:

Geometry

7.G

Draw, construct, and describe geometrical figures and describe the relationships between them.

- Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. **CC.7.G.1**
- Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. **CC.7.G.2**
- Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. **CC.7.G.3**

Appendix A

Sample Resources

Building A Structure :
City of Geometry

CATEGORY	4	3	2	1
Construction - Materials	Appropriate materials were selected and creatively modified in ways that made them even better.	Appropriate materials were selected and there was an attempt at creative modification to make them even better.	Appropriate materials were selected.	Inappropriate materials were selected and contributed to a product that performed poorly.
Construction - Care Taken	Great care taken in construction process so that the structure is neat, attractive and follows plans accurately.	Construction was careful and accurate for the most part, but 1-2 details could have been refined for a more attractive product.	Construction accurately followed the plans, but 3-4 details could have been refined for a more attractive product.	Construction appears careless or haphazard. Many details need refinement for a strong or attractive product.
Journal/Log - Content	Journal provides a complete record of planning, construction, testing, modifications, reasons for modifications, and some reflection about the strategies used and the results.	Journal provides a complete record of planning, construction, testing, modifications, and reasons for modifications.	Journal provides quite a bit of detail about planning, construction, testing, modifications, and reasons for modifications.	Journal provides very little detail about several aspects of the planning, construction, and testing process.
Plan	Plan is neat with clear measurements and labeling for all components.	Plan is neat with clear measurements and labeling for most components.	Plan provides clear measurements and labeling for most components.	Plan does not show measurements clearly or is otherwise inadequately labeled.

Math - Problem Solving : Recipe for Fractions

CATEGORY	4	3	2	1
Mathematical Concepts	Explanation shows complete understanding of the mathematical concepts used to solve the problem(s).	Explanation shows substantial understanding of the mathematical concepts used to solve the problem(s).	Explanation shows some understanding of the mathematical concepts needed to solve the problem(s).	Explanation shows very limited understanding of the underlying concepts needed to solve the problem(s) OR is not written.
Mathematical Errors	90-100% of the steps and solutions have no mathematical errors.	Almost all (85-89%) of the steps and solutions have no mathematical errors.	Most (75-84%) of the steps and solutions have no mathematical errors.	More than 75% of the steps and solutions have mathematical errors.
Explanation	Explanation is detailed and clear.	Explanation is clear.	Explanation is a little difficult to understand, but includes critical components.	Explanation is difficult to understand and is missing several components OR was not included.
Checking	The work has been checked by two classmates and all appropriate corrections made.	The work has been checked by one classmate and all appropriate corrections made.	Work has been checked by one classmate but some corrections were not made.	Work was not checked by classmate OR no corrections were made based on feedback.
Neatness and Organization	The work is presented in a neat, clear, organized fashion that is easy to read.	The work is presented in a neat and organized fashion that is usually easy to read.	The work is presented in an organized fashion but may be hard to read at times.	The work appears sloppy and unorganized. It is hard to know what information goes together.
Diagrams and Sketches	Diagrams and/or sketches are clear and greatly add to the reader's understanding of the procedure(s).	Diagrams and/or sketches are clear and easy to understand.	Diagrams and/or sketches are somewhat difficult to understand.	Diagrams and/or sketches are difficult to understand or are not used.
Mathematical Terminology and Notation	Correct terminology and notation are always used, making it easy to understand what was done.	Correct terminology and notation are usually used, making it fairly easy to understand what was done.	Correct terminology and notation are used, but it is sometimes not easy to understand what was done.	There is little use, or a lot of inappropriate use, of terminology and notation

Math - Problem Solving : Statistics Mania

CATEGORY	4	3	2	1
Mathematical Reasoning	Uses complex and refined mathematical reasoning.	Uses effective mathematical reasoning	Some evidence of mathematical reasoning.	Little evidence of mathematical reasoning.
Explanation	Explanation is detailed and clear.	Explanation is clear.	Explanation is a little difficult to understand, but includes critical components.	Explanation is difficult to understand and is missing several components OR was not included.
Mathematical Errors	90-100% of the steps and solutions have no mathematical errors.	Almost all (85-89%) of the steps and solutions have no mathematical errors.	Most (75-84%) of the steps and solutions have no mathematical errors.	More than 75% of the steps and solutions have mathematical errors.
Diagrams and Sketches	Diagrams and/or sketches are clear and greatly add to the reader's understanding of the procedure(s).	Diagrams and/or sketches are clear and easy to understand.	Diagrams and/or sketches are somewhat difficult to understand.	Diagrams and/or sketches are difficult to understand or are not used.

Members of the science team use a wide variety of active learning strategies. Our strategies encourage student engagement and make the subject matter accessible to each scholar. The following are a few examples of how differentiation occurs in science classes at Prestige:

Note taking: All scholars are expected to take notes. In the highest performing homerooms, scholars may copy directly from a Powerpoint slide or other visual aid during a lecture. However, in the lower performing homerooms, teachers provide much more structure to the note taking process. Scholars may be provided with teacher-created guided notes where a few words or phrases omitted. This method of scaffolding note taking based on ability is type of differentiation that extends to all subjects at Prestige.

Learning Materials: All scholars are expected to “attack the text”, which is a highly organized means of text analysis. While the content discussed in each homeroom is the same, the types of texts that students “attack” can be very different. Science teachers ensure that any texts provided to scholars are on their reading level. This means that for higher level learners we may use excerpts from a 6,7 or 8th grade text. Lower level learners may receive excerpts from 4 or 5th grade text.

Activities: Due to the length of each period, it is necessary to include a wide variety of activities to keep students engaged. These activities are often altered to meet various learning styles that exist within each homeroom. For example, during a 6th grade lesson on reproduction each student received an index card with a component of the female reproductive system. They were instructed to silently form a group in which all the components of the female reproductive system were represented. Once in a group students had to stand manner that demonstrated the path an unfertilized egg would travel within a female’s body. This activity appealed to the kinesthetic learners in the group. In this same lesson students completed a graphic organized to summarize the kinesthetic activity. Then they labeled and color coded the components of the female reproductive system. These activities appealed to the visual learners. Lastly, the lecture appealed to the auditory learners.

Assessments: While many traditional assessment given to our scholars, the science team exercises the use of alternative assessments. During 6th grade summative assessment on digestion, students were encouraged to demonstrate their knowledge of the topic by creating a comic strip, writing a rap/poem or a descriptive narrative.

In our Ecosystems unit, students research one of five different groups from society: land developers, dairy farmers, recreational boaters, watermen or ordinary citizens. Students collaborate and connect information from a simulated pollution experiment focusing on the effects of acid rain, fertilizer and road salt. Students state the problems the different groups cause for the Chesapeake Bay, they brainstorm solutions to fix the problems and identify the trade-off of their solution. Students organize their information, exchange ideas, create visual representations, use props and deliver their findings in written and oral form.

Standard 8.1.D Changes in an organism’s environment may be either beneficial or harmful. Organisms may be affected by other organisms, by various physical factors (e.g., rainfall, temperature), by physical forces (e.g., storms, earthquakes), and by daily, seasonal, and annual cycles.

(Essential)

Standard 8.3.A Human activities may cause pollution of air, water and soil.

(Important)

Standard 8.3.B Different technologies are used to access resources to meet human wants and needs. In many cases the environment is affected and resources become limited. Some activities may include burning of fossil fuels, logging, building of highways, shopping centers, and dams, introduction of one species to control another species, spraying of insects, as well as some aspects of farming.

(Important)

Traits	4	3	2	1
Focus and Details	There is one clear group identified. All ideas support the focus of the group and are accurate and informative.	There is one clear group identified. All ideas are clear but do not completely support the focus of the group.	There is a group identified. The ideas are somewhat clear.	The group and supporting ideas are not clear.
Organization	Information is relevant and presented in a logical order. The conclusion is strong.	The information provides a topic and an overview of the topic. A conclusion is included.	The information provides a main topic. A conclusion is included.	There is no clear introduction, structure or conclusion.
Voice	The group’s purpose of writing is very clear and there is strong evidence of attention to audience. The group’s extensive knowledge and/or experience with the topic is evident.	The group’s purpose of writing is somewhat clear, and there is some evidence of attention to audience. The group’s knowledge and/or experience with the topic is evident.	The group’s purpose of writing is somewhat clear, and there is evidence of attention to audience. The group’s knowledge and/or experience with the topic is/are limited.	The group’s purpose of writing is unclear.
Word Choice	The group uses content specific words and phrases. The choice and placement of words seems	The group uses content specific words and phrases. The choice and placement of words is	The group uses words that communicate clearly, but the writing lacks variety and content specific	The group uses limited vocabulary.

	accurate, natural and not forced.	inaccurate at times and/or seems overdone.	vocabulary.	
Visual Representation	The group uses colorful and detailed visuals and props. All the resources utilized support the group's focus.	The group uses colorful and detailed visuals and props. Most of the resources utilized support the group's focus.	The group uses visuals and props but they lack color and detail. Only some of the resources support the group's focus.	There are no visuals utilized.

In our Motion and Design unit, students solve a design challenge in teams of six. Teams are encouraged to analyze and rethink the knowledge they have gained through the last 13 lessons. Teams cooperatively problem solve and share all responsibilities. Students are presented with a particular problem that demands a multidimensional approach. To solve the challenges, teams devise a vehicle and a system for moving it. Students must refer to previously recorded data as they plan their solutions. Students will brainstorm, research, build, test and evaluate and finally modify and reevaluate. Each team will build a vehicle and design a system for moving it, while meeting a set of requirements. Teams, in preparation for building, will complete a planning sheet including description of how they will meet the challenge, a technical drawing of the vehicle they will build, an inventory of the materials needed to build the vehicle and move the vehicle, identification of a power source, description of how they will test their vehicle for challenge criteria and a proposed budget for the vehicle.

Standard 1.1.C: Understand that: The purpose of accurate data collection is to provide evidence to compare with the prediction.

(Essential)

Standard 1.1.D: Understand that: The body of scientific knowledge grows as scientists ask questions, conduct investigations, develop explanations and compare results with what is already known.

(Essential)

Standard 3.1.B: The energy of a moving object depends on its speed. Faster moving objects have more energy than slower moving objects.

(Essential)

Standard 3.1.C: Energy can be stored in an elastic material when it is stretched.

Component	4	3	2	1
Proposals	Group clearly identifies how the challenge will be met and how created vehicle will be tested.	Group identifies, with moderate clarity, how the challenge will be met and how created vehicle will be tested.	Group identifies either how the challenge will be met or how the vehicle will be tested, not both.	Group does not identify how the challenge will be met or tested.
Materials	Group clearly identifies materials needed to build and	Group identifies, with moderate clarity, the materials	Group identifies either the materials needed to build the	Group identifies no materials.

	move the vehicle.	needed to build and move the vehicle.	vehicle or the materials needed to move the vehicle, not both.	
Energy	Group clearly identifies and explains the source of energy for their vehicle utilizing content specific vocabulary.	Group identifies, with moderate clarity, the source of energy for their vehicle.	Group identifies the source of energy, with no further explanation.	Source of energy not identified.
Budget	Group calculates precise and accurate budget.	Group calculates a precise budget with some mathematical errors.	Group calculates a budget with several errors.	Budget not identified.
Presentation	Group presents and demonstrates clearly utilizing content specific vocabulary. Group demonstrates comfort and knowledge of their construction and challenge.	Group presents and demonstrates adequately, utilizing some vocabulary. Group is moderately comfortable with knowledge of construction and challenge.	Group demonstrates a lack of understanding and comfort with their construction and knowledge of the task.	Groups understanding is completely unclear and no content vocabulary is used.

Differentiated Instructional Strategies and Inquiry-Based Formative Assessments

Members of the science team use a wide variety of active learning strategies. Our strategies encourage student engagement and make the subject matter accessible to each scholar. The following are a few examples of how differentiation occurs in science classes at Prestige:

Note taking: All scholars are expected to take notes. In the highest performing homerooms, scholars may copy directly from a Powerpoint slide or other visual aid during a lecture. However, in the lower performing homerooms, teachers provide much more structure to the note taking process. Scholars may be provided with teacher-created guided notes where a few words or phrases omitted. This method of scaffolding note taking based on ability is type of differentiation that extends to all subjects at Prestige.

Learning Materials: All scholars are expected to “attack the text”, which is a highly organized means of text analysis. While the content discussed in each homeroom is the same, the types of texts that students “attack” can be very different. Science teachers ensure that any texts provided to scholars are on their reading level. This means that for higher level learners we may use excerpts from a 6, 7 or 8th grade text. Lower level learners may receive edited or scaffolded texts.

Activities: Due to the length of each period, it is necessary to include a wide variety of activities to keep students engaged. These activities are often altered to meet various learning styles that exist within each homeroom. For example, during a 6th grade lesson on reproduction each student received an index card with a component of the female reproductive system. They were instructed to silently form a group in which all the components of the female reproductive system were represented. Once in a group students had to stand in a manner that demonstrated the path an unfertilized egg would travel within a female’s body. This activity appealed to the kinesthetic learners in the group. In this same lesson students completed a graphic organizer to summarize the kinesthetic activity. Then they labeled and color coded the components of the female reproductive system. These activities appealed to the visual learners. Lastly, the lecture appealed to the auditory learners.

Assessments: While many traditional assessments are given to our scholars, the science team exercises the use of alternative assessments. During 6th grade summative assessment on digestion, students were encouraged to demonstrate their knowledge of the topic by creating a comic strip, writing a rap/poem or a descriptive narrative.

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Additional activities that promote inquiry and differentiate for all learners and serve as formative assessments to drive instruction are:

Differentiated Instructional Strategies	Formative Assessments
Marker Talk- Students work silently to solve a problem together.	Student "making their thinking public" by explaining in written form how they arrived at a particular answer.
Differentiate nightly homework for Learning Support Students with scaffolded or edited texts.	Student work portfolios
White boards used for formative review games/quizzes	Binder checks (rubric-graded by teacher)
Group activities (including review games, Jeopardy, and projects)	Goal based labs that require students to make a hypothesis, test it, and write up a formal conclusion.
KWL charts and other graphic organizers	Rubric-based short answer and extended response prompts
Think-Pair-Share	Nightly homework assignments (involving steps of the scientific method along with content specific goals).
Teacher will review vocabulary needed to access the text with students in a whole class or small group preview.	Lab reports and lab notebooks
Technology use in the classroom (Smart Board, web-based activities using classroom laptops	Daily exit slips
Choral response; call-and-response	
Songs and Chants	

Differentiation Implementation:

At Prestige Academy Charter School, our staff attends regular training on differentiation and meeting the needs of all learners. These topics were introduced at our Professional Development over the summer and continue to be revisited during our Wednesday Professional Learning Communities. During lesson plan checks and Leadership walkthroughs our Administrative Team actively notes differentiated learning tools used to help students master all objectives. During our bi-weekly check-ins with staff our Administrative Team discusses student data and brainstorms strategies to help teachers meet the needs of all learners in the classroom.

Incorporating Essential Questions

Prestige Academy Charter School's instructors post each lesson's essential question on their agenda boards below the Delaware State Science Standard. Each essential question is referenced at the beginning of a lesson, during direct instruction, and is summarized by scholars at the end of class (either in written or oral form).

Inquiry and Higher Order Thinking Projects in Math

Project Description

In our Ecosystems unit, students research one of five different groups from society: land developers, dairy farmers, recreational boaters, watermen or ordinary citizens. Students collaborate and connect information from a simulated pollution experiment focusing on the effects of acid rain, fertilizer and road salt. Students state the problems the different groups cause for the Chesapeake Bay, they brainstorm solutions to fix the problems and identify the trade-off of their solution. Students organize their information, exchange ideas, create visual representations, use props and deliver their findings in written and oral form.

Standard 8.1.D Changes in an organism's environment may be either beneficial or harmful. Organisms may be affected by other organisms, by various physical factors (e.g., rainfall, temperature), by physical forces (e.g., storms, earthquakes), and by daily, seasonal, and annual cycles.

(Essential)

Standard 8.3.A Human activities may cause pollution of air, water and soil.

(Important)

Standard 8.3.B Different technologies are used to access resources to meet human wants and needs. In many cases the environment is affected and resources become limited. Some activities may include burning of fossil fuels, logging, building of highways, shopping centers, and dams, introduction of one species to control another species, spraying of insects, as well as some aspects of farming.

(Important)

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In our Motion and Design unit, students solve a design challenge in teams of six. Teams are encouraged to analyze and rethink the knowledge they have gained through the last 13 lessons. Teams cooperatively problem solve and share all responsibilities. Students are presented with a particular problem that demands a multidimensional approach. To solve the challenges, teams devise a vehicle and a system for moving it. Students must refer to previously recorded data as they plan their solutions. Students will brainstorm, research, build, test and evaluate and finally modify and reevaluate. Each team will build a vehicle and design a system for moving it, while meeting a set of requirements. Teams, in preparation for building, will complete a planning sheet including description of how they will meet the challenge, a technical drawing of the vehicle they will build, an inventory of the materials needed to build the vehicle and move the vehicle, identification of a power source, description of how they will test their vehicle for challenge criteria and a proposed budget for the vehicle.

Standard 1.1.C: Understand that: The purpose of accurate data collection is to provide evidence to compare with the prediction.

(Essential)

Standard 1.1.D: Understand that: The body of scientific knowledge grows as scientists ask questions, conduct investigations, develop explanations and compare results with what is already known.

(Essential)

Standard 3.1.B: The energy of a moving object depends on its speed. Faster moving objects have more energy than slower moving objects.

(Essential)

Standard 3.1.C: Energy can be stored in an elastic material when it is stretched.

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Inquiry Planet

In our Planetary System Unit, students research one of the nine planets. This inquiry based learning project is designed in order to allow students to learn at various academic abilities. Students are provided a list of websites to research the planet they are assigned. Students are provided Planet Data Collection Worksheet to gather information and conduct their research. Students will receive a grade based on the research they have conducted in completing the worksheet for their perspective planet. After the Planet Data Collection Worksheet has been graded and approved by the classroom teacher, students will create a book using their approved worksheet.

Standards

Standard 4.1.B The tilt of Earth's axis of rotation as it orbits the Sun points in the same direction with respect to the stars. The tilt and the orbital motion of Earth around the Sun cause variation in the amount of solar radiation striking a location on the Earth's surface which results in variation in the length of day/night and seasons.

Standard 4.1.C Moon phases occur because the relative positions of Earth, Moon, and Sun change, thereby enabling us to see different amounts of the Moon's surface.

Standard 4.1.E Tides are caused by the gravitational interactions of the Sun, Moon and Earth. The Moon has a greater impact on tides because of its proximity to Earth.

Standard 4.2.A The Sun is by far the most massive object in the Solar System, therefore gravitationally dominating all other members of the Solar System.

Standard 4.2.B The Solar System consists of comets, asteroids, planets, and their respective satellites, most of which orbit the Sun on a plane called the ecliptic. The planets in our Solar System revolve in the same direction around the Sun in elliptical orbits that are very close to being in the same plane. Most planets rotate in the same direction with respect to the Sun.

Standard 4.3.B Technology, including humans landing on the Moon, robot landers and other space probes, satellites, and radio telescopes, allow scientists to investigate conditions on Earth and on other objects in the Solar System.

Appendix A

Sample Resources

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Ecosystems Project Rubric

Traits	4	3	2	1
Focus and Details	There is one clear group identified. All ideas support the focus of the group and are accurate and informative.	There is one clear group identified. All ideas are clear but do not completely support the focus of the group.	There is a group identified. The ideas are somewhat clear.	The group and supporting ideas are not clear.
Organization	Information is relevant and presented in a logical order. The conclusion is strong.	The information provides a topic and an overview of the topic. A conclusion is included.	The information provides a main topic. A conclusion is included.	There is no clear introduction, structure or conclusion.
Voice	The group's purpose of writing is very clear and there is strong evidence of attention to audience. The group's extensive knowledge and/or experience with the topic is evident.	The group's purpose of writing is somewhat clear, and there is some evidence of attention to audience. The group's knowledge and/or experience with the topic is evident.	The group's purpose of writing is somewhat clear, and there is evidence of attention to audience. The group's knowledge and/or experience with the topic is/are limited.	The group's purpose of writing is unclear.
Word Choice	The group uses content specific words and phrases. The choice and placement of words seems accurate, natural and not forced.	The group uses content specific words and phrases. The choice and placement of words is inaccurate at times and/or seems overdone.	The group uses words that communicate clearly, but the writing lacks variety and content specific vocabulary.	The group uses limited vocabulary.
Visual Representation	The group uses colorful and detailed visuals and props. All the resources utilized support the group's focus.	The group uses colorful and detailed visuals and props. Most of the resources utilized support the group's focus.	The group uses visuals and props but they lack color and detail. Only some of the resources support the group's focus.	There are no visuals utilized.

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 Science Department

Motion and Design Project Rubric

Component	4	3	2	1
Proposals	Group clearly identifies how the challenge will be met and how created vehicle will be tested.	Group identifies, with moderate clarity, how the challenge will be met and how created vehicle will be tested.	Group identifies either how the challenge will be met or how the vehicle will be tested, not both.	Group does not identify how the challenge will be met or tested.
Materials	Group clearly identifies materials needed to build and move the vehicle.	Group identifies, with moderate clarity, the materials needed to build and move the vehicle.	Group identifies either the materials needed to build the vehicle or the materials needed to move the vehicle, not both.	Group identifies no materials.
Energy	Group clearly identifies and explains the source of energy for their vehicle utilizing content specific vocabulary.	Group identifies, with moderate clarity, the source of energy for their vehicle.	Group identifies the source of energy, with no further explanation.	Source of energy not identified.
Budget	Group calculates precise and accurate budget.	Group calculates a precise budget with some mathematical errors.	Group calculates a budget with several errors.	Budget not identified.
Presentation	Group presents and demonstrates clearly utilizing content specific vocabulary. Group demonstrates comfort and knowledge of their construction and challenge.	Group presents and demonstrates adequately, utilizing some vocabulary. Group is moderately comfortable with knowledge of construction and challenge.	Group demonstrates a lack of understanding and comfort with their construction and knowledge of the task.	Group's understanding is completely unclear and no content vocabulary is used.

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Planet Project Rubric

Directions: Be sure to attach this Project Rubric to your final project submission.

Total Points Earned: _____ / 25 points

	EXCELLENT	GOOD	KEEP TRYING
INFORMATION ____ / 15 pts	Includes all information from sheets; Presented in an entertaining manner; Easy to see; Easy to understand; No words misspelled; Correct grammar	Most information present; Presented in a clear manner; Most easy to read; Most easy to understand; 1-2 misspelled words; 1-2 grammar mistakes	Missing information; Confusing presentation; Difficult to read; Terms too complicated; More than 2 misspelled words; More than 2 grammar mistakes
GRAPHICS & PICTURES ____ / 4 pts	All color pictures; 4 or more graphics or pictures; Pictures explained; Pictures related to text	Most color pictures; 2-3 graphics or pictures; Pictures explained; Pictures related to text	Pictures not colored; 0-1 graphic; Not all pictures explained; Not all pictures related to text
LAYOUT ____ / 3 pts	Attractive layout; Objects proportionally correct; Good mix of graphics and text	Layout plain, but effective; Objects proportionally correct; Graphics and text grouped effectively	Layout not attractive or affective; Object not proportionally correct; Graphics and text not grouped effectively
NEATNESS ____ / 3 pts	No erase marks; No trace marks evident; All coloring done neatly; All print (writing) done neatly	1 eraser mark showing; 1 trace mark evident; All coloring done neatly; All print (writing) done neatly	More than 1 eraser mark; More than 1 trace mark; Some coloring not neat; Some print (writing) not done neatly

Parent Signature

Note to Parent: This packet is due the week of Monday, January 2, 2012. 10% points will be deducted for each day the assignment is turned in late.

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Science Department

Name: _____

Date: _____

Subject: Science

Homeroom: PU7 BU7 D7

TU8 UGa8 UD8

Planet Data Collection Worksheet

Directions: You will be provided one class period to conduct your research. Use the internet to research and collect as much information as possible about your planet. If more room is needed, attach another piece of paper. This packet must be turned in when you return from winter break. Be sure to list units and use scientific notation with large numbers (ex: $8.2713 \times 10^{14} \text{ km}^3$).

Draw the planet's symbol:

Describe how the planet got its name:

Who discovered your planet?
When? How? Where?

Distances:

Order from the sun:

Distance from the sun in AU:

in km:

Planet Measurements:

Mass:

Volume:

Equatorial Circumference:

Orbit and Rotation:

Number of days to orbit around the sun:

Perihelion (how close does it get to the sun?):

Planet Appearance - Write 3-4 sentences to describe what your planet looks like:

Rings - Provide information about the rings, number, composition, color, etc):

Satellites (Moons) – List all satellites. Provide a brief description and data when a moon has significant information. Attach another piece of paper if necessary.

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Composition – describe the core and surface composition:

Core Composition:

Surface Composition:

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Atmosphere – List the major and minor gases:

Major Gases:

Minor Gases:

Weather – Describe what kind of weather occurs on your planet:

Surface Conditions:

Wind speeds:

Temperature Ranges:

Surface Pressure:

Water – What forms of water are found on your planet or on any of the moons?

Exploration – List all human explorations (from satellite probes) to your planet (attach additional paper if necessary). Include satellite name and date:

Habitability – Describe what would happen to a human if they traveled to your planet:

Future Human Travel – What are some problems and solutions to sending humans to your planet:

Terraforming – What modifications would be needed for humans to live on this planet?

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Use the following websites to help you with your research.

<http://nineplanets.org/>

This site offers introductions to the nine planets, their satellites and other Solar System objects, including asteroids, comets and Kuiper Belt Objects.

<http://pds.jpl.nasa.gov/planets/welcome.htm>

This site will be useful for our planet research project. It includes the important data for each planet.

<http://solarsystem.nasa.gov/index.cfm>

This site will also be useful for our planet research project. It includes the important data for each planet and more.

<http://www.enchantedlearning.com/subjects/astronomy/>

Great site for simple planetary data that is very kid friendly. This site also has some good images to use with your presentation

http://solarsystem.nasa.gov/multimedia/display.cfm?IM_ID=167

Symbols of all the planets. MOST IMPORTANTLY, there is an explanation of the symbols at the bottom of the page.

<http://www.nasa.gov/offices/education/programs/national/ltp/home/index.html>

Planets are listed on the left, click your planet for quick data.

<http://www.nasa.gov/topics/nasalife/features/worldbook.html>

Click on your planet from the list for some great information.

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Science Department

http://www.windows2universe.org/our_solar_system/solar_system.html

Contains information on all planets.

<http://science.nationalgeographic.com/science/space/solar-system>

Not a lot of information but a very cool site! Some features only work on a PC

http://www.kidsastronomy.com/solar_system.htm

Kid friendly planet data.

<http://www.exploratorium.edu/ronh/weight/>

Type in 100lbs. and select your planet to get the answer!

<http://photojournal.jpl.nasa.gov/index.html>

Tons of pictures for your book

Curriculum Scope & Sequence

School: Prestige Academy

Grade or Course Physical Education: 5 – 8 **Teacher** W. Khan

Unit Order By unit title and/or time frame	Learning Targets Content Standards, Grade Level Expectations, Proficiency Level Expectations, or Grade Cluster Benchmarks	Theme/Big Idea/Concept	Enduring Understandings and/or Essential Questions
<p>Unit 1: Walk for Lifetime Fitness 9/1/11 – 10/07/11 (Approximately 5 weekly lessons)</p> <p>Includes walking and cardio-vascular endurance training</p>	<ul style="list-style-type: none"> ▪ Participates regularly in physical activity ▪ Achieves and maintains a health-enhancing level of physical fitness ▪ Creates opportunities for health, enjoyment, challenge, self-expression, and/or social interaction through physical activity 	<p>Fit for Life</p>	<ul style="list-style-type: none"> • Why do I participate in physical activity? • How does fitness affect my body? • Why is movement important?
<p>Unit 2: Stretching Myself with CATCH 10/10/11 – 11/10/10 (Approximately 5 weekly lessons)</p> <p>Includes stretching and flexibility</p>	<ul style="list-style-type: none"> ▪ Demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities ▪ Achieves and maintains a health-enhancing level of physical fitness ▪ Exhibits responsible personal and social behavior that respects self and others in physical activity settings ▪ Creates opportunities for health, enjoyment, challenge, self-expression, and/or social interaction through physical activity 	<p>Fit for Life</p>	<ul style="list-style-type: none"> • We need to be physically active. • What is the importance of being physically active?
<p>Unit 3: Cooperation 11/14/11 – 12/22/11 (Approximately 7 weekly lessons)</p> <p>Includes safety, rules, and culture building</p>	<ul style="list-style-type: none"> ▪ Exhibits responsible personal and social behavior that respects self and others in physical activity settings ▪ Creates opportunities for health, enjoyment, challenge, self-expression, and/or social interaction through physical activity 	<p>Fit for Life</p>	<ul style="list-style-type: none"> • There are behavioral expectations in physically active settings. • Physical activity provides a variety of opportunity for enjoyment, social interaction, challenge, and/or self-expression. • What are the behavioral expectations in a physically active setting? • Why participate in physical activity?

<p>Unit 4: Muscular Strength, Endurance and Flexibility 1/12/12 – 3/09/12 (Approximately 8 weekly lessons)</p> <p>Includes muscle strength exercises, focusing on the upper body, and flexibility</p>	<ul style="list-style-type: none"> ▪ Demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities ▪ Demonstrates understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities ▪ Achieves and maintains a health-enhancing level of physical fitness ▪ Creates opportunities for health, enjoyment, challenge, self-expression, and/or social interaction through physical activity 	<p>Fit for Life</p>	<ul style="list-style-type: none"> • It is important to have strong muscles that can work forcefully and over a period of time. • Muscles should be flexible enough to have a full range of motion at the joint. • What relationship does the strength and flexibility of my upper body, core, and back have to my posture and daily living?
<p>Unit 5: Strength in Team Work 3/12/12 – 6/12/12 (Approximately 9 weekly lessons)</p> <p>Includes rope climbing, obstacle course, and team sports</p>	<ul style="list-style-type: none"> ▪ Demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities ▪ Demonstrates understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities ▪ Participates regularly in physical activity ▪ Exhibits responsible personal and social behavior that respects self and others in physical activity settings ▪ Creates opportunities for health, enjoyment, challenge, self-expression, and/or social interaction through physical activity 	<p>Cooperation, Safety, Specialized Skills</p>	<ul style="list-style-type: none"> • Teamwork in various sports and physical activities makes for a healthy, enjoyable and beneficial experience. • Teamwork and cooperation leads to a safer competitive environment. • Positive sportsmanship is more valuable than the outcome of a game. • How does team work help us solve problems? • How does positive sportsmanship affect our overall activity level and benefits?

Differentiated Instructional Strategies and Inquiry-Based Formative Assessments

Prestige's English Language Arts (ELA) instructors use a variety of differentiated instructional strategies and formative assessments, including the following:

Differentiated Instructional Strategies	Formative Assessments
Timed partner reading	Student self reflection (rubric-based, checklist, and/or written)
"Popcorn" reading (read aloud involving the teacher and a variety of scholars who are called on in a moment's notice)	Student work portfolios
White boards used for formative review games/quizzes	Binder checks (rubric-graded by teacher)
Group activities (including review games, Jeopardy, and projects)	Individual reading comprehension worksheets (multiple choice and/or short answer responses)
KWL charts and other graphic organizers	Rubric-based short answer and extended response writing prompts
Think-Pair-Share	Nightly homework assignments (involving vocabulary study, reading comprehension, and literary terms)
Peer editing	Accelerated Reader online quizzes
Writers workshop	On-going reader's response journals
Reader's theater and skits	Two-column notes
Class debate/discussion	Cornell notes
Technology use in the classroom (Smart Board, web-based activities using classroom laptops)	Daily exit slips
Choral response; call-and-response	Daily vocabulary review activities
Study of primary and secondary resources (video, audio, written)	Daily "Do Now" (short introduction to topic)
Poster creation	Whip-around
Four Corner Debate	
Jigsaw (note-taking, summarizing, and presentation strategy)	

Differentiation Implementation:

At Prestige Academy Charter School, our staff attends regular training on differentiation and meeting the needs of all learners. These topics were introduced at our Professional Development over the summer and continue to be revisited during our Wednesday Professional Learning Communities. During lesson plan checks and Leadership walkthroughs our Administrative Team actively notes differentiated learning tools used to help students master all objectives. During our bi-weekly check-ins with staff our Administrative Team discusses student data and brainstorms strategies to help teachers meet the needs of all learners in the classroom.

Incorporating Essential Questions

Prestige's English Language Arts (ELA) instructors post each lesson's essential question on their agenda boards below the Common Core standard. Each essential question is referenced at

the beginning of a lesson, during direct instruction, and is summarized by scholars at the end of class (either in written or oral form).

Inquiry and Higher Order Thinking Projects in ELA

6th Grade: Hatchet Project

Description: Hatchet, by Gary Paulsen, is a book about the survival challenges a boy faces after the bush plane he's traveling in crashes. Brian, the main character, has to learn how to survive, how to find food, etc., but also has to deal with his emotions and attitude toward his situation and learns how his attitude affects the chances of his survival. After completing a novel study on Hatchet, scholars will apply their knowledge and analysis of conflict (man vs. nature, man vs. self) by creating a survival manual for Brian supported by textual details.

The project rubric will be introduced at the beginning of the unit (see Appendix A). We will introduce a project pacing calendar to keep scholars on track to complete these projects by the final day of the unit.

Project Prompt: Create a survival manual that would have been useful for Brian. Refer to the novel as well as additional resources to create a list of essential supplies, survival tips and first aid suggestions.

Common Core Standards Addressed:

- CC6RL1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
- CC6RL2 Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.
- CC6RL3 Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.
- CC6RI1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
- CC6RI7 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.
- CC6W2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
 - a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. CC6W2a
 - b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples. CC6W2b
 - c. Use appropriate transitions to clarify the relationships among ideas and concepts. CC6W2c
 - d. Use precise language and domain-specific vocabulary to inform about or explain the topic. CC6W2d
 - e. Establish and maintain a formal style. CC6W2e

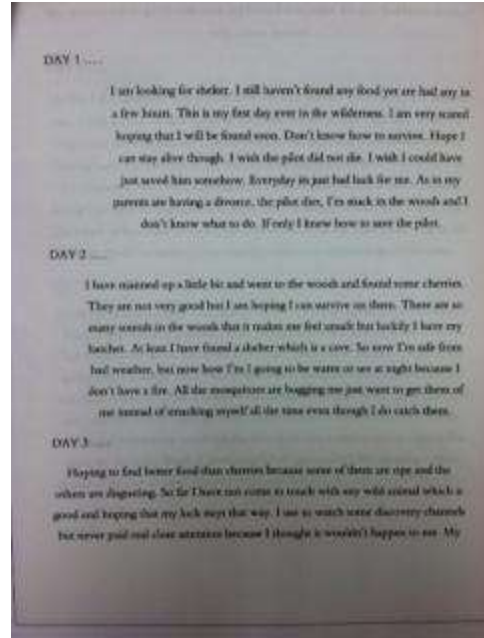
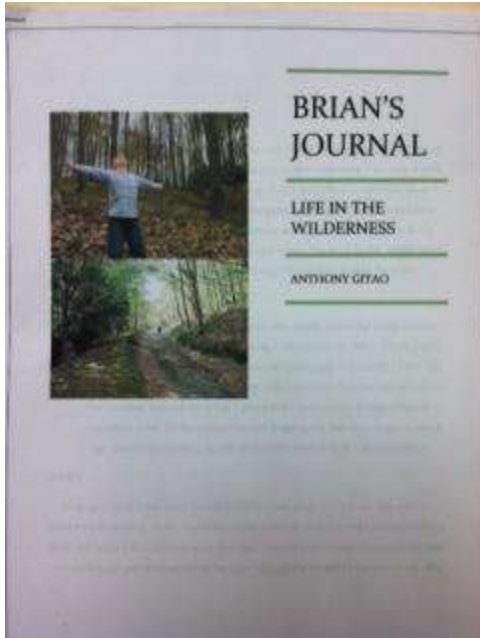
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- o f. Provide a concluding statement or section that follows from the information or explanation presented. CC6W2f
- CC6W4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)
- CC6W8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.
- CC6L1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- CC6L2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Student Sample Photographs:



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7th Grade: Heroes Project

Description: Scholars are given eight weeks to research, investigate, plan (drafts), write a 900 word essay, create a visual display, and perform a five minute oral presentation (from the point of view of the "hero"). A rubric for Oral Presentation, Visual Display, and the Research Essay is provided to each scholar at the onset of this project (see Appendix A).

The purpose of this project is to promote historical awareness, investigative reporting, an understanding of primary and secondary sources, to teach research habits and validate information from the internet, as well as to teach writing and editing conventions.

Scholars are provided a list of over 100 possible subjects for this project (i.e. Elijah McCoy, Leonardo Da Vinci, Edgar Allan Poe, Medgar Evers, and Amelia Earhart; no athletes can be studied for this project).

Common Core Standards Addressed:

- RST.6-8.10. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.
- RI.7.5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas.
- W.7.7. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.
- W.7.8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
- W.7.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
- SL.7.4. Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
- SL.7.5. Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

Student Sample Photographs:



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8th Grade: Poetry Project

Description: Scholars will apply their knowledge of poetic elements to make inferences and draw conclusions on theme and main idea. Scholars will focus on the relationships between author's craft, message and reader's interpretation by analyzing poetry with a particular emphasis on a poet's use of form (or specific craft elements) to communicate his or her ideas. In this unit, scholars will also zoom in on author's choice of language (particularly figurative and/or connotative language) as a mechanism for communicating ideas.

The project rubric will be introduced at the beginning of the unit (see Appendix A). We will introduce a project pacing calendar to keep scholars on track to complete these projects by the final day of the unit.

Project Prompt: Create an **anthology** of 15 poems that are connected through a similar theme. You must write an essay in which you articulate the overall theme of the anthology, provide rationale for the selection of each of the poems and give numerous examples from the poems to demonstrate the rationale. (5 of the poems may be poems that we read in class. You must find the remaining poems in your independent reading or online research.)

Create a **dictionary** of 15 figurative language and poetic device terms from the unit. For each word or device, provide a definition in your own words, and include an illustrative example from a poem. (You should use an example from your own independent reading, not examples we completed together in class.)

Common Core Standards Addressed:

- RL.8.1 Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
- RL.8.2 Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.
- RL.8.4 Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.
- RL.8.5 Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style

Appendix A

Sample Resources

Hatchet Survival Guide Rubric				
Student Name: _____		Total Points Earned: _____		
	Level One (N/A)	Level Two (N/A)	Level Three (N/A)	Level Four (N/A)
Format	-format of a survival manual as presented in class was not followed.	-attempt at the format of a survival guide as suggested in class.	-for most part the format of survival guide as illustrated in class was followed.	-the format of a survival manual was followed completely
Cover of the booklet	Not inviting No colour and/or pictures All pictures need to be student created Student's name and title of the booklet are missing on the front cover	Not very inviting More colour and pictures needed All pictures need to be student created Student's name and title of the booklet are missing on the front cover	Inviting- reader is curious Has good colour and some creative pictures that are student created Student's name and title of the booklet on the front cover	Inviting- the reader want to open the booklet Colourful and creative pictures that are student created Student's name and title of the booklet on the front cover
Understanding	-no use of additional sources -no references to events that took place in the novel -no clear understanding of the purposes of a survival manual	-no use of additional sources -some reference to the events in the novel -some understanding of the purpose of a survival manual	-some use of additional sources -reference to the main events of the novel -a clear understanding of the purpose of a survival manual	-excellent use of additional resources -makes insightful connections between the manual and the novel -clearly understands the purpose of a survival manual
Creativity	-no use of creativity present -no colour and/or pictures	-little creativity present -little use of colour and/or pictures	-some creativity is present -use of some colour and few pictures	-very creative -good use of colour and pictures to enhance the quality of the manual
Organization	-information is not organized -headings are not used	-text is not very organized -headings are not properly used	-information is organized under proper headings -manual is fairly easy to navigate through	-information is well organized -proper headings are used making it easy for the reader to

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				navigate
Conventions	-illegible -does not follow writing conventions of the English language	-some control of conventions -some errors that hinder comprehension	-demonstrates control of conventions -occasional errors with language	-demonstrates complete control of conventions -no errors with language

Research Report: Hero Informational Research Paper

Student Name: _____ Total Points Earned: _____

	Quality of Information	Paragraph Structure	Sources	Organization	Amount of Information	First Draft
4	Information clearly relates to all topics: [place of birth/ origin, youth/family background, education/training, and legacy] with supporting details and examples.	All paragraphs include introductory sentence, explanations or details, and concluding sentence.	5 or more (primary and secondary) sources used to inform and/or support details on topic/subject. No more than 3 of those sources are internet/website based.	Information is very organized with subheadings. All related information is found in the appropriate space.	All topics are addressed with 900 words, including footnotes.	Detailed draft is presented neatly and includes an outline of research paper.
3	Information clearly relates to the main topic. 1-2 supporting details and examples.	Most paragraphs include introductory sentence, explanations or details, and concluding sentence.	5 or more sources used to inform and or support details on topic/subject. More than 3 of those sources are internet/website based.	Information is very organized with well constructed paragraphs.	Most topics are addressed with 900 words	Detailed draft is presented neatly, does not include an outline of research paper.
2	Information clearly relates to topic. No details or examples.	Paragraphs include related information but were not constructed well.	Less than 5 sources used to inform and/or support details on topic/subject. No more than 3 of those sources are internet/website based.	Information does not match the subheadings.	Most topics are addressed with under 900 words	Detailed draft is presented unprofessionally And does not include an outline.
1	Information has little or nothing to do with the main topic.	Paragraph structure was not clear and sentences were not related within paragraphs.	All sources are internet based.	The information appears to be disorganized.	1-2 topics addressed with under 900 words.	Incomplete draft presented And or incomplete outline presented.

Oral Presentation: Hero Project

Student Name: _____ Total Points Earned: _____

	Costume & Props	Knowledge Gained	Timing	Historical Accuracy
4	Student uses several props, including costume that accurately fit the period, the HERO, and show considerable work/creativity and make the presentation better.	Can clearly explain several ways in which this person "saw" things and their accomplishments. Can answer all or mostly all questions asked by audience.	Student speaks in character for 3 minutes. Accurately answering questions about the HERO (as the Hero or a person from that time period) for another two minutes. Totaling 5 minute presentation.	All historical information appeared to be accurate and in chronological order.
3	Student uses costume with no props, or 1 prop that accurately fit the period, and make the presentation better.	Can clearly explain several ways in which this person "saw" things and their accomplishments.	Student speaks in character accurately answering questions about the HERO (as the Hero or a person from that time period) for less than 5 minutes.	Almost all historical information appeared to be accurate and in chronological order.
2	Student uses 1-2 props which make the presentation better.	Can clearly explain one way in which this person saw things.	Student speaks out of character or as a person from the time period.	Most of the historical information was accurate and in chronological order.
1	The student uses no costume, no props OR the props chosen detract from the presentation.	Cannot explain one way in which this person saw things or their accomplishments.	Student speaks for less than five minutes out of character.	Very little of the historical information was accurate and/or in chronological order.

Visual Display: Hero Project Display Board

Student Name: _____ Total Points Earned: _____

	Labels	Required Elements	Graphic- Originality	Attractiveness
4	All items of importance on the poster are clearly labeled with labels that can be read from at least 3 ft. away.	The poster includes all required elements as well as additional information.	Several of the graphics used on the poster reflect an exceptional degree of student creativity in their creation and/or display.	The poster is exceptionally attractive in terms of design, layout, and neatness.
3	Almost all items of importance on the poster are clearly labeled with labels that can be read from at least 3 ft. away.	All required elements are included on the poster; timeline, education/training, quotes from the subject, brief summary.	One or two of the graphics used on the poster reflect student creativity in their creation and/or display.	The poster is attractive in terms of design, layout and neatness.
2	Several items of importance on the poster are clearly labeled with labels that can be read from at least 3 ft. away.	All but 1 of the required elements are included on the poster.	The graphics are made by the student, but are based on the designs or ideas of others.	The poster is acceptably attractive though it may be a bit messy.
1	Labels are too small to view OR no important items were labeled.	Two or more of the required elements are missing from display.	No graphics made by the student are included.	The poster is distractingly messy or very poorly designed. It is not attractive.

Rubric for Poetry Dictionary

Criteria	Level 1	Level 2	Level 3	Level 4
Knowledge/ Understanding • role and relationships	<input type="checkbox"/> shows limited understanding of the persona’s role and relationships	<input type="checkbox"/> shows some understanding of the persona’s role and relationships	<input type="checkbox"/> shows considerable understanding of the persona’s role and relationships	<input type="checkbox"/> shows thorough and insightful understanding of the persona’s role and relationship
• key elements	<input type="checkbox"/> analyzes few key elements of the poem	<input type="checkbox"/> analyzes some key elements of the poem	<input type="checkbox"/> analyzes most key elements of the poem	<input type="checkbox"/> analyzes all or almost all key elements of the poem
Thinking/Inquiry • inferences	<input type="checkbox"/> makes few logical inferences about the meaning behind the poem	<input type="checkbox"/> makes some logical inferences about the meaning behind the poem	<input type="checkbox"/> makes logical inferences about the meaning behind the poem	<input type="checkbox"/> makes insightful inferences about the meaning behind the poem
• detail (including quotations)	<input type="checkbox"/> provides limited specific and accurate detail to support ideas and interpretations	<input type="checkbox"/> provides some specific and accurate detail to support ideas and interpretations	<input type="checkbox"/> provides considerable specific and accurate detail to support ideas and interpretations	<input type="checkbox"/> provides effective, specific, and accurate detail to support ideas and interpretations
Communication • clarity	<input type="checkbox"/> communicates ideas with limited clarity and effectiveness	<input type="checkbox"/> communicates ideas with some clarity and effectiveness	<input type="checkbox"/> communicates ideas with considerable clarity and effectiveness	<input type="checkbox"/> communicates ideas with a high degree of clarity and effectiveness
• language conventions	<input type="checkbox"/> applies grammar, usage, spelling,	<input type="checkbox"/> applies grammar, usage, spelling,	<input type="checkbox"/> applies grammar,	<input type="checkbox"/> applies grammar,

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	and punctuation with limited accuracy and effectiveness	and punctuation with some accuracy and effectiveness	usage, spelling, and punctuation with considerable accuracy and effectiveness	usage, spelling, and punctuation with a high degree of accuracy and effectiveness
Application •application of knowledge and skills	<input type="checkbox"/> applies knowledge and skills in familiar contexts with limited effectiveness	<input type="checkbox"/> applies knowledge and skills in familiar contexts with some effectiveness	<input type="checkbox"/> applies knowledge and skills in familiar contexts with considerable effectiveness	<input type="checkbox"/> applies knowledge and skills in familiar contexts with a high degree of effectiveness

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	Poor 1 pts	Fair 2 pts	Good 3 pts	Excellent 4 pts	Weight (N/A)
Poems	<p>Poor</p> <p>The poems were neither by the same poet nor addressed a similar theme. and Fewer than five poems</p>	<p>Fair</p> <p>The poems were neither by the same poet nor addressed a similar theme. or Fewer than five poems</p>	<p>Good</p> <p>The poems were by the same poet, but there was not a wide enough variety to show the poet's style and content choices, or the selection of poems did not express a variety of attitudes about the common theme</p>	<p>Excellent</p> <p>The poems demonstrated the poet's style and content choices or provided a range of attitudes about the common theme.</p>	<p>Weight</p> <p>X 8 =</p>
Introduction	<p>Poor</p> <p>The introduction does not explain the student's choices.</p>	<p>Fair</p> <p>The introduction explains the student's choices, but does not provide evidence.</p>	<p>Good</p> <p>The introduction explains the student's choices and evidence is provided</p>	<p>Excellent</p> <p>The introduction explains the student's choices, provides evidence and shows how the examples supports the student's claims</p>	<p>Weight</p> <p>X 12 =</p>
Grammar and Punctuation,	<p>Poor</p> <p>5 or more errors in grammar, capitalization,</p>	<p>Fair</p> <p>3 or 4 errors in grammar,</p>	<p>Good</p> <p>1 or 2 errors in grammar,</p>	<p>Excellent</p> <p>0 errors in grammar, capitalization, and</p>	<p>Weight</p> <p>X 2=</p>

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Spelling	and punctuation Poor 5 or more errors in spelling.	capitalization, and punctuation Fair 3 - 4 errors in spelling.	capitalization, and punctuation Good 1 or 2 errors in spelling.	punctuation Excellent 0 errors in spelling.	Weight X 2 =
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Differentiated Instructional Strategies and Inquiry-Based Formative Assessments

Prestige’s Social Studies (SS) instructors use a variety of differentiated instructional strategies and formative assessments, including the following:

Differentiated Instructional Strategies	Formative Assessments
Timed partner reading	Student self reflection (rubric-based, checklist, and/or written)
“Popcorn” reading (read aloud involving the teacher and a variety of scholars who are called on in a moment’s notice)	Student work portfolios
White boards used for formative review games/quizzes	Binder checks (rubric-graded by teacher)
Group activities (including review games, Jeopardy, and projects)	Individual reading comprehension worksheets (multiple choice and/or short answer responses)
KWL charts and other graphic organizers	Rubric-based short answer and extended response writing prompts
Think-Pair-Share	Nightly homework assignments (involving vocabulary study, reading comprehension, and literary terms)
Jigsaw (note-taking, summarizing, and presentation strategy)	Whip-around
Four Corner Debate	Two-column notes
Reader’s theater and skits	Cornell notes
Class debate/discussion	Daily exit slips
Technology use in the classroom (Smart Board, web-based activities using classroom laptops)	Daily vocabulary review activities
Choral response; call-and-response	Daily “Do Now” (short introduction to topic)
Study of primary and secondary resources (video, audio, written)	Presentation, analysis, and creation of timelines
Poster creation	Exploration, analysis, and creation of maps and atlases
	Study and analysis of ancient civilizations, colonies, and states

Differentiation Implementation:

At Prestige Academy Charter School, our staff attends regular training on differentiation and meeting the needs of all learners. These topics were introduced at our Professional Development over the summer and continue to be revisited during our Wednesday Professional Learning Communities. During lesson plan checks and Leadership walkthroughs our Administrative Team actively notes differentiated learning tools used to help students master all objectives. During our bi-weekly check-ins with staff our Administrative Team discusses student data and brainstorms strategies to help teachers meet the needs of all learners in the classroom.

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Incorporating Essential Questions

Prestige's SS instructors post each lesson's essential question on their agenda boards below the Common Core and Delaware State standards. Each essential question is referenced at the beginning of a lesson, during direct instruction, and is summarized by scholars at the end of class (either in written or oral form).

Inquiry and Higher Order Thinking Projects in SS

6th – 8th Grade: National Geography Bee Participation

Description: Prestige Academy has a registered team for the National Geography Bee. <http://65.210.57.159/beerresults.aspx>

The National Geographic Bee school registration database allows you to confirm your school's registration for the 2012 competition. Just fill in one or more of the fields below. By filling in only the "State" field you will receive a list of registered schools within that state in zip code order.

Zip Code	School Name	Address	Date Entered	Date Packet Sent
19802	Prestige Academy	1121 Thatcher Street	10/27/2011	11/03/2011

Each year thousands of schools in the United States participate in the National Geographic Bee using materials prepared by the National Geographic Society. The contest is designed to encourage teachers to include geography in their classrooms, spark student interest in the subject, and increase public awareness about geography. Schools with students in grades four through eight are eligible for this entertaining and challenging test of geographic knowledge.

The dates of participation are as follows:

- School Bees: November 14, 2011-January 13, 2012
- Qualifying Test received by: January 31, 2012
- State Bees: March 30, 2012
- National Bee: May 22-24, 2012

Three faculty advisors meet with student participants weekly to drill using the National Geography Bee Study Guide. Faculty advisors also use the website to study sample questions and partake in study games (see Appendix A).

Delaware State Standards:

- Geography Standard One: Students will develop a personal geographic framework, or "mental map," and understand the uses of maps and other geo-graphics [MAPS]. 6-8a: Students will demonstrate mental maps of the world and its sub-regions which include the relative location and characteristics of major physical features, political divisions, and human settlements. Essential for Grade 6
- Geography Standard Two: Students will develop a knowledge of the ways humans modify and respond to the natural environment [ENVIRONMENT]. 6-8a: Students will apply a knowledge of the major processes shaping natural environments to understand how different peoples have changed and been affected by, physical environments in the world's sub-regions. Essential for Grade 6

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- Geography Standard Three: Students will develop an understanding of the diversity of human culture and the unique nature of places [PLACES]. 6-8a: Students will identify and explain the major cultural patterns of human activity in the world's sub-regions. Essential for Grades 6 and 7
- Geography Standard Four: Students will develop an understanding of the character and use of regions and the connections between and among them [REGIONS]. 6-8a: Students will understand the processes affecting the location of economic activities in different world regions. Essential for Grade 6; 6-8b: Students will explain how conflict and cooperation among people contributes to the division of the Earth's surface into distinctive cultural regions and political territories. Essential for Grade 7

Common Core Standards:

- CC6-8RH/SS10 By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.
- CC6-8RH/SS2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
- CC6-8RH/SS4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

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6th Grade: Mental Map Project

Description: At Prestige Academy, scholars will complete a final “All Around The World: Research Project” before graduation. The project will allow students to think critically and sharpen their writing, thinking and speaking abilities. Scholars will be presented with several examples of exemplar student work. Scholars will also have several classes dedicated to reviewing research habits and proper citation methods. Scholars will draw conclusions, evaluate and analyze trends of particular regions all while building upon their mental mapping ability. Scholars will have one month to complete the activity, with various deadlines to track scholar progress (see Appendix A).

The project rubric will be introduced at the beginning of the unit (see Appendix A). We will introduce a project pacing calendar to keep scholars on track to complete these projects by the final day of the unit.

Delaware State Standards:

- Geography Standard One: Students will develop a personal geographic framework, or "mental map," and understand the uses of maps and other geo-graphics [MAPS]. 6-8a: Students will demonstrate mental maps of the world and its sub-regions which include the relative location and characteristics of major physical features, political divisions, and human settlements. Essential for Grade 6

Common Core Standards Addressed:

- RST.6-8.10. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.
- W. 6-8.7. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.
- W. 6-8.8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
- W. 6-8.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
- SL. 6-8.4. Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
- SL. 6-8.5. Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

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7th Grade: American State Project

Description: Scholars are required to research, create, and present a project on a state of the United States. This project is designed to give students an opportunity to perform inquiry-based searches about a designated state in order to spark interest in Social Studies and the world around them. The inquiry-based searches allow them to develop research skills that will be useful throughout their life. Scholars are required to brainstorm, research an assigned state, write a one-page summary describing their assigned state (based upon research), design a poster/rap/powerpoint about their assigned state, provide a 5-7 minute oral presentation to their peers, and create guided notes and/or an assessment for their peers.

The project rubric will be introduced at the beginning of the unit (see Appendix A). We will introduce a project pacing calendar to keep scholars on track to complete these projects by the final day of the unit.

Delaware State Standards Addressed:

- Geography Standard One: Students will develop a personal geographic framework, or "mental map," and understand the uses of maps and other geo-graphics [MAPS]. 6-8a: Students will demonstrate mental maps of the world and its sub-regions which include the relative location and characteristics of major physical features, political divisions, and human settlements. Essential for Grade 6
- Geography Standard Four: Students will develop an understanding of the character and use of regions and the connections between and among them [REGIONS]. 6-8b: Students will explain how conflict and cooperation among people contributes to the division of the Earth's surface into distinctive cultural regions and political territories. Essential for Grade 7
- History Standard One: Students will employ chronological concepts in analyzing historical phenomena [Chronology]. 6-8a: Students will examine historical materials relating to a particular region, society, or theme; analyze change over time, and make logical inferences concerning cause and effect. Essential for Grade 6 and 8

Common Core Standards Addressed:

- RST.6-8.10. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.
- W.7.7. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.
- W.7.8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
- W.7.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
- SL.7.4. Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
- SL.7.5. Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

Appendix A

Sample Resources

National Geography Bee Sample Questions: <http://www.nationalgeographic.com/geobee/sample-questions/>

Here are some sample questions from the National Geographic Bee, along with ideas about how to look for clues within the questions that can help you figure out the right answers.

Which state has a climate suitable for growing citrus fruits—California or Maine?

*You know that oranges and grapefruit are citrus fruits and that they grow in warm places. Since California's climate is definitely warmer and sunnier than Maine's, you correctly answer **California**.*

Which country has the world's largest Muslim population—Indonesia or Mexico?

*If you have studied maps showing world religions, you will know the answer immediately. If you haven't, you might reason that Mexico was settled by the Spanish, followers of Christianity not Islam. Either way, you correctly answer **Indonesia**.*

The North Atlantic current brings warm waters from the tropics to the west coast of which continent?

*From studying physical maps you know that the North Atlantic is the area of the Atlantic that lies north of the Equator and that the entire west coast of Europe borders the North Atlantic, so you correctly answer **Europe**.*

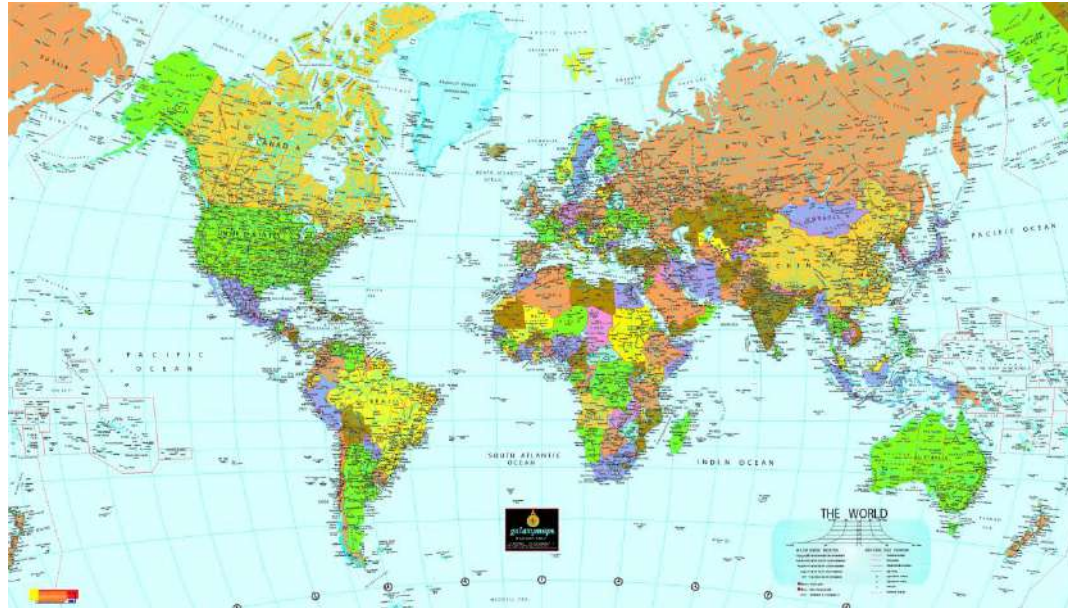
What is the term for a part of an ocean or sea that cuts far into the bordering landmass and may contain one or more bays?

*From studying physical features on maps and using your geographical reference book to learn about physical features, you narrow your choices to two terms: bay and gulf. Since the word "bay" is used in the question, you eliminate it as a possibility and correctly answer **gulf**.*

Which Canadian province produces more than half of the country's manufactured goods?

*Even if you haven't studied profiles of Canadian provinces, you know from your mental maps that Ontario borders all of the Great Lakes and has access to the St. Lawrence Seaway. This puts it in a better position than any other Canadian province to import materials needed for manufacturing and to export finished goods. So you correctly answer **Ontario**.*

All Around the World: Grade 6 Research Project



Directions:

Based on what we've learned about geography, you will write a typed, two-page, double-spaced research paper about the country of your choice. It does not have to be the country you picked to serve as your alias for grades. In addition to the research paper, you will make a poster that showcases the most interesting and important things about your country. Your paper should include, an intro, a body, a conclusion, and a bibliography.

Things you need to include in your paper:

- Location (where is your country?)
- Population (how many and what type of people live there?)
- Climate (what's the climate of your country?)
- Natural resources (what kind of things does your country produce?)
- Tourist attractions (what is there to do?)
- Bodies of water (what bodies of water are in and around your country?)
- Languages
- Form of government
- Border countries (what other countries does it border?)
- History (when/how did your country start?)
- 3 other important or interesting facts

Ideas for your poster:

You can include whatever you want in your poster. It is designed to be an advertisement to attract people to your country. You will present them in class after we return from Winter break! You are encouraged to include pictures, drawings, maps, or anything else that will make your country seem like a good place to live.

Your poster should include:

- 1) A title
- 2) At least 5 facts written in at least 2 full sentences each
- 3) At least 3 pictures or drawings
- 4) A map of your country

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These websites will help you with your research:

- <https://www.cia.gov/library/publications/the-world-factbook/index.html>
- <http://www.geographyiq.com/>
- <http://www.climate-zone.com/>
- <http://www.timeforkids.com/around-the-world>
- <http://www.picturesofplaces.com/>
- <http://kids.nationalgeographic.com/kids/>

Due Date:

Week 1: Intro and first body paragraph with at least one proper citation

Week 2: At least 1.5 pages completed with two proper citations

Week 3: Rough draft of 2 page paper with proper citations

Week 4: Corrections to paper made and begin poster

Week 5: Project Due

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Grading Rubric

1 – Meets little or no requirements	2 – Meets some requirements	3 – Meets most requirements	4 - Meets all requirements
The paper is one paragraph or less in length.	The paper is one page or less in length.	The paper is greater than one page but less than two full pages.	The paper is two full page or greater in length.
There is no organization of ideas and no cited sources.	There is little organization and little or no cited sources.	There is some organization and with cited sources.	There is an intro, body(s) and conclusion paragraph with cited sources.
Less than three required facts are included in the paper.	Less than 6 required facts are included in the paper.	At least 10 of the required facts are included in the paper.	All 11 required facts are included in the paper.
The poster has no heading, facts or drawings.	The poster has less than 2 of the 4 required poster criteria.	The poster has 3 of the 4 required poster criteria.	The poster has a heading, drawings, a map and full-sentence facts.

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This project is to be used during the study of U.S. geography.

Each student picks a different state to research. Students should gather information from various sources such as the internet, encyclopedias, text books, etc.

Sites that may be helpful:

www.50states.com

www.factmonster.com/states.html

<http://www.netstate.com/states/index.html>

<http://ces.nwasco.k12.or.us/staff/lhughitt/5thgr/50states/Vfieldtrips.htm>

State Research

For your state research project, choose one of the following ways to present your state. To ensure that you receive all 50 points for your research, be sure to include the following things in your presentation or report:

- State motto (2 pts.)
- State flower (2 pts.)
- State tree (2 pts.)
- Date of Statehood (2 pts.)
- Nickname (2 pts.)
- Region (2 pts.)
- State flag (2 pts.)
- State bird (2 pts.)
- 3 current events in your state (5 pts. each)

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— any other interesting and valuable information (10 pts.)

REPORT

If you choose to write a report, it must be at least 500 words typed. To present your report, you will read it to the class and answer any logical questions they may have.

POSTER

If you choose to draw a poster, it must be neat and colorful. It should include both pictures and words. You must turn in 1 paragraph explaining different things on your poster. To present your poster, you will NOT read the paragraph, you will present the poster to the rest of the class.

SONG/RAP

Your song/rap should have NO obscene language. If you need background music, you may bring in a CD. The words to the song/rap should be typed in order to read it. You must turn in 1 paragraph explaining your song/rap. To present, you will perform the song or rap to the rest of the class.

PowerPoint

Your PowerPoint presentation must be saved on a disk and the disk brought to school the day of your presentation. It should include pictures and words and must have a minimum of 5 slides. You must turn in 1 paragraph explaining each slide. You will present the PowerPoint using the teacher's computer and explain each slide.

ANY OTHER IDEAS

If you have another idea for presenting your state, you must see me for approval.

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POINTS

The entire project is worth 100 points.

Research = 50 points

Presentation = 50 points

Total = 100 points

Correct grammar, punctuation, neatness, etc. will also be valuable to your grade at approximately 3 points each.

Name _____

State Research Rubric

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Report

- state motto (2 pts.) _____
- nickname (2 pts.) _____
- state flower (2 pts.) _____
- region (2 pts.) _____
- state tree (2 pts.) _____
- statehood (2 pts.) _____
- state flag (2 pts.) _____
- state bird (2 pts.) _____
- 3 current events (5 pts. each) _____
- other information (max. 10 pts.) _____
- neat & acceptable work (3 pts.) _____
- correct grammar (3 pts.) _____
- punctuation (3 pts.) _____
- turned in and presented on time (2 pts.) _____

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Presentation

- eye contact (2 pts.) _____
- spoke loud/ clear (5 pts.) _____
- 5-7 minutes in length (3 pts.) _____
- paragraph explanation (10 pts.) _____
- knowledge of state (10 pts.) _____
- appropriate behavior displayed during your presentation and other presentations (10 pts.) _____

REPORT- typed (10 pts.) _____

POSTER- colorful (5 pts.) _____

pictures & words (5 pts.) _____

SONG/RAP- typed words (10 pts.) _____

POWER POINT- at least 5 slides (5 pts.) _____

at least 2 pictures (5 pts.) _____

TOTAL POINTS: _____ / 100

Interim Cycle 1

Teacher: Will Khan

Subject: PHYS ED

Grade: ALL GRADES

YEAR LONG OBJECTIVES

1	Demonstrate competency in motor skills and movement patterns needed to perform a variety of physical activities.
2	Demonstrates understanding of movement concepts, principles, strategies and tactics as they apply to the learning and performance of physical activities.
3	Demonstrate the understanding and importance of physical activity, importance of movement, and the importance of being physically active.
4	Achieves and maintains health enhancing level of physical fitness.
5	Exhibits responsible and social behavior that respects self and others in physical activity settings.
6	Create opportunities for health, enjoyment, challenge, self expression, and or social interaction through physical activity.

This calendar lays out the warm-up plans to increase cardiovascular fitness in preparation for the FitnessGram Test.

Focus for Week 1:				
Sub-Skills:				
Monday, August 29, Day #6	Tuesday, August 30, Day #7	Wednesday, August 31, Day #8	Thursday, September 1, Day #9	Friday, September 2
RE-ORIENTATION: NO ACADEMIC CLASSES	RE-ORIENTATION: NO ACADEMIC CLASSES		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	LABOR DAY: NO SCHOOL
Focus for Week 2:				
Sub-Skills:				
Monday, September 5	Tuesday, September 6, Day #10	Wednesday, September 7, Day #11	Thursday, September 8, Day #12	Friday, September 9, Day #13
LABOR DAY: NO SCHOOL	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Monday, September 12, Day #14	Tuesday, September 13, Day #15	Wednesday, September 14, Day #16	Thursday, September 15, Day #17	Friday, September 16, Day #18
Focus for Week 4:				
Sub-Skills:				
Monday, September 19, Day #19	Tuesday, September 20, Day #20	Wednesday, September 21, Day #21	Thursday, September 22, Day #22	Friday, September 23, Day #23
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8

5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	laps around school yard Free time last 10 min of class		Free time last 10 to 15 min in gym.	laps around school yard Free time team building last 10 min of class
Focus for Week 5:				
Sub-Skills:				
Monday, September 26, Day #24	Tuesday, September 27, Day #25	Wednesday, September 28, Day #26	Thursday, September 29, Day #27	Friday, September 30, Day #28
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class

Interim Cycle 2

Teacher:

Subject: PHYS ED

Grade: 8

Focus for Week 1:				
Sub-Skills:				
Monday, October 3, Day #29	Tuesday, October 4, Day #30	Wednesday, October 5, Day #31	Thursday, October 6, Day #32	Friday, October 7, Day #33 ½ Day – one hour block
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 2:				
Sub-Skills:				
Monday, October 10, Day #34	Tuesday, October 11, Day #35	Wednesday, October 12, Day #36	Thursday, October 13, Day #37	Friday, October 14, Day #38
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 3:				
Sub-Skills:				
Monday, October 17, Day #39	Tuesday, October 18, Day #40	Wednesday, October 19, Day	Thursday, October 20, Day	Friday, October 21, Day #43

		#41	#42	½ Day – one hour block
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 4:				
Sub-Skills:				
Monday, October 24, Day #44	Tuesday, October 25, Day #45	Wednesday, October 26, Day #46	Thursday, October 27, Day #47	Friday, October 28, Day #48
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 5:				
Sub-Skills:				
Monday, October 31, Day #49	Tuesday, November 1, Day #50	Wednesday, November 2, Day #51	Thursday, November 3, Day #52	Friday, November 4, Day #53 End of Quarter 1
Testing	Testing	Testing	Testing	testing

Interim Cycle 3

Teacher:

Subject: PHYS ED

Grade: 8

Focus for Week 1:				
Sub-Skills:				
Monday, November 7, Day #54	Tuesday, November 8, Day #55	Wednesday, November 9, Day #56	Thursday, November 10, Day #57 ½ Day – one hour block	Friday, November 11, Day #58
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	VETERANS DAY: NO SCHOOL
Focus for Week 2:				
Sub-Skills:				
Monday, November 14, Day #58	Tuesday, November 15, Day #59	Wednesday, November 16, Day #60	Thursday, November 17, Day #61	Friday, November 18, Day #62

Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
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Focus for Week 3:

Sub-Skills:

Monday, November 21, Day #63	Tuesday, November 22, Day #64	Wednesday, November 23	Thursday, November 24	Friday, November 25
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class	THANKSGIVING BREAK: NO SCHOOL (PD DAY FOR TEACHERS)	THANKSGIVING BREAK: NO SCHOOL	THANKSGIVING BREAK: NO SCHOOL

Focus for Week 4:

Sub-Skills:

Monday, November 28, Day #65	Tuesday, November 29, Day #66	Wednesday, November 30, Day #67	Thursday, December 1, Day #68	Friday, December 2, Day #69
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class

Focus for Week 5:

Sub-Skills:

Monday, December 5, Day #70	Tuesday, December 6, Day #71	Wednesday, December 7, Day #72	Thursday, December 8, Day #73	Friday, December 9, Day #74 ½ Day – one hour block
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class

Focus for Week 6:

Sub-Skills:

Monday, December 12, Day #75	Tuesday, December 13, Day #76	Wednesday, December 14, Day #77	Thursday, December 15, Day #78	Friday, December 16, Day #79
	Stretching 16 min 4 laps around gym		Stretching 16 min. 4 laps around gym	Stretching 16 min 4 laps around gym

Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 7:				
Sub-Skills:				
Monday, December 19, Day #80	Tuesday, December 20, Day #81	Wednesday, December 21, Day #82	Thursday, December 22, Day #83	Friday, December 23
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	WINTER BREAK: NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 8:				
Sub-Skills:				
Monday, January 2	Tuesday, January 3	Wednesday, January 4, Day #85	Thursday, January 5, Day #86	Friday, January 6, Day #87
WINTER BREAK: NO SCHOOL	WINTER BREAK: NO SCHOOL (PD DAY FOR TEACHERS)	CULTURE RESET (NO ACADEMIC CLASSES)	CULTURE RESET	CULTURE RESET
Focus for Week 9:				
Sub-Skills:				
Monday, January 9, Day #87	Tuesday, January 10, Day #88	Wednesday, January 11, Day #89	Thursday, January 12, Day #90	Friday, January 13, Day #91
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 10:				
Sub-Skills:				
Monday, January 16	Tuesday, January 17, Day #92	Wednesday, January 18, Day #93	Thursday, January 19, Day #94	Friday, January 20, Day #95
MLK DAY: NO SCHOOL	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.

Focus for Week 11:				
Sub-Skills:				
Monday, January 23, Day #96	Tuesday, January 24, Day #97	Wednesday, January 25, Day #98	Thursday, January 26, Day #99	Friday, January 27, Day #100 End of Quarter 2
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class

Interim Cycle 4

Teacher:

Subject: PHYS ED

Grade: 8

Focus for Week 1:				
Sub-Skills:				
Monday, January 30, Day #101	Tuesday, January 31, Day #102	Wednesday, February 1, Day #103	Thursday, February 2, Day #104 ½ Day – one hour block	Friday, February 3, Day #105 ½ Day – one hour block
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 2:				
Sub-Skills:				
Monday, February 6, Day #106	Tuesday, February 7, Day #107	Wednesday, February 8, Day #108	Thursday, February 9, Day #109	Friday, February 10, Day #110
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 3:				
Sub-Skills:				
Monday, February 13, Day #111	Tuesday, February 14, Day #112	Wednesday, February 15, Day #113	Thursday, February 16, Day #114	Friday, February 17
	Stretching 16 min 4 laps around gym		Stretching 16 min. 4 laps around gym	

Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	50 jumping jacks 25 curl ups Trunk lift 1o min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		30 jumping jacks 2o curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 4:				
Sub-Skills:				
Monday, February 20	Tuesday, February 21, Day #115	Wednesday, February 22, Day #116	Thursday, February 23, Day #117	Friday, February 24, Day #118
PRESIDENT'S DAY: NO SCHOOL	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 1o min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 2o curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.
Focus for Week 5:				
Sub-Skills:				
Monday, February 27, Day #119	Tuesday, February 28, Day #120	Wednesday, February 29, Day #121	Thursday, March 1, Day #122	Friday, March 2, Day #123
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 1o min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 2o curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 6:				
Sub-Skills:				
Monday, March 5, Day #124	Tuesday, March 6, Day #125	Wednesday, March 7, Day #126	Thursday, March 8, Day #127	Friday, March 9, Day #128
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 1o min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 2o curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 7:				
Sub-Skills:				
Monday, March 12, Day #129	Tuesday, March 13, Day #130	Wednesday, March 14, Day #131	Thursday, March 15, Day #132	Friday, March 16
Stretching 16 min 4 laps around gym	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups		Stretching 16 min. 4 laps around gym 30 jumping jacks 2o curl ups	NO SCHOOL (PD DAY FOR TEACHERS)

50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	
Focus for Week 8:				
Sub-Skills:				
Monday, March 19, Day #133	Tuesday, March 20, Day #134	Wednesday, March 21, Day #135	Thursday, March 22, Day #136	Friday, March 23, Day #137
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 9:				
Sub-Skills:				
Monday, March 26, Day #138	Tuesday, March 27, Day #139	Wednesday, March 28, Day #140	Thursday, March 29, Day #141	Friday, March 30, Day #142
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 10:				
Sub-Skills:				
Monday, April 2, Day #143	Tuesday, April 3, Day #144	Wednesday, April 4, Day #145	Thursday, April 5, Day #146	Friday, April 6
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	SPRING BREAK: NO SCHOOL
Focus for Week 11:				
Sub-Skills:				
Monday, April 16, Day #147	Tuesday, April 17, Day #148	Wednesday, April 18, Day #149	Thursday, April 19, Day #150	Friday, April 20, Day #151 End of Quarter 3
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds

25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Building up for 1 mile run Free time last 10 to 15 min in gym.	Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
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(Post-Interims) Review; DCAS Testing Period

Teacher:

Subject: PHYS ED

Grade: 8

Focus for Week 1:				
Sub-Skills:				
Monday, April 23, Day #152	Tuesday, April 24, Day #153	Wednesday, April 25, Day #154	Thursday, April 26, Day #155	Friday, April 27, Day #156 ½ Day – one hour block
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 2:				
Sub-Skills:				
Monday, April 30, Day #157	Tuesday, May 1, Day #158	Wednesday, May 2, Day #159	Thursday, May 3, Day #160	Friday, May 4, Day #161
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 3:				
Sub-Skills:				
Monday, May 7, Day #162	Tuesday, May 8, Day #163	Wednesday, May 9, Day #164	Thursday, May 10, Day #165	Friday, May 11, Day #166
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 4:				
Sub-Skills:				
Monday, May 14, Day #167	Tuesday, May 15, Day #168	Wednesday, May 16, Day #169	Thursday, May 17, Day #170	Friday, May 18, Day #171
	Stretching 16 min		Stretching 16 min.	Stretching 16 min

Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 5:				
Sub-Skills:				
Monday, May 21, Day #172	Tuesday, May 22, Day #173	Wednesday, May 23, Day #174	Thursday, May 24, Day #175	Friday, May 25, Day #176 ½ Day – one hour block
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Focus for Week 6:				
Sub-Skills:				
Monday, May 28	Tuesday, May 29, Day #177	Wednesday, May 30, Day #178	Thursday, May 31, Day #179	Friday, June 1, Day #180
MEMORIAL DAY: NO SCHOOL	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.
Focus for Week 7:				
Sub-Skills:				
Monday, June 4, Day #181	Tuesday, June 5, Day #182	Wednesday, June 6, Day #183	Thursday, June 7, Day #184	Friday, June 8, Day #185
Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class		Stretching 16 min. 4 laps around gym 30 jumping jacks 20 curl ups Trunk lift 10 min 20 push ups 5 pull ups 60 seconds Building up for 1 mile run Free time last 10 to 15 min in gym.	Stretching 16 min 4 laps around gym 40 jumping jacks 20 curl ups Trunk lift 20 push ups 5 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time team building last 10 min of class
Monday, June 11, Day #186	Tuesday, June 12, Day #187	Wednesday, June 13, Day #188 ½ Day - Finals	Thursday, June 14, Day #189 ½ Day – Finals	Friday, June 15, Day #190 ½ Day - Finals
Stretching 16 min 4 laps around gym 50 jumping jacks	Stretching 16 min 4 laps around gym 50 jumping jacks 25 curl ups Trunk lift 10 min	MATH FINALS	ELA FINALS	SCIENCE/SS FINALS

<p>25 curl ups Trunk lift 10 min 25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard</p>	<p>25 push ups 5 to 10 pull ups 60 seconds Building up for 1 mile run 8 laps around school yard Free time last 10 min of class</p>			
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Interim Cycle 1
 Teacher: Wade
 Subject: Music
 Grade: 5 and 6

Focus for Week 1: 9.1 – Identify and describe the roles of musicians in various historical periods, cultures, genre and styles Sub-Skills: People communicate about their culture through music				
Monday, August 29, Day #6	Tuesday, August 30, Day #7	Wednesday, August 31, Day #8	Thursday, September 1, Day #9	Friday, September 2
RE-ORIENTATION: NO ACADEMIC CLASSES	RE-ORIENTATION: NO ACADEMIC CLASSES			LABOR DAY: NO SCHOOL
Focus for Week 2: 7.1 – Express personal preferences for specific musical styles; 7.3 – Explain personal music preferences using appropriate terminology Sub-Skills: The process of evaluation is both subjective and objective; Music has its own vocabulary				
Monday, September 5	Tuesday, September 6, Day #10	Wednesday, September 7, Day #11	Thursday, September 8, Day #12	Friday, September 9, Day #13
LABOR DAY: NO SCHOOL				
Focus for Week 3: 6.5 – Identify and describe basic music forms, 6.6 – Express through verbal and non-verbal means various styles/genres of music Sub-Skills: Music has its own vocabulary; Knowledge of music provides more opportunities to connect with meaning				
Monday, September 12, Day #14	Tuesday, September 13, Day #15	Wednesday, September 14, Day #16	Thursday, September 15, Day #17	Friday, September 16, Day #18
Focus for Week 4: 6.2 – Identify and classify instruments according to family Sub-Skills: Music has its own vocabulary; Vocabulary enables one to communicate; Listening is an active endeavor				
Monday, September 19, Day #19	Tuesday, September 20, Day #20	Wednesday, September 21, Day #21	Thursday, September 22, Day #22	Friday, September 23, Day #23
Focus for Week 5: 6.2 – Identify and classify instruments according to family; 6.5 – Identify and describe common instrumental and vocal ensembles Sub-Skills: Music has its own vocabulary; Vocabulary enables one to communicate; Listening is an active endeavor				
Monday, September 26, Day #24	Tuesday, September 27, Day #25	Wednesday, September 28, Day #26	Thursday, September 29, Day #27	Friday, September 30, Day #28
			INTERIM #1 MATH	

Interim Cycle 2

Teacher: Wade

Subject: ELA

Grade: 5 and 6

Focus for Week 1: 5.1 – Identify and define standard notation symbols Sub-Skills: Written music is a language that has symbols and rules that enable a musician or performer to maintain accurate communication over time and distance				
Monday, October 3, Day #29	Tuesday, October 4, Day #30	Wednesday, October 5, Day #31	Thursday, October 6, Day #32	Friday, October 7, Day #33 ½ Day – one hour block
Focus for Week 2: 5.2 – Read rhythmic notation Sub-Skills: Written music is a language that has symbols and rules that enable a musician or performer to maintain accurate communication over time and distance				
Monday, October 10, Day #34	Tuesday, October 11, Day #35	Wednesday, October 12, Day #36	Thursday, October 13, Day #37	Friday, October 14, Day #38
Focus for Week 3: 5.5 – Notate symbols and terms for meter and rhythm Sub-Skills: Written music is a language that has symbols and rules that enable a musician or performer to maintain accurate communication over time and distance				
Monday, October 17, Day #39	Tuesday, October 18, Day #40	Wednesday, October 19, Day #41	Thursday, October 20, Day #42	Friday, October 21, Day #43 ½ Day – one hour block
Focus for Week 4: 2.9 – Perform an independent part in an ensemble setting; 2.11 – Perform in groups with blend and balance Sub-Skills: In order to engage in an ensemble you must be both a performer and a listener with the ability to react.				
Monday, October 24, Day #44	Tuesday, October 25, Day #45	Wednesday, October 26, Day #46	Thursday, October 27, Day #47	Friday, October 28, Day #48
Focus for Week 5: 5.3 – Read melodic notation; Notate symbols for pitch Sub-Skills: Written music is a language that has symbols and rules that enable a musician or performer to maintain accurate communication over time and distance				
Monday, October 31, Day #49	Tuesday, November 1, Day #50	Wednesday, November 2, Day #51	Thursday, November 3, Day #52	Friday, November 4, Day #53 End of Quarter 1
		INTERIM #2 MATH		

Interim Cycle 3

Teacher: Wade

Subject: ELA

Grade: 5 and 6

<p>Focus for Week 1: 5.4 – Read a single line of an instrumental or vocal part; Notate symbols and terms referring to dynamics, tempo and articulation</p> <p>Sub-Skills: Written music is a language that has symbols and rules that enable a musician or performer to maintain accurate communication over time and distance</p>				
Monday, November 7, Day #54	Tuesday, November 8, Day #55	Wednesday, November 9, Day #56	Thursday, November 10, Day #57 ½ Day – one hour block	Friday, November 11, Day #58
				VETERANS DAY: NO SCHOOL
<p>Focus for Week 2: 4.1 – Compose short songs and instrumental pieces; 4.3 – Utilize standard written notation in composition of short songs</p> <p>Sub-Skills: The combinations of tone, texture, design, timbre, rhythm and theme are limited only by one’s imagination; Compositions are a communication of emotions</p>				
Monday, November 14, Day #58	Tuesday, November 15, Day #59	Wednesday, November 16, Day #60	Thursday, November 17, Day #61	Friday, November 18, Day #62
<p>Focus for Week 3: 4.1 – Compose short songs and instrumental pieces; 4.3 – Utilize standard written notation in composition of short songs; 4.6 – Organize the elements of music into compositions with are unified and varied</p> <p>Sub-Skills: The combinations of tone, texture, design, timbre, rhythm and theme are limited only by one’s imagination; Compositions are a communication of emotions</p>				
Monday, November 21, Day #63	Tuesday, November 22, Day #64	Wednesday, November 23	Thursday, November 24	Friday, November 25
		THANKSGIVING BREAK: NO SCHOOL (PD DAY FOR TEACHERS)	THANKSGIVING BREAK: NO SCHOOL	THANKSGIVING BREAK: NO SCHOOL
<p>Focus for Week 4: 2.9 – Perform an independent part in an ensemble setting; 2.11 – Perform in groups with blend and balance; 2.12 - Perform expressively with phrasing, dynamics and stylistic interpretation; 7.5 – Develop and apply criteria for evaluating compositions and performances</p> <p>Sub-Skills: In order to engage in an ensemble you must be both a performer and a listener with the ability to react; To become a skilled performer requires persistence; Audience participation and reaction are an integral part of the performance</p>				
Monday, November 28, Day #65	Tuesday, November 29, Day #66	Wednesday, November 30, Day #67	Thursday, December 1, Day #68	Friday, December 2, Day #69
<p>Focus for Week 5: 2.9 – Perform an independent part in an ensemble setting; 2.11 – Perform in groups with blend and balance; 2.12 - Perform expressively with phrasing, dynamics and stylistic interpretation; 7.5 – Develop and apply criteria for evaluating compositions and performances; 7.7 – Critically evaluate one’s own musical creations</p> <p>Sub-Skills: In order to engage in an ensemble you must be both a performer and a listener with the ability to react; To become a skilled performer requires persistence; The process of evaluation is both subjective and objective</p>				
Monday, December 5, Day #70	Tuesday, December 6, Day #71	Wednesday, December 7, Day #72	Thursday, December 8, Day #73	Friday, December 9, Day #74 ½ Day – one hour block

Focus for Week 6: MIDDLE AGES : 9.2 – Listen to music from various periods and diverse cultures by genre or style; 9.3 – Describe how elements of music are used in various historical periods, cultures, genres and styles Sub-Skills: Changes in history cause changes in music; Music as a form of expression becomes part of the history and culture				
Monday, December 12, Day #75	Tuesday, December 13, Day #76	Wednesday, December 14, Day #77	Thursday, December 15, Day #78	Friday, December 16, Day #79
Focus for Week 7: MIDDLE AGES : 9.5 – Classify and describe distinguishing characteristics of representative music genres and styles from various cultures and historical periods; 9.6 – Identify and explain the characteristics that cause a musical work to be considered culturally, historically and/or geographically significant Sub-Skills: People communicate about their culture through music; A culture’s music reflects its values				
Monday, December 19, Day #80	Tuesday, December 20, Day #81	Wednesday, December 21, Day #82	Thursday, December 22, Day #83	Friday, December 23
				WINTER BREAK: NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 8: Sub-Skills:				
Monday, January 2	Tuesday, January 3	Wednesday, January 4, Day #85	Thursday, January 5, Day #86	Friday, January 6, Day #87
WINTER BREAK: NO SCHOOL	WINTER BREAK: NO SCHOOL (PD DAY FOR TEACHERS)	CULTURE RESET (NO ACADEMIC CLASSES)	CULTURE RESET	CULTURE RESET
Focus for Week 9: BAROQUE : 9.2 – Listen to music from various periods and diverse cultures by genre or style; 9.3 – Describe how elements of music are used in various historical periods, cultures, genres and styles Sub-Skills: Changes in history cause changes in music; Music as a form of expression becomes part of the history and culture				
Monday, January 9, Day #87	Tuesday, January 10, Day #88	Wednesday, January 11, Day #89	Thursday, January 12, Day #90	Friday, January 13, Day #91
Focus for Week 10: BAROQUE : 9.5 – Classify and describe distinguishing characteristics of representative music genres and styles from various cultures and historical periods; 9.6 – Identify and explain the characteristics that cause a musical work to be considered culturally, historically and/or geographically significant Sub-Skills: People communicate about their culture through music; A culture’s music reflects its values				
Monday, January 16	Tuesday, January 17, Day #92	Wednesday, January 18, Day #93	Thursday, January 19, Day #94	Friday, January 20, Day #95
MLK DAY: NO SCHOOL				
Focus for Week 11: CLASSICAL : 9.2 – Listen to music from various periods and diverse cultures by genre or style; 9.3 – Describe how elements of music are used in various historical periods, cultures, genres and styles Sub-Skills: Changes in history cause changes in music; Music as a form of expression becomes part of the history and culture				
Monday, January 23, Day #96	Tuesday, January 24, Day #97	Wednesday, January 25, Day #98	Thursday, January 26, Day #99	Friday, January 27, Day #100 End of Quarter 2
		Interim #3 Math		

Interim Cycle 4

Teacher: Wade

Subject: ELA

Grade: 5 and 6

Focus for Week 1: CLASSICAL : 9.5 – Classify and describe distinguishing characteristics of representative music genres and styles from various cultures and historical periods; 9.6 – Identify and explain the characteristics that cause a musical work to be considered culturally, historically and/or geographically significant				
Sub-Skills: People communicate about their culture through music; A culture’s music reflects its values				
Monday, January 30, Day #101	Tuesday, January 31, Day #102	Wednesday, February 1, Day #103	Thursday, February 2, Day #104 ½ Day – one hour block	Friday, February 3, Day #105 ½ Day – one hour block
Focus for Week 2: CLASSICAL (OPERA) : 9.5 – Classify and describe distinguishing characteristics of representative music genres and styles from various cultures and historical periods; 9.6 – Identify and explain the characteristics that cause a musical work to be considered culturally, historically and/or geographically significant				
Sub-Skills: People communicate about their culture through music; A culture’s music reflects its values				
Monday, February 6, Day #106	Tuesday, February 7, Day #107	Wednesday, February 8, Day #108	Thursday, February 9, Day #109	Friday, February 10, Day #110
Focus for Week 3: ROMANTIC : 9.2 – Listen to music from various periods and diverse cultures by genre or style; 9.3 – Describe how elements of music are used in various historical periods, cultures, genres and styles				
Sub-Skills: Changes in history cause changes in music; Music as a form of expression becomes part of the history and culture				
Monday, February 13, Day #111	Tuesday, February 14, Day #112	Wednesday, February 15, Day #113	Thursday, February 16, Day #114	Friday, February 17
				NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 4: ROMANTIC : 9.5 – Classify and describe distinguishing characteristics of representative music genres and styles from various cultures and historical periods; 9.6 – Identify and explain the characteristics that cause a musical work to be considered culturally, historically and/or geographically significant				
Sub-Skills: People communicate about their culture through music; A culture’s music reflects its values				
Monday, February 20	Tuesday, February 21, Day #115	Wednesday, February 22, Day #116	Thursday, February 23, Day #117	Friday, February 24, Day #118
PRESIDENT’S DAY: NO SCHOOL				
Focus for Week 5: 20TH CENTURY CLASSICAL : 9.2 – Listen to music from various periods and diverse cultures by genre or style; 9.3 – Describe how elements of music are used in various historical periods, cultures, genres and styles				
Sub-Skills: Changes in history cause changes in music; Music as a form of expression becomes part of the history and culture				
Monday, February 27, Day #119	Tuesday, February 28, Day #120	Wednesday, February 29, Day #121	Thursday, March 1, Day #122	Friday, March 2, Day #123

Focus for Week 6: 20TH CENTURY CLASSICAL : 9.5 – Classify and describe distinguishing characteristics of representative music genres and styles from various cultures and historical periods; 9.6 – Identify and explain the characteristics that cause a musical work to be considered culturally, historically and/or geographically significant Sub-Skills: People communicate about their culture through music; A culture’s music reflects its values				
Monday, March 5, Day #124	Tuesday, March 6, Day #125	Wednesday, March 7, Day #126	Thursday, March 8, Day #127	Friday, March 9, Day #128
Focus for Week 7: JAZZ : 9.2 – Listen to music from various periods and diverse cultures by genre or style; 9.3 – Describe how elements of music are used in various historical periods, cultures, genres and styles Sub-Skills: Changes in history cause changes in music; Music as a form of expression becomes part of the history and culture				
Monday, March 12, Day #129	Tuesday, March 13, Day #130	Wednesday, March 14, Day #131	Thursday, March 15, Day #132	Friday, March 16
				NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 8: JAZZ : 9.5 – Classify and describe distinguishing characteristics of representative music genres and styles from various cultures and historical periods; 9.6 – Identify and explain the characteristics that cause a musical work to be considered culturally, historically and/or geographically significant Sub-Skills: People communicate about their culture through music; A culture’s music reflects its values				
Monday, March 19, Day #133	Tuesday, March 20, Day #134	Wednesday, March 21, Day #135	Thursday, March 22, Day #136	Friday, March 23, Day #137
Focus for Week 9: JAZZ : 2.1 – Imitate rhythmic and melodic patterns on pitched and unpitched instruments; 3.1 – Improvise rhythmically with voice or on instrument; 3.2 – Improvise ostinato accompaniments; 3.3 - Improvise unaccompanied melodies; 3.5 – Improvise rhythmic variations on given melodies; 3.6 – Improvise melodic variations Sub-Skills: Written music is open to individual interpretation; Improvising as an individual allows complete creative freedom of expression; Improvising as part of an ensemble allows freedom within guidelines				
Monday, March 26, Day #138	Tuesday, March 27, Day #139	Wednesday, March 28, Day #140	Thursday, March 29, Day #141	Friday, March 30, Day #142
Focus for Week 10: JAZZ : 2.1 – Imitate rhythmic and melodic patterns on pitched and unpitched instruments; 3.1 – Improvise rhythmically with voice or on instrument; 3.2 – Improvise ostinato accompaniments; 3.3 - Improvise unaccompanied melodies; 3.5 – Improvise rhythmic variations on given melodies; 3.6 – Improvise melodic variations Sub-Skills: Written music is open to individual interpretation; Improvising as an individual allows complete creative freedom of expression; Improvising as part of an ensemble allows freedom within guidelines				
Monday, April 2, Day #143	Tuesday, April 3, Day #144	Wednesday, April 4, Day #145	Thursday, April 5, Day #146	Friday, April 6
				SPRING BREAK: NO SCHOOL
Focus for Week 11: WORLD MUSIC : 9.2– Listen to music from various periods and diverse cultures by genre or style; 9.3 – Describe how elements of music are used in various historical periods, cultures, genres and styles Sub-Skills: Changes in history cause changes in music; Music as a form of expression becomes part of the history and culture				
Monday, April 16, Day #147	Tuesday, April 17, Day #148	Wednesday, April 18, Day #149	Thursday, April 19, Day #150	Friday, April 20, Day #151 End of Quarter 3
		INTERIM #4 MATH		

(Post-Interims) Review; DCAS Testing Period

Teacher:

Subject: Music

Grade: 5 and 6

Focus for Week 1: WORLD MUSIC : 9.5 – Classify and describe distinguishing characteristics of representative music genres and styles from various cultures and historical periods; 9.6 – Identify and explain the characteristics that cause a musical work to be considered culturally, historically and/or geographically significant				
Sub-Skills: People communicate about their culture through music; A culture’s music reflects its values				
Monday, April 23, Day #152	Tuesday, April 24, Day #153	Wednesday, April 25, Day #154	Thursday, April 26, Day #155	Friday, April 27, Day #156 ½ Day – one hour block
Focus for Week 2: ROCK : 9.2 – Listen to music from various periods and diverse cultures by genre or style; 9.3 – Describe how elements of music are used in various historical periods, cultures, genres and styles				
Sub-Skills: Changes in history cause changes in music; Music as a form of expression becomes part of the history and culture				
Monday, April 30, Day #157	Tuesday, May 1, Day #158	Wednesday, May 2, Day #159	Thursday, May 3, Day #160	Friday, May 4, Day #161
Focus for Week 3: ROCK : 9.5 – Classify and describe distinguishing characteristics of representative music genres and styles from various cultures and historical periods; 9.6 – Identify and explain the characteristics that cause a musical work to be considered culturally, historically and/or geographically significant				
Sub-Skills: People communicate about their culture through music; A culture’s music reflects its values				
Monday, May 7, Day #162	Tuesday, May 8, Day #163	Wednesday, May 9, Day #164	Thursday, May 10, Day #165	Friday, May 11, Day #166
Focus for Week 4: HIP-HOP : 9.2 – Listen to music from various periods and diverse cultures by genre or style; 9.3 – Describe how elements of music are used in various historical periods, cultures, genres and styles				
Sub-Skills: Changes in history cause changes in music; Music as a form of expression becomes part of the history and culture				
Monday, May 14, Day #167	Tuesday, May 15, Day #168	Wednesday, May 16, Day #169	Thursday, May 17, Day #170	Friday, May 18, Day #171
Focus for Week 5: HIP-HOP : 9.5 – Classify and describe distinguishing characteristics of representative music genres and styles from various cultures and historical periods; 9.6 – Identify and explain the characteristics that cause a musical work to be considered culturally, historically and/or geographically significant				
Sub-Skills: People communicate about their culture through music; A culture’s music reflects its values				
Monday, May 21, Day #172	Tuesday, May 22, Day #173	Wednesday, May 23, Day #174	Thursday, May 24, Day #175	Friday, May 25, Day #176 ½ Day – one hour block

Focus for Week 6: WRITING REVIEWS : 8.1 – Identify, compare and contrast the roles of creators, performers and consumers in the production and presentation of the arts including music; 7.2 – Identify ways for evaluating compositions and performances; Develop and apply criteria for evaluation compositions and performances; 7.8 – Critically evaluate the compositions, arrangements, and improvisations of others by applying specific criteria appropriate for the style of the music and offer constructive suggestions for improvement

Sub-Skills: The process of evaluation is both subjective and objective; Listening is an active endeavor; The more one knows about music the more opportunities one has to connect with meaning; An audience is the central participant in a musical performance

Monday, May 28	Tuesday, May 29, Day #177	Wednesday, May 30, Day #178	Thursday, May 31, Day #179	Friday, June 1, Day #180
MEMORIAL DAY: NO SCHOOL				

Focus for Week 7: WRITING REVIEWS : 8.1 – Identify, compare and contrast the roles of creators, performers and consumers in the production and presentation of the arts including music; 7.2 – Identify ways for evaluating compositions and performances; Develop and apply criteria for evaluation compositions and performances; 7.8 – Critically evaluate the compositions, arrangements, and improvisations of others by applying specific criteria appropriate for the style of the music and offer constructive suggestions for improvement

Sub-Skills: The process of evaluation is both subjective and objective; Listening is an active endeavor; The more one knows about music the more opportunities one has to connect with meaning; An audience is the central participant in a musical performance

Monday, June 4, Day #181	Tuesday, June 5, Day #182	Wednesday, June 6, Day #183	Thursday, June 7, Day #184	Friday, June 8, Day #185

Focus for Week 8: WRITING REVIEWS : 8.1 – Identify, compare and contrast the roles of creators, performers and consumers in the production and presentation of the arts including music; 7.2 – Identify ways for evaluating compositions and performances; Develop and apply criteria for evaluation compositions and performances; 7.8 – Critically evaluate the compositions, arrangements, and improvisations of others by applying specific criteria appropriate for the style of the music and offer constructive suggestions for improvement

Sub-Skills: The process of evaluation is both subjective and objective; Listening is an active endeavor; The more one knows about music the more opportunities one has to connect with meaning; An audience is the central participant in a musical performance

Monday, June 11, Day #186	Tuesday, June 12, Day #187	Wednesday, June 13, Day #188 ½ Day - Finals	Thursday, June 14, Day #189 ½ Day – Finals	Friday, June 15, Day #190 ½ Day - Finals
		MATH FINALS	ELA FINALS	SCIENCE/SS FINALS

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Unit Title: Recorder Karate

Grade Level(s): 5th & 6th Grade

Subject/Topic Area: Music Performance

Key Vocabulary: Ready position, rest position, articulation, phrasing, melody, harmony, accompaniment, ensemble

Designed By: Barb Philipak (Resources available on: <http://www.music8.com/>)

Adapted By: Julia Wade

Time Frame: 15 classes (45-minute class periods)

Date: January 2012

SUMMARY OF PURPOSE:

The ability to perform music alone and in a group is an essential musical skill. In order to engage in an ensemble you must be both a performer and a listener with the ability to react. Becoming a skilled listener and performer requires persistence. Learning to become a proficient musical performer helps students develop self-presentation skills that are transferrable to other areas of life such as public speaking, problem-solving, and interpersonal communication.

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Stage 1: Desired Results

Primary Standards and GLEs

Delaware Music Standard 2: Performing on instruments independently and with others a varied repertoire of music.

DE.Music.2.5 Perform melodies by ear using a melodic instrument

DE.Music.2.6 Perform with proper posture and breathing

DE.Music.2.7 Perform with proper instrument technique

DE.Music.2.8 Perform in groups in response to gestures of a conductor

DE.Music.2.11 Perform in groups with blend and balance

DE.Music.2.12 Perform expressively with phrasing, dynamics and stylistic interpretation

Delaware Music Standard 5: Students will read and notate music.

DE.Music.5.1 Identify and define standard notation symbols

DE.Music.5.2 Read rhythmic notation

DE.Music.5.4 Read a single line of an instrumental or vocal part

Key Concepts/Big Ideas

The ability to perform music alone and in a group is an essential musical skill. In order to engage in an ensemble you must be both a performer and a listener with the ability to react. Becoming a skilled listener and performer requires persistence. Learning to become a proficient musical performer helps students develop self-presentation skills that are transferrable to other areas of life such as public speaking, problem-solving, and interpersonal communication.

Enduring Understandings

Students will understand that...

- Performing an instrument requires the performer to develop special kinesthetic skills that are specific to that instrument.
- Excellent performing requires excellent communication with other performers and with the musical leader/conductor.
- Music is a creative art that involves individual interpretive skills and self-expression

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Essential Questions

- How much in music is inspiration and how much is perspiration?
- How much in music is technical skill and how much is “magic”?
- When is music deliberate and when is it most spontaneous?
- When does playing an instrument move from mere repetition or imitation to creative and artful performance?
- To what extent does participation in an instrumental ensemble impact the performance of the ensemble?
- How conscious and deliberate is the process of creating good music?

Real World Context

Learning to become a proficient musical performer helps students develop self-presentation skills that are transferrable to other areas of life such as public speaking, problem-solving, and interpersonal communication.

Learning Targets/Goals

Students will know...

- The identity of various notation symbols
- How to properly perform the recorder individually and in a group setting

Students will be able to...

- identify and define standard notation symbols
- read rhythmic notation on the recorder
- read a single line of an instrumental part on the recorder
- perform melodies by ear on the recorder
- perform recorder with proper posture and breathing
- perform the recorder with proper instrument technique
- perform recorders in groups with blend and balance and in response to gestures of a conductor
- perform recorder expressively with phrasing, dynamics and stylistic interpretation

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Stage 2: Evidence of Student Achievement			
Transfer Task			
<p>Provided with a printed song consisting of a single line of music, a small group of students can accurately and expressively perform the song on recorders.</p>			
Rubrics for Transfer Tasks			
<i>Accurately and expressively perform a song on the recorder</i>			
CATEGORY	Basic	Proficient	Advanced
Accurate placement of notes and rhythms	0-1: Plays with many mistakes in pitches and rhythm, many starts and stops, and/or seems very unsure of fingerings.	2-3: Plays with few mistakes in pitches or rhythm	4: No mistakes in pitches or rhythm
Tone quality and expression	0-1: Poor tone quality, no unique interpretive musical choices	2-3: Pleasing tone quality and musical fluidity, some evidence of unique interpretive choices	4: Superior tone quality and musical fluidity, obvious unique interpretive choices
Worked together as a group (starting and ending on time, communicating with body language, practicing parts)	0-1: persons worked well in the group	2-3: persons worked well in the group	4: persons worked well in the group
Formative & Summative Assessments			
<ul style="list-style-type: none"> • teacher observation • class performances • a multiple choice test proper recorder posture, technique and fingerings 			

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Student Self-Assessment and Reflection

When finished, students will perform for one another and evaluate both their own performances and the performances of peers.

- How accurately did I perform the notes and rhythms?
- How well did I add to the music performance with my own expressiveness and creativity?

Instructional Resources

Materials:

- recorders
- simple, one-line printed music melodies in treble clef

Differentiation

- **Visual Learners:** Demonstration, handouts of music and fingering charts, and PowerPoint presentations will be provided.
- **Oral Learners:** Hearing impaired students would be placed closer to the teacher. All materials would be read aloud to students.
- **Kinetic Learners:** Hands-on practice with instruments will be a primary instructional method.

Enrichment

- Extra performance opportunities for advanced players
- Students compose their own melodies to perform on recorders

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

Learning Activities: What learning experiences and instruction will enable students to achieve the desired results?

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know

Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

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Lesson 1 (Background)

Share with students some history of the recorder: The recorder is a whistle-type woodwind instrument that is from an ancient family of instruments called the internal duct flutes. For many centuries, it was the most popular woodwind instrument. It was being used as a folk instrument as early as the 12th century. During the 16th century, several composers were writing solo and ensemble music for the recorder. Two of these were Bach and Handel, probably the best known composers of the Baroque Era. The transverse (side-blown) flute had replaced the recorder by the 18th century, because it had a much broader dynamic range than the recorder and could blend better with the larger, louder orchestras of the day.

Recorders probably came to America with some of the first settlers. There are as many as 26 recorders listed in the inventories of various plantations in the 1600s. Around 1925, the recorder began to make a comeback in popularity because of a renewed interest in Renaissance and Baroque music. Today, more than 3.5 million plastic recorders are manufactured per year. Recorders are played in many elementary schools and can be a wonderful instrument to learn on its own or as an introductory band instrument. Many skills are learned from the playing of the recorder, such as fingering skills, embouchure development, breath support, articulation skills, and development of the inner ear.

The five most common recorders are: sopranino (or descant), soprano, alto, tenor, and bass. The smallest is the Garklein recorder, which is only four inches long. The largest recorder is called a sub-contra bass and is about ten feet long. The soprano is the recorder that is most often played by beginners. All of these recorders can play together just like a choir. This group is called a consort.

After learning the history of the recorder, students will listen to some musical examples of various musical styles being played on the recorder.

Lesson 2

Students will learn how to hold, play, and care for the recorder (see handouts in Appendix A).

Lesson 3

Students learn to play the notes B, A, and G on the recorder. Students review note names and counting music (see handouts in Appendix A).

Lesson 4-12

Students learn to play nine songs on the recorder at the rate of one per class period. These songs increase incrementally in both complexity and difficulty. As students master the songs, they earn "belts" (colored rubber bands) to put on their recorders. Lessons should consist of teacher modeling, whole-group practice, and small group practice time. The list of songs/belts appears on the following page.

Accompaniment tracks are provided with Barb Philipak's "Recorder Karate" curriculum, available at <http://www.musick8.com/>:

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Belt	Song	Notes	Tracks
<i>Practice/Test Versions</i>			
White -	Hot Cross Buns	GAB	1 Full Performance 2 Slow Accompaniment 3 Fast Accompaniment
Yellow -	Gently Sleep	GAB	4 Full Performance 5 Slow Accompaniment 6 Fast Accompaniment
Orange -	Merrily We Roll Along	GAB	7 Full Performance 8 Slow Accompaniment 9 Fast Accompaniment
Green -	It's Raining	E GA	10 Full Performance 11 Slow Accompaniment 12 Fast Accompaniment
Purple -	Old MacDonald Had A Farm	DE GAB	13 Full Performance 14 Slow Accompaniment 15 Fast Accompaniment
Blue -	When The Saints Go Marching In	GABC'D'	16 Full Performance 17 Accompaniment
Red -	Twinkle, Twinkle Little Star	DEF#GAB	18 Full Performance 19 Accompaniment
Brown -	Amazing Grace	DE GAB D'	20 Full Performance 21 Accompaniment
Black -	Ode To Joy	D GABC'D'	22 Full Performance 23 Accompaniment
<i>Concert Versions</i>			
	When The Saints Go Marching In		24 Full Performance 25 Accompaniment
	Amazing Grace		26 Full Performance 27 Accompaniment
	Ode To Joy		28 Full Performance 29 Accompaniment

Lesson 13-15 (Reflect, Self-Evaluate, Critique)

Students will perform songs individually in groups for the class to hear. Classmates will critique each student's performance using a checklist.

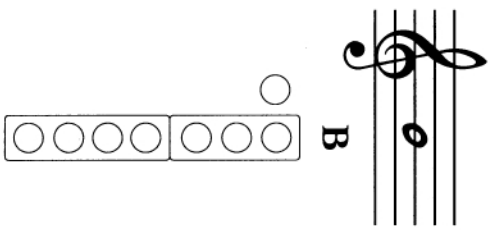
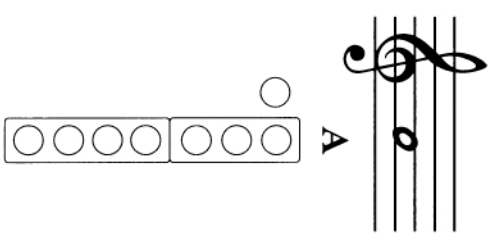
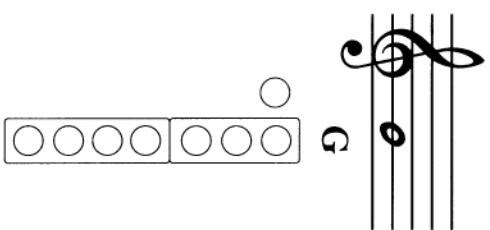
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Appendix A Sample Resources

Name: _____ Teacher: _____

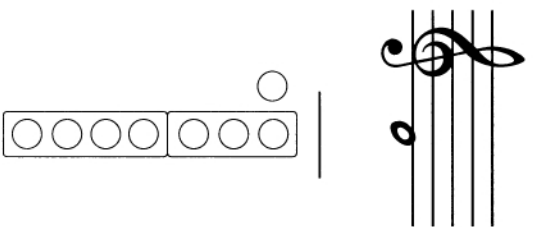
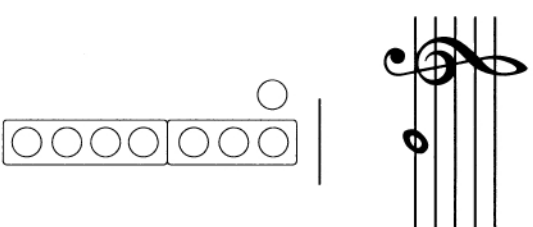
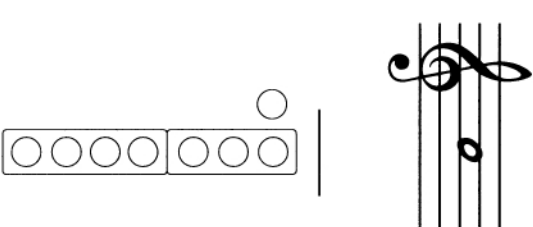
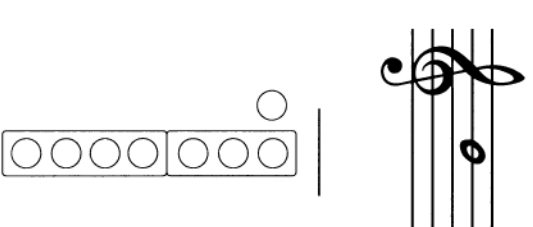
FINGERING REVIEW

Fill in the holes that are covered to play the notes indicated.

 <p style="text-align: center;">B</p>	 <p style="text-align: center;">A</p>	 <p style="text-align: center;">G</p>
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NAME THE NOTES AND DRAW THE FINGERINGS

In the space provided, write the letter name of the note on the staff and then fill in the holes that are covered when you play that note.
If there are two notes with the same letter name, be sure to tell whether it is low or high.

			
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Practice Counting

In the space provided, write how many beats each note or rest equals:

1.  _____beat(s)

6.  _____beat(s)

2.  _____beat(s)

7.  _____beat(s)

3.  _____beat(s)

8.  _____beat(s)


4.  _____beat(s)

9.  _____beat(s)

5.  _____beat(s)

Practice Naming The Notes

Write the letter name of each note in the space provided:



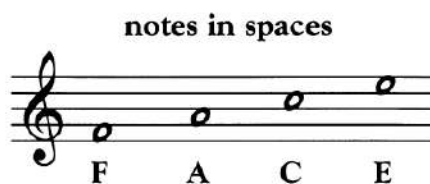
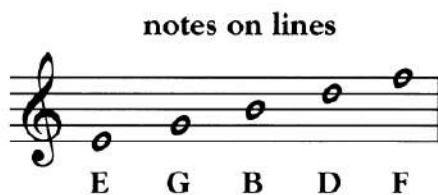


How We Name The Notes

Music is written on a **staff** made up of five lines. Notes are written on these lines or in the spaces between them. They can also be written in the spaces below and above these lines.

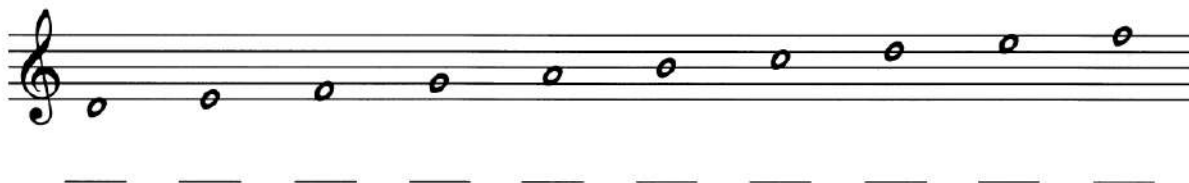
Notes are given names based on the letters of the alphabet from A through G.

Each staff begins with a **clef**. Music for different instruments is written in different clefs. The recorder you are playing uses the **treble** clef. Here are the names of the notes of the staff in treble clef:










It may help you to remember the notes on the lines by remembering the sentence **Every Good Boy Does Fine**. The notes in the spaces spell out the word **FACE**.

Here are the notes on the treble clef that we will use in our recorder music. Fill in their names under the notes.





How We Count Music

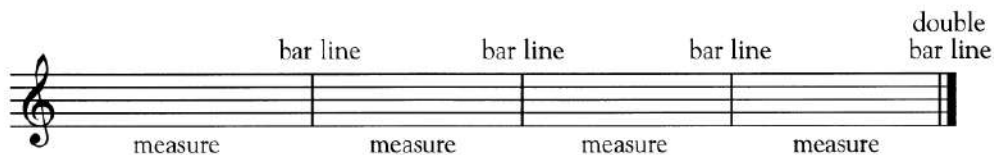
Below are some of the notes we use in music. Each note has a name and a value or length. Here are their American names and values in 4/4 time:

quarter note		(ta)	1 beat
eighth note		(ti)	1/2 beat
eighth note pair		(ti-ti)	1 beat
dotted quarter note		(ta-ee)	1 1/2 beats
half note		(two-oo)	2 beats
dotted half note		(three-ee-ee)	3 beats
whole note		(fo-o-o-or)	4 beats

A rest is a silence. For every note, there is a rest of equal value. Here are some rests we will use in our music:

quarter rest		(sh)	1 beat
half rest		(re-est)	2 beats


Music is written so that we read it from left to right and top to bottom, just as we read a book. Our music is divided into sections called **measures** or **bars**. Measures are separated by **bar lines**. A **double bar line** is placed at the end of a song.

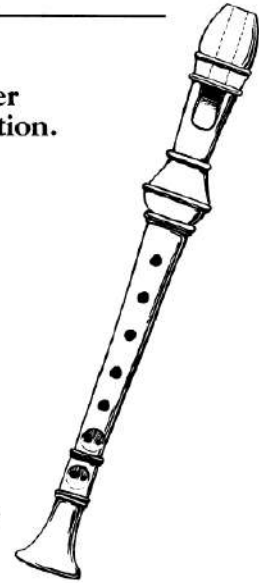


Recorder Quiz

Name: _____ Class: _____

Read each question carefully, then print the letter of the correct answer on the line next to each question.

1. _____ What hand(s) goes on the **top** part of the recorder?
 - a. Right hand
 - b. Left hand
 - c. Both hands
2. _____ What is the correct way to start and stop notes?
 - a. By lifting fingers on and off of the holes
 - b. By not breathing into the recorder
 - c. By using your tongue and saying "tu"
3. _____ To get the best sound from the recorder, it is best to blow
 - a. Hard
 - b. Gently
 - c. Not at all
4. _____ If you have a squeak, what two things should you check (**two answers**):
 - a. That you are NOT blowing too hard
 - b. That your fingers are covering the holes tightly
 - c. That you are blowing **HARD ENOUGH**
 - d. That you are playing the right note
5. _____ What is the name of the process where you use your tongue to start and stop notes on the recorder?
 - a. Roof of the mouth
 - b. Lipping
 - c. Tonguing
6. _____ Which thumb covers the hole on the back of the recorder?
 - a. Right thumb
 - b. Left thumb
 - c. Neither – it is always uncovered.
7. _____ What does this symbol mean in music ‘’
 - a. Apostrophe
 - b. Comma
 - c. Breath mark – take a breath in music



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8. ____ What is the “saying” to remember the names of the LINE notes? (Be careful!)
a. Every Good Boy Is Fine
b. Every Boy Does Fine
c. Every Good Boy Does Fine

9. ____ What is the “saying” to remember the names of the SPACE notes?
a. FACT
b. FACE
c. FUNNY

10. Name the notes in the example:

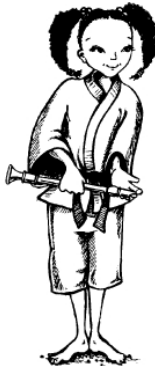


____ _

11. How many beat(s) is each note or rest held for?

1. ____ beat(s) 2. ____ beat(s) 3. ____ beat(s)
4. ____ beat(s) 5. ____ beat(s) 6. ____ beat(s)

12. In the following time signatures, how many beats are in each measure?



RECORDER FINGERING CHART

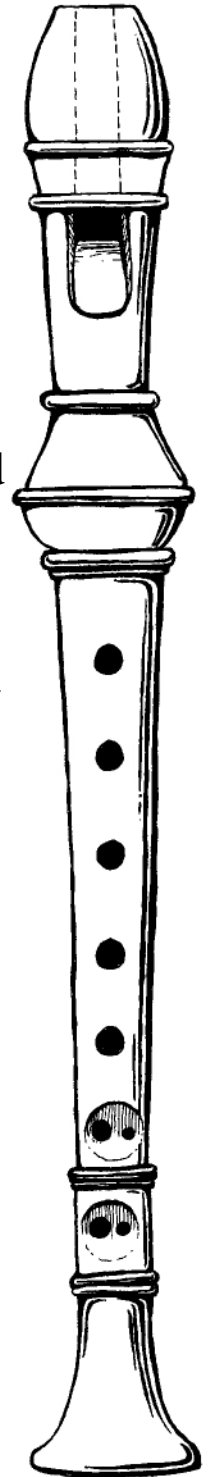
The hole that is outside the box indicates the thumbhole on the back of the recorder.
When the circle is black, cover that hole with the correct finger.

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How To Care For Your Recorder

1. Label your recorder and the case with a permanent marker. That way, if you leave it somewhere, it can be returned to you.
2. After playing, wipe the moisture from the inside of your recorder with a small piece of cotton cloth tied onto a cleaning rod. Do NOT use tissue or paper towel because these will fall to pieces inside your recorder and would be very difficult to remove.
3. Clean the mouthpiece of your recorder with an old toothbrush or a pipe cleaner. It is important to keep the mouthpiece clean.
4. Plastic recorders can be washed in the dishwasher or in warm, soapy water once in a while.
5. If your recorder is hard to take apart or put back together, you may use a little joint grease or petroleum jelly on the joints.
6. Keep your recorder in its case when you are not playing it.



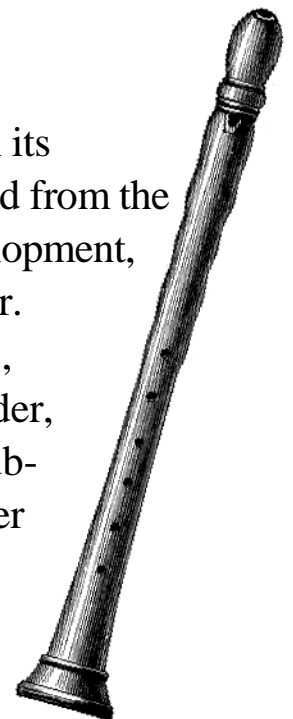
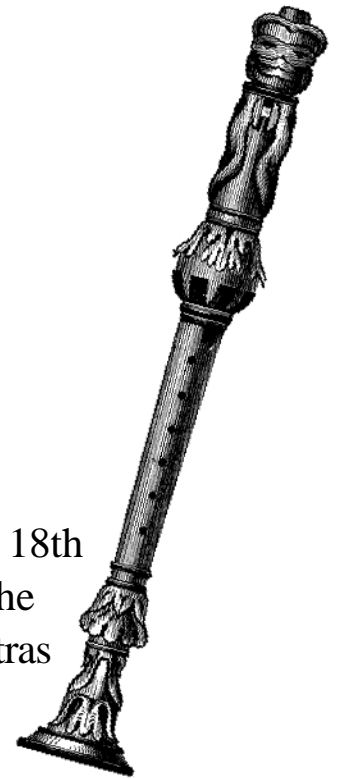
The History Of The Recorder

The recorder is a whistle-type woodwind instrument that is from an ancient family of instruments called the internal duct flutes. For many centuries, it was the most popular woodwind instrument. It was being used as a folk instrument as early as the 12th century. During the 16th century, several composers were writing solo and ensemble music for the recorder. Two of these were Bach and Handel, probably the best known composers of the Baroque Era. The transverse (side-blown) flute had replaced the recorder by the 18th century, because it had a much broader dynamic range than the recorder and could blend better with the larger, louder orchestras of the day.

Recorders probably came to America with some of the first settlers. There are as many as 26 recorders listed in the inventories of various plantations in the 1600s.

Around 1925, the recorder began to make a comeback in popularity because of a renewed interest in Renaissance and Baroque music. Today, more than 3.5 million plastic recorders are manufactured per year. Recorders are played in many elementary schools and can be a wonderful instrument to learn on its own or as an introductory band instrument. Many skills are learned from the playing of the recorder, such as fingering skills, embouchure development, breath support, articulation skills, and development of the inner ear.

The five most common recorders are: sopranino (or descant), soprano, alto, tenor, and bass. The smallest is the Garklein recorder, which is only four inches long. The largest recorder is called a sub-contra bass and is about ten feet long. The soprano is the recorder that is most often played by beginners. All of these recorders can play together just like a choir. This group is called a consort.



1 - White Belt

Pitches: GAB

Hot Cross Buns

2 measures (8 beats) introduction on recording

Traditional

New things to learn for the White Belt song:

<p>half note = 2 beats</p>	<p>quarter note = 1 beat</p>	<p>time signature = 4/4 4 beats in each measure</p>	<p>half rest = 2 beats of silence</p>												
<p>new notes:</p>	<p>G</p>	<p>A</p>	<p>B</p>												
<p>counting:</p>	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	1	2	3	4										
1	2	3	4												

Pitches: GAB

2 - Yellow Belt Gently Sleep

2 measures (8 beats) introduction
on recording

Gent - ly sleep, my sweet child. Gent - ly sleep, with that smile.

Traditional
lyrics by Barb Philipak

Gent - ly sleep, lit - tle one. Gent - ly sleep, day is done.

New thing to learn for the Yellow Belt song:

’ **breath mark** When you see this symbol, take a breath.
Try only to take a breath every two measures.

3 - Orange Belt

Pitches: GAB

Merrily We Roll Along

2 measures (8 beats) introduction
on recording

Traditional

Mer - ri - ly we roll a - long, roll a - long, roll a - long.

Mer - ri - ly we roll a - long, o'er the deep blue sea.

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Unit Title: Comparing Values: Comparisons Between Musical Notation and Money

Grade Level(s): 5th & 6th Grade

Subject/Topic Area: Music Theory

Key Vocabulary: musical notation, note value, rest, meter

Designed By: Shirley Brockenborough

<http://artswork.asu.edu/arts/teachers/lesson/music/music1.htm>

Adapted By: Dana Davisson

Time Frame: 4-5 classes (45-minute class periods)

Date: October 2011

SUMMARY OF PURPOSE:

Music has its own unique vocabulary, language, and mathematical pattern (called meter). Theories of mathematics, specifically fractions, can be applied to notating music. A musical education is essential to ones overall comprehensive education.

Stage 1: Desired Results

Primary Standards and GLEs

Delaware Music Standard 8: Making connections between music, the arts and other curricular areas

DE.Music.8.2 Make connections with other disciplines as they relate to music

DE.Music.8.3 Illustrate ways in which the principles and subject matter of other curricular areas are interrelated to music

Delaware Music Standard 5: Students will read and notate music.

DE.Music.5.1 Identify and define standard notation symbols

DE.Music.5.2 Read rhythmic notation

DE.Music.5.4 Read a single line of an instrumental or vocal part

DE.Music.5.5 Notate symbols and terms for meter and rhythm

Key Concepts/Big Ideas

Music has its own unique vocabulary, language, and mathematical pattern (called meter). Theories of mathematics, specifically fractions, can be applied to notating

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music. A musical education is essential to ones overall comprehensive education.

Enduring Understandings

Students will understand that...

- Music is mathematical. It is rhythmically based on the subdivisions of time into fractions that must be performed instantaneously.
- Music is world language. Most of the descriptive terms are in Italian, German or French; and the notation is a highly developed kind of shorthand that uses symbols to represent ideas.

Essential Questions

To what extent is participation in music education an important part of one's comprehensive education?

Real World Context

- Using play money to purchase pizza, divided into fractions related to meter in music (4/4, 3/4, 2/4, etc.)

Learning Targets/Goals

Students will know...

- The identity of various notation symbols
- There is a connection between music and other disciplines taught in school

Students will be able to...

- identify ways in which the principles and subject matter of other disciplines taught in school are interrelated with those of music
- make a connection between music and math
- read and perform whole, half, quarter, eighth, sixteenth, and dotted notes and rests in a variety of simple, compound, and complex meters
- identify and define standard notation symbols for pitch and rhythm

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Stage 2: Evidence of Student Achievement			
Transfer Task			
<p>Provided with a time signature (4/4), small group of students can accurately write, and perform an original measure of music.</p>			
Rubrics for Transfer Tasks			
<i>Create and perform an original measure of 4/4 rhythm patterns</i>			
CATEGORY	Basic	Proficient	Advanced
Accurate placement of notes	0-1 measures are placed on the correct beat	2-3 measures are placed on the correct beat	All 4 measures are placed on the correct beat
performance of your measures	0-1 measures performed accurately	2-3 measures performed accurately	All 4 measures performed accurately
worked together as a group (creating measures, choosing instruments, practicing measures)	0-1 persons worked well in the group	2-3 persons worked well in the group	All 4 persons worked well in the group
Formative & Summative Assessments			
<ul style="list-style-type: none"> • teacher observation • include students' written measure of music in their portfolio • a multiple choice test on time signatures 			

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Student Self-Assessment and Reflection

When finished, students will create self-reflections about their own measure of music. Students will reflect on the process of finishing their measure of music by responding to the following:

- How did I organize my measure of music?
- Why is music education an important part of my education (how is it related to math)?

Instructional Resources

Materials:

- play money
- a pizza transparency with overlays dividing it into halves, quarters, eighths, sixteenths and the notation for each
- blank sheet music

Differentiation

- **Visual Learners:** Demonstration, handouts, and PowerPoint presentations will be provided.
- **Oral Learners:** Hearing impaired students would be placed closer to the teacher. All materials would be read aloud to students.
- **Kinetic Learners:** Hands-on practice will be a large component overall.

Enrichment

- Self-reflection essay
- Students given a second scenario to match measure of music to a numerical value

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

Learning Activities: What learning experiences and instruction will enable students to achieve the desired results?

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected? Help the teachers know

Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

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E – Equip students, help them Experience the key ideas and Explore the issues?
R – Provide opportunities to Rethink and Revise their understandings and work?
E – Allow students to Evaluate their work and its implications?
T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?
O – Be Organized to maximize initial and sustained engagement as well as effective learning?











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Lesson 1 (Background)

Share this information with the students. "Musical notation is a system of symbols used by musicians to represent beats. In music notation, a **note value** indicates the duration (time) of a note. A rest indicates a silence of an equivalent duration."

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Musical Notes and Rests Printout

ITEM	NOTE	REST	VALUE (number of beats)
Whole note/rest			4
Half note/rest			2
Quarter note/rest			1
Eighth note/rest			1/2
Sixteenth note/rest			1/4

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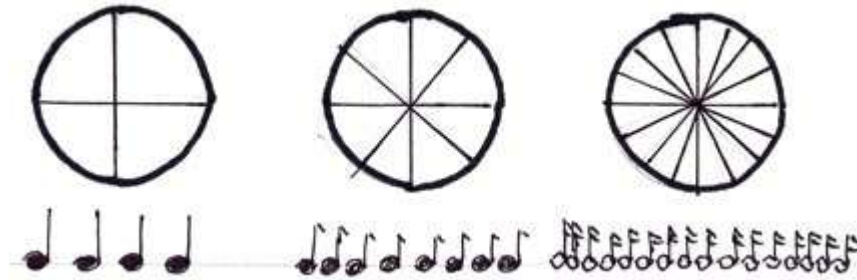
After learning the vocabulary, students will listen to the teacher play a measure of music, and will try to imitate it using the correct note and rest lengths. Students may also complete worksheet and/or matching activity (attached in Appendix A).

Lesson 2 (Activity)

Preparation: Give students a scenario of a group of students going to the mall and buying a pizza. The students, as they volunteer for the game, select play money to exchange with the teacher/store clerk. The pizza costs \$4.00

Activity: The main character invites a friend to share the pizza, but they must split the cost. Students demonstrate on the overhead which division of the pizza and which notes divide the pizza into halves. They give the teacher/clerk the correct change.

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The activity continues as the students invite four, eight, and finally sixteen to share the pizza.

After 4/4 time is mastered, introduce 3/4, 2/4 and other time signs. Let the students create their own scenario for what needs to be purchased and divided; or let the students "buy" a measure of music.

When the meter signatures are familiar to all, give the students a price tag (time signature) and have them create a measure of music that adds up to the price tag using any combination of note values.

Lesson 3 (Group Presentation)

When the meter signatures are familiar to all, give the students a price tag (time signature) and have them create a measure of music that adds up to the price tag using any combination of note values. Have the students sing their rhythm example or play it on an instrument of their choice.

Lesson 4 (Extension)

Teacher gives the students a new price tag (time signature) and have them create a measure of music that adds up to the price tag using any combination of note values. Have the students sing their rhythm example or play it on an instrument of their choice.

The teacher will provide ongoing feedback while students are working in class. Students will share their work in progress with other students and the teacher.

Lesson 5 (Reflect, Self-Evaluate, Critique)

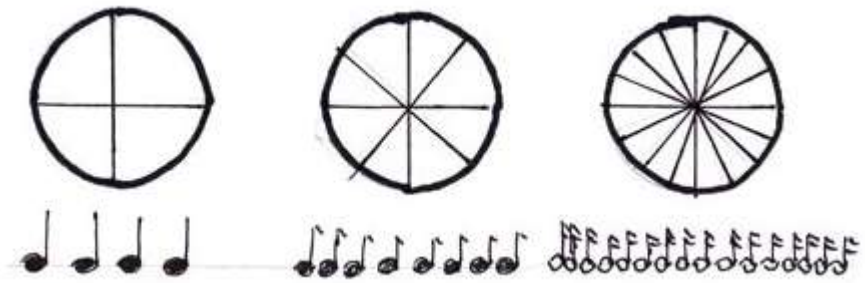
Students write a short paper describing their work using vocabulary related to this lesson.

Students will complete a self-reflection using their findings from each step. Classmates will critique each student's work using a checklist.

Appendix A
Sample Resources

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Student Work Sample:













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Definitions and Key:

Musical notation is a system of symbols used by musicians to represent beats. In music notation, a **note value** indicates the duration (time) of a note. A rest indicates a silence of an equivalent duration

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Musical Notes and Rests Printout

ITEM	NOTE	REST	VALUE (number of beats)
Whole note/rest			4
Half note/rest			2
Quarter note/rest			1
Eighth note/rest			1/2
Sixteenth note/rest			1/4

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Musical Notes and Rests Printout

Draw the musical notes and rests and their values.

ITEM	NOTE	REST	VALUE (number of beats)
Whole note/rest			
Half note/rest			
Quarter note/rest			
Eighth note/rest			
Sixteenth note/rest			

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


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Matching Activity:

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Match the Musical Notes and Rests to their name and description

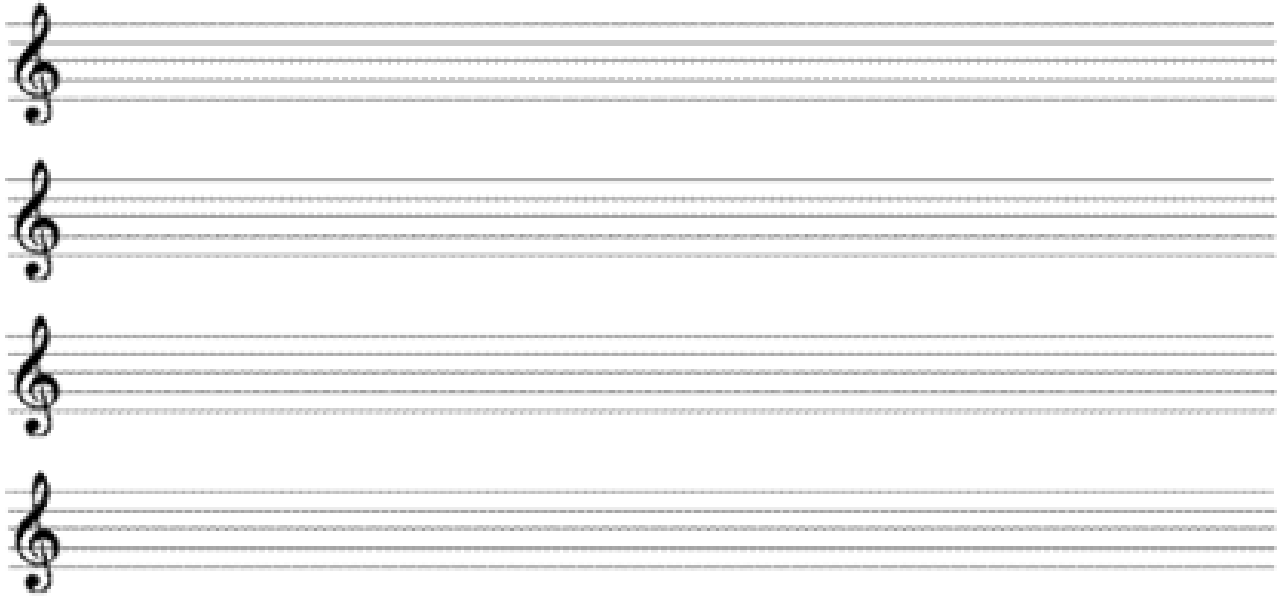
NAME: _____

whole note		A note that gets 4 counts
half note		A rest that gets 4 counts
quarter note		A note that gets 2 counts
eighth note		A rest that gets 2 counts
sixteenth note		A note that gets 1 count
whole rest		A rest that gets 1 count
half rest		A note that gets 1/2 count
quarter rest		A rest that gets 1/2 count
eighth rest		A note that gets 1/4 count
sixteenth rest		A rest that gets 1/4 count

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Blank Sheet Music for Group Activity:



Unit Title: How to Write a Music Review

Grade Level(s): 5th & 6th Grade

Subject/Topic Area: Evaluating Music

Key Vocabulary: review, evaluate, artist, audience, subjective, objective, aesthetics

Designed By: Julia Wade

Time Frame: 10 classes (45-minute class periods)

Date: April 2012

SUMMARY OF PURPOSE:

The language people use to talk about music is unique. Music evaluation can be both subjective and objective. Listening to music and developing an opinion about it is an active job that every audience member performs. Writing about music is a way to actively engage culture.

Stage 1: Desired Results

Primary Standards and GLEs

Delaware Music Standard 7: Evaluating music and musical performances

DE.Music.7.1 Express personal preferences for specific musical styles

DE.Music.7.2 Identify ways for evaluating compositions and performances

DE.Music.7.3 Explain personal music preferences using appropriate terminology

DE.Music.7.4 Discuss and evaluate the relationship between music and human emotions

DE.Music.7.5 Develop and apply criteria for evaluating compositions and performances

DE.Music.7.6 Develop criteria for evaluating the quality and effectiveness of music performances and compositions and apply the criteria in their personal listening and performing

DE.Music.7.7 Critically evaluate one's own musical creations

DE.Music.7.8 Critically evaluate the compositions, arrangements, and improvisations of others by applying specific criteria appropriate for the style of the music and offer constructive suggestions for improvement

Key Concepts/Big Ideas

The language people use to talk about music is unique. Music evaluation can be both subjective and objective. Listening to music and developing an opinion about it is an active job that every audience member performs. Writing about music is a way to actively engage culture.

Enduring Understandings

Students will understand that...

- The more vocabulary and understanding one has of the idiom the more clearly one can evaluate.
- The process of evaluation is both subjective and objective.
- There will be positive and negative aspects to all music based on personal preferences and levels of understanding.
- Listening is an active endeavor.
- Music has its own vocabulary.
- The more one knows about music the more opportunities one has to connect with the meaning.
- Audience participation and reaction are an integral part of the performance.
- An audience is the central participant in a musical performance.

Essential Questions

- What influences the development of a personal aesthetic?
- How influential is the taste of the time, and why?
- On what basis can music be compared and contrasted?
- How does the concept of quality relate to musical performance?
- Why learn the historical context prior to evaluating music?
- Should you hear a performance to understand or appreciate it?

Real World Context

- Evaluate popular performers in a written review of their music.

Learning Targets/Goals

Students will know...

- How to evaluate music using uniquely musical vocabulary.
- The difference between subjectively and objectively evaluating music.
- There will be positive and negative aspects to all music based on personal preferences and levels of understanding.
- Audience participation and reaction are an integral part of the performance.

Students will be able to...

- evaluate music using musical words.
- subjectively and objectively evaluate music.
- actively listen with the goal of evaluating a piece of music.
- research the musical history of a specific performer.
- evaluate the role of the audience in a musical performance.

Stage 2: Evidence of Student Achievement

Transfer Task

Students will pick a musical artist and write a review of one album by that artist.

Rubrics for Transfer Tasks

Write a review of one album by a musical artist

CATEGORY	4	3	2	1
Introduction (Organization)	The introduction is inviting, states the main topic and previews the structure of the paper.	The introduction clearly states the main topic and previews the structure of the paper, but is not particularly inviting to the reader.	The introduction states the main topic, but does not adequately preview the structure of the paper nor is it particularly inviting to the reader.	There is no clear introduction of the main topic or structure of the paper.
Sequencing (Organization)	Details are placed in a logical order and the way they are presented effectively keeps the interest of the reader.	Details are placed in a logical order, but the way in which they are presented/introduced sometimes makes the writing less interesting.	Some details are not in a logical or expected order, and this distracts the reader.	Many details are not in a logical or expected order. There is little sense that the writing is organized.
Accuracy of Facts (Content)	All supportive facts are reported accurately.	Almost all supportive facts are reported accurately.	Most supportive facts are reported accurately.	NO facts are reported OR most are inaccurately reported.
Adding Personality (Voice)	The writer seems to be writing from knowledge or experience. The author has taken the ideas and made them "his own."	The writer seems to be drawing on knowledge or experience, but there is some lack of ownership of the topic.	The writer relates some of his own knowledge or experience, but it adds nothing to the discussion of the topic.	The writer has not tried to transform the information in a personal way. The ideas and the way they are expressed seem to belong to someone else.
Focus on Topic (Content)	There is one clear, well-focused topic. Main idea stands out and is supported by detailed information.	Main idea is clear but the supporting information is general.	Main idea is somewhat clear but there is a need for more supporting information.	The main idea is not clear. There is a seemingly random collection of information.
Support for Topic (Content)	Relevant, telling, quality details give the reader important information that goes beyond the obvious or predictable.	Supporting details and information are relevant, but one key issue or portion of the storyline is unsupported.	Supporting details and information are relevant, but several key issues or portions of the storyline are unsupported.	Supporting details and information are typically unclear or not related to the topic.
Formatting and Mechanics	No mistakes in spelling, grammar, or formatting of the review	1-3 mistakes in spelling, grammar, or formatting of the review	4-6 mistakes in spelling, grammar, or formatting of the review	More than 6 mistakes in spelling, grammar, or formatting of the review
Musical Vocabulary	All musical vocabulary is used accurately.	Almost all musical vocabulary is used accurately.	Most musical vocabulary is used accurately.	NO musical vocabulary is used..

Formative & Summative Assessments

- class discussion of music traits of various artists
- group written evaluations of artists using rubrics
- a paper reviewing the work of one musical artist

Student Self-Assessment and Reflection

When finished, students will peer-edit their written reviews and perform a self-evaluation on the quality of their own work. Students will reflect on their work by answering the questions:

- How did I subjectively and objectively evaluate the artist?
- Why is it important to be able to critically evaluate music?

Instructional Resources

Materials:

- Musical examples that students can evaluate and easily compare/contrast
- Graphic organizers for brainstorming and outlining written music reviews (see Appendix A)
- Access to computers for typing musical reviews

Differentiation

- **Visual Learners:** Demonstration, handouts, and PowerPoint presentations will be provided.
- **Oral Learners:** Hearing impaired students would be placed closer to the teacher. All materials would be read aloud to students.
- **Kinetic Learners:** Hands-on practice will be a large component overall.

Enrichment

- Evaluating music of another culture in a second written review
- Self-reflection essay

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

Learning Activities: What learning experiences and instruction will enable students to achieve the desired results?

The acronym WHERETO summarizes key elements to consider when designing an effective and engaging learning plan.

W – Help the students know Where the unit is going and What is expected?
Help the teachers know

Where the students are coming from (prior knowledge, interests)

H – Hook all students and Hold their interest?

E – Equip students, help them Experience the key ideas and Explore the issues?

R – Provide opportunities to Rethink and Revise their understandings and work?

E – Allow students to Evaluate their work and its implications?

T – Be Tailored (personalized) to the different needs, interests, and abilities of learners?

O – Be Organized to maximize initial and sustained engagement as well as effective learning?

Lesson 1 (Background)

Answer the question, "What is a music review?" Read a model review and, as a class, list key components of a music review. Establish a class list of musical vocabulary, including words that can describe music and sentence starters for writing about music (see examples in Appendix A).

Lesson 2 (Activity)

Activity: Provide students a variety of musical examples to review. Examples should represent music from a variety of cultures, historical periods, and genres. Students evaluate music in small groups and share their evaluations.

Lesson 3-9 (Writing and Publishing Reviews)

Students write, edit, and publish music reviews of an artist of their choice using the materials provided in Appendix A. The writing, editing, and process involves seven outlined steps:

Step 1: Brainstorming

Step 2: Write a Hook

Step 3: Write a Thesis

Step 4: Outline

Step 5: Write a Rough Draft

Step 6: Write a Peer Review

Step 7: Publish (Type and Print) a Music Review

Lesson 10 (Sharing and Discussion)

Students bring in their published music reviews to share. Students engage in a gallery walk to peruse each others' work, choosing their favorite reviews. In a class discussion, students defend why one review is more or less effective than another in evaluating a musical album.

Appendix A

Sample Resources

SENTENCE STARTERS FOR MUSIC

Choose between four and six to write your paragraph...
or create your own

One word that describes
My first reaction was
I'm not quite sure

The music connects to me
because
I feel this music
I wonder

The music sounds
This music sounds
similar to
For instance
For example
I reacted this way
because
I feel this way because
In fact
In particular

Another reason is
Another example
Another detail is
As Evidence
Perhaps
Also
In addition
Furthermore
Surprisingly
However

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Listening and Responding to Music

(Adapted by Stephanie Stickford from Mary Stockrocki's "Learning to Look/Looking to Learn," and Kathy Lindholm Lane's "Deciphering Dance," January 1997.)

We hear and perform music in many different places each day. We listen and respond to music at home, in our classrooms and music rooms, on the playground, and at concerts and special events. We even hear music in movies, on television and radio, and in stores and shopping malls. In short, music is all around us. While few people will pursue careers as musicians, composers, music teachers, or conductors, we all are appreciators and consumers of music. One way we can understand this art form better is to learn how to listen thoughtfully to the music we hear. Let your ears be the guide; what do you hear? Answer the following questions as you listen. Plan to listen to the selection more than once.

Describing

- **Timbre**
What kinds of instruments and/or voices do you hear?
- **Size of the group performing**
Do you hear a large ensemble, a small ensemble, a soloist?

Analyzing

- **Tempo**
Keep a beat (patting your leg, tapping a pencil) as you listen to the music.

Describe the pace or speed of the beat. Is it steady? Does it ever change? Does it get faster or slower? When does it change?

- **Rhythm**
Are there any patterns of beats, or rhythms that you hear several times in the piece?

Choose one repeated rhythmic pattern to listen for; tap out this rhythm with your pencil each time you hear it in the music.

Create your own symbols for notating this rhythmic pattern. What different symbols can you combine to accurately represent the rhythm?

- **Melody**
Is there a main theme or melody that you hear more than once? Can you hum it along with the music as you hear it?

Describe the shape of this main melody; how are high, medium and low pitches combined to create this theme?

Make a line drawing which depicts the shape of this theme.

- **Dynamics**
Is the music performed at the same volume level throughout, or does the volume change?

What volume levels do you hear? (loud, medium loud, medium soft, soft) Describe the dynamics of the piece.

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Listening and Responding to Music (Continued)

- **Words**
What are the words about? What ideas or thoughts do the words suggest?

Do the words tell a story? If so, what is the story?
- **Style**
Do you have an idea about which style of music this piece represents? Is it rock and roll, rap, classical, gospel, jazz, country western, music of culture from another country, etc?

Interpreting

- **Mood**
List some adjectives which describe how the mood of this music sounds to you.

What do you hear in the music that suggests this mood?

Does the mood ever change? Describe the changes.

If the music does not have words, skip to the next question. If the music does have words, what does the music contribute to the text? How does the music help tell the story of the text?

What title would you give this piece of music? Why?

Evaluating

There are many ways to respond to music. Sometimes when we hear music we want to hum or tap our toes, and sometimes we may want to cover our ears! Each person's genuine response to a piece of music is important. It is equally important to consider why we respond as we do. After listening thoughtfully to a piece of music, it is possible to respond to it thoughtfully.

- Describe your response to this piece. Be specific; utilize musical terms to discuss your response. Use ideas from the answers to the questions above. Describe anything about this piece that you liked or enjoyed. Describe anything about this piece that you disliked or did not enjoy.
- Who do you think would appreciate a performance of this piece of music (you, your friends, adults, adolescents, children, dancers, musicians, etc.)? Why?

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Musical Adjectives

glorious
triumphant/al
wonderful
great
thrilling
gentle
sweet
flowing
fluid
lush
rich
heavy
sombre
solemn
dramatic
exciting
bombastic
colourful
lean
beautiful
gorgeous
full
thin
uplifting

dry
driving
sensitive
kitschy
schmaltzy
tense
dense
trudgy
abusive
reedy
brassy
catastrophic
cataclysmic
cacophonous
dissonant
consonant
edgy
brilliant
sparkling
romantic
lovely
ebullient
amorphous
energizing

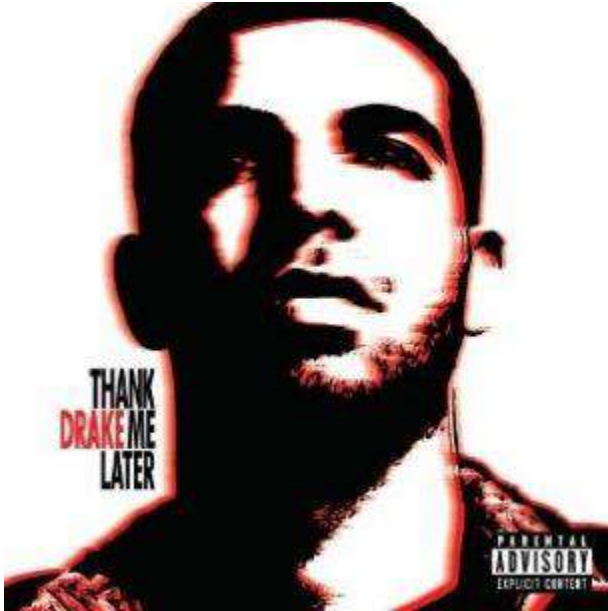
dark
light
intense
sensuous/al
static
revolutionary
upbeat
uptempo
lively
jaunty
bouncy
fun
refreshing
funny
humorous
amusing
tedious
endless
enchanted
mysterious
disturbing
intelligent
inspirational
inspiring

MUSIC REVIEW PROJECT PACKET

Drake

Thank Me Later

by Andres Vasquez



Drake has dominated the Hip Hop conversation for the last year. The Toronto-born emcee who acknowledges both Lil Wayne and Slum Village as leading influences polarizes fans with every verse, every interview and every punchline. Since Drake released his *So Far Gone* mixtape early last year (before scanning over 400,000 units to date in retail), he's been the talk of the times. Delivering an official debut in *Thank Me Later*, a confident (if not cocky) title that asserts Drake's awareness that he's changing the game. Poised to follow up his acclaimed tape and create a first round classic like his heroes Nas and Jay-Z did before him, he unfortunately falls short on both counts.

That's not to say the album doesn't have positive qualities, but even those highlights can be dimmed. His earnest bars deserve some applause, especially when he shares tidbits about his family ("I heard they just moved my grandmother to a nursing home / And I be actin' like I don't know how to work a phone

/ But hit redial, you'll see that I just called / Some chick I met at the mall that I barely know at all"). All of this comes before talking about abortion and infidelity. While honesty is refreshing, Drake still shifts to being cold and impersonal, when even the always-reserved Jay-Z was capable of "Regrets" on his own debut. Unlike other artists that share dire struggles for a personal connection with a listener, many of Drake gripes don't seem to resonate as strongly as, say, Eminem discussing Munchausen Syndrome or Notorious B.I.G.'s passionate outcry that his stress comes from his mother's breast cancer. It might seem unfair to judge a new comer against all-time greats. Then again, when an artist crowns himself the "greatest ever" to start the conversation, it's difficult not to hold his work accountable to higher standards. In that respect, this album disappoints with no outstanding technical skills or word wizardry, unless one counts those pesky punchlines as ill ("I could teach you how to speak my language, Rosetta Stone").

Drake does succeed in pulling out all the stops, and making his proper debut feel as big as any we've seen since *The College Dropout*. Top tier guests like Jay-Z, Lil Wayne, T.I., and Alicia Keys are on-hand to cosign Drake's arrival, all of whom experiment with the song-making and style that the host has brought to Rap in the last year. Fans may also be excited by the production from big name producers Kanye West ("Show Me a Good Time" and "Find Your Love"), Boi-1da ("Up All Night," "Over" and "Miss Me"), Swizz Beatz ("Fancy") and Timbaland ("Thank Me Now"). But the album also loses its luster with some of the slower-paced material and big names don't always translate to worthwhile collaborations, such as the Jeezy-assisted, "Unforgettable" and the aforementioned "Fancy."

On "Light Up" Drake could be referring to *Thank Me Later* when he declares he "wrote it for your girlfriends." As the artist admits, this album was made with a specific purpose, and one Drake shares with many of Rap's platinum stars of today: commerce before art. However, the album will keep some of his *So Far Gone* fan base pleased with the brief revelations and the cosigns. Others may fault the young star, perhaps due to lyrical struggles, vocal troubles or a lack of cohesion and concept. Like a heavily co-signed star from the top of the decade, 50 Cent, Drake proves that he can give you two sides of himself and his art: the mixtape and the album, and as Black Sheep say, the choice is yours.

Warm-Up

With a partner, read the review of Drake's *Thank Me Later*. What kind of information does it give? Make a list of at least 5 things below:

Step 1: Brainstorm for your own Music Review

- Pick a CD to review. This should be a CD that you know very well, and that you have a strong opinion about (either positive or negative).
- What CD are you reviewing?

Title: _____

Artist: _____

Step 1 Continued: Brainstorm for your own Music Review

- In the big rectangle below: Write one sentence that gives your opinion of the CD you are reviewing. You should be able to support your opinion with details about the CD. Someone should be able to disagree with you!
- In the bubbles: Write reasons or examples from the music on the CD that support your opinion.

The form consists of a large empty rectangle at the bottom, intended for writing a single sentence of opinion. Above this rectangle are four empty ovals, two on the left and two on the right, intended for writing reasons or examples from the music. The ovals are arranged in two rows of two.

- Now, circle the two bubbles that are your best and that you feel comfortable writing about. You will use these in your review, so make sure you want to write about them.

Copy the reasons from your bubbles below. Then, come up with a SPECIFIC EXAMPLE from lyrics on the CD that makes each reason strong.

Reason 1 _____

Example _____

Reason 2 _____

Example _____

*****HINT: If this part is confusing to you, take a look at this example from the *Thank Me Later* review.**

Reason: "His earnest bars deserve some applause, especially when he shares tidbits about his family."

Example: "I heard they just moved my grandmother to a nursing home / And I be actin' like I don't know how to work a phone / But hit redial, you'll see that I just called / Some chick I met at the mall that I barely know at all").

Step 2: Write a Hook

The purpose of the hook is to grab your reader's attention. Some types of hooks include:

1. Opening with an unusual detail: (Manitoba, because of its cold climate, is not thought of as a great place to be a reptile. Actually, it has the largest seasonal congregation of garter snakes in the world!)
2. Opening with a strong statement: (Cigarettes are the number one cause of lighter sales in Canada!)
3. Opening with a Quotation: (Elbert Hubbard once said , "Truth is stronger than fiction.")
4. Opening with an Anecdote: An anecdote can provide an amusing and attention-getting opening if it is short and to the point.
5. Opening with a Statistic or Fact: Sometimes a statistic or fact will add emphasis or interest to your topic. It may be wise to include the item's authoritative source.
6. Opening with a Question. (Have you ever considered how many books we'd read if it were not for television?)
7. Opening with an Exaggeration or Outrageous Statement. (The whole world watched as the comet flew overhead.)

What type of hook does the review of Drake's *Thank Me Later* use?

Now you try it...Write a hook below that will catch the interest of your reader. Which type of hook are you using? Write the number of the type of hook you chose.

• **Hook:** _____

• **Number:** _____

Step 3: Write a THESIS

Your THESIS is a FOCUSED ARGUMENT. Your ARGUMENT is the opinion you have about the CD (from the rectangle in Step 1). The FOCUS is the three reasons that support your argument (from the bubbles you chose). Use this structure:

_____ , because

and _____ .

Step 4: Outline

An outline gives the “bare bones” of what will be included in your review. Make sure to include the information listed by each letter in the outline. You should already have your Hook and Thesis. You should also have the topic of each body paragraph and your specific example (see Step 1). Don’t move forward unless you are ready! **REMEMBER: This outline is the MINIMUM you need to include. You may always write more if you wish.** 😊

I. Introduction (At least 5 sentences)

- a. Hook
- b. Sentence that includes the type of music being discussed (hip-hop, rock, etc.)
- c. Statement of where the artist is from
- d. Statement giving one other interesting fact about the artist
- e. Thesis

II. Body Paragraph 1 (At least 8 sentences)

- a. Topic Sentence that supports the THESIS
- b. Lyrics from songs on the CD that support your Topic Sentence
- c. Sentences that mention at least two songs that you feel strongly about/dislike
- d. Sentences that include at least FOUR descriptive adjectives to describe songs
- e. Sentence that mentions at least one element of melody from Do Now sheet
- f. Sentence that mentions at least one element of rhythm from Do Now sheet
- g. Conclusion (Answers the question “So what?”)

III. Body Paragraph 2 (At least 8 sentences)

- a. Topic Sentence that supports the THESIS
- b. Lyrics from songs on the CD that support your Topic Sentence
- c. Sentences that mention at least two songs that you feel strongly about/dislike
- d. Sentences that include at least FOUR descriptive adjectives to describe songs
- e. Sentence that mentions at least one element of melody from Do Now sheet
- f. Sentence that mentions at least one element of rhythm from Do Now sheet
- g. Conclusion (Answers the question “So what?”)

IV. Conclusion (At least 3 sentences)

- a. Strong concluding statement about the album that agrees with the THESIS
- b. Prediction about what fans will think of the album
- c. Strong concluding statement that restates your opinion of the album from your THESIS

Your Outline

I. Introduction:

II. Body Paragraph 1:

III. Body Paragraph 2:

IV. Conclusion:

Step 5: Rough Draft

- Now it's time to take all the work you've done so far and use it to actually write a music review. Write your review on the lines below. Make sure to include all of the information from your outline. Keep the information in the order that it appears on the outline.
- Things to REMEMBER as you write your ROUGH DRAFT.
 - Your review should include the name of the CD, the name of the artist, and your name in the upper left corner.
 - Example: **Drake**
Thank Me Later
by Andres Vasquez
 - When you name the CD, underline or italicize it.
 - Example: *Thank Me Later* or Thank Me Later
 - When you name a song, put quotes around it.
 - Examples: "Up All Night," "Over" and "Miss Me"
 - All paragraphs should be indented (1/2-inch or one finger space). That means your rough draft should have FOUR indents, one for each required paragraph.
 - When you quote lyrics, make sure to format them properly with quotes and parenthesis.
 - Punctuation (periods, commas, etc.) should always be placed INSIDE quotes

TRY IT: Put the punctuation where it belongs in the examples below. Look at the Drake review for help.

-Example 1: ...such as the Jeezy-assisted, "Unforgettable" and the aforementioned "Fancy"

-Example 2: Drake could be referring to *Thank Me Later* when he declares he "wrote it for your girlfriends"

-Example 3: Fans may also be excited by the production from big name producers...Boi-1da ("Up All Night" "Over" and "Miss Me"), Swizz Beatz ("Fancy") and Timbaland ("Thank Me Now").

- Put parenthesis around lyrics when using them to support an argument or claim you are making. Punctuation (periods, commas, etc.) goes OUTSIDE of parenthesis

TRY IT: Put the parenthesis where they belong in the examples below. Look at the Drake review for help.

-Example 1: unless one counts those pesky punchlines as ill "I could teach you how to speak my language, Rosetta Stone" .

-Example 2: Kanye West "Show Me a Good Time" and "Find Your Love" , Boi-1da "Up All Night," "Over" and "Miss Me" , Swizz Beatz "Fancy" and Timbaland "Thank Me Now" .

- Put slashes in between lines of lyrics.

TRY IT: Put the parenthesis and slashes where they belong in the example below.

-Example: His earnest bars deserve some applause, especially when he shares tidbits about his family "I heard they just moved my grandmother to a nursing home And I be actin' like I don't know how to work a phone But hit redial, you'll see that I just called Some chick I met at the mall that I barely know at all" .

Step 6: Peer Review

The purpose of peer review is to have someone else read your writing to give you feedback on it and catch mistakes that you may not have seen.

Directions for Peer Review Session:

1. Trade papers with a partner. My partner's name: _____
2. Each item in the list below is a required item for your partner's music review. Make an "X" in the list below for each item that you find. Under each item that you don't find, make a note for your partner telling them what was missing and how to fix it.
3. After you fill out the Peer Review List, finish the sentence starters that appear below the list.
4. Once both the Peer Review List and Sentence Starters are complete, give your partner their paper back and each of you should make at least 3 CHANGES to your Rough Draft.

Peer Review List

___ Review has artist, album name, and author's name written in the upper left corner.

___ All paragraphs are indented correctly (1/2-inch indentation).

___ Review has been checked for capitalization and punctuation.

___ Song titles have quotes around them when used in the review.

___ Album name is *italicized* or underlined when used in the review.

___ Introduction opens with a hook that grabs the reader's attention.

___ Introduction mentions the type of music being discussed (hip-hop, rap, indie rock, etc.).

___ Introduction tells where artist is from and gives one other interesting fact about the artist.

___ The last sentence of the introduction is a THESIS that gives author's opinion on the album.

___ Introduction includes at least 5 sentences.

___ Body includes 2 logically organized body paragraphs.

___ Each body paragraph is at least 8 sentences.

___ Each body paragraph begins with a strong topic sentence that supports the THESIS.

Prestige Academy Charter School

___ Each paragraph ends with a concluding sentence that answers the question, “So what?”

___ Each body paragraph mentions at least two songs that author either feels strongly about or dislikes.

___ Each body paragraph uses properly formatted lyrics with quotes, parenthesis, and slashes to support author’s opinions.

___ Each body paragraph uses at least four descriptive adjectives to describe songs.

___ Each body paragraph mentions at least one element of melody and one element of rhythm from Do Now sheets.

___ Conclusion paragraph begins with a strong concluding statement about the album that agrees with the THESIS.

___ Conclusion makes a prediction about what fans will think of the album.

___ Conclusion ends with a strong concluding sentence that restates author’s opinion of the album from their THESIS.

___ Conclusion includes at least 3 sentences.

Peer Review Sentence Starters

1. I like the part where _____ because _____.
2. Could you add more about _____ because _____.
3. What if you deleted _____ because _____.

Scope & Sequence Visual Arts

Teacher: Dana Davisson

Subject: Visual Art

Grade: 5th & 6th

Differentiated Instructional Strategies and Inquiry-Based Formative Assessments

Prestige's Visual Arts instructor uses a variety of differentiated instructional strategies and formative assessments, including the following:

Differentiated Instructional Strategies	Formative Assessments
Reading passages related to the art project	Student self reflection (rubric-based, checklist, and/or written)
Picture walk of professional and student samples of related art work	Student art work portfolios
Group art projects	Sketchbook checks (rubric-graded by teacher)
Working in a variety of mediums (paint, oil pastels, charcoal, pencil, collaging, etc.)	Final projects for each unit of instruction
Written reflections and descriptions for final projects for each unit of instruction	Voluntary participation in spring art expo, in conjunction with spring orchestra concert

Incorporating Essential Questions

Prestige's Visual Arts instructor posts each lesson's essential question on their agenda boards below the Common Core standard. Each essential question is referenced at the beginning of a lesson, during direct instruction, and is summarized by scholars at the end of class (either in written or oral form).

Delaware State Standards

Standard 1: Understanding and applying media, techniques and processes

Essential Questions: Why do artists select one medium over another? To what extent can media be manipulated using a variety of techniques and processes?

- 1.1 Select and use different media, techniques and processes that are used to create works of art
- 1.2 Use selected two-dimensional and three-dimensional media to communicate ideas
- 1.3 Use media and tools in a safe and responsible manner
- 1.4 Demonstrate how a single medium or technique can be used to create multiple effects in works of art
- 1.5 Compare and contrast the different effects created by various two-dimensional and three-dimensional works of art
- 1.6 Identify different media, techniques and processes that are used to create works of art
- 1.7 Describe how media and techniques are used to create two-dimensional and three dimensional works of art

Standard 2: Using knowledge of structures and functions

Essential Questions: To what extent is a work of art dependent upon the point of view of the artist? To what extent is a work of art dependent upon the point of view of the viewer? How and why is art used as a vehicle for communication? To what extent does good design integrate form with function?

- 2.1 Identify the elements of art
- 2.2 Select and use the elements of art in works of art
- 2.3 Identify the principles of design
- 2.4 Analyze the elements of art
- 2.5 Evaluate works of art in terms of structure and function
- 2.6 Analyze the principles of design

- 2.7 Select and use the principles of design in works of art
- 2.8 Select and apply the knowledge of the elements of art and principles of design to convey ideas in works of art
- 2.9 Plan, design and execute multiple solutions to challenging visual arts problems
- 2.10 Analyze how the elements of art and principles of design applied through various media, techniques and processes produce different effects

Standard 3: Choosing and evaluating a range of subject matter, symbols and ideas

Essential Questions: What is art? How does the use of specific symbols influence the meaning of a work of art? What makes art more or less authentic?

- 3.1 Identify subject matter, symbols and ideas in works of art
- 3.2 Integrate a variety of sources for subject matter, symbols and/or ideas which best communicate an intended meaning in works of art
- 3.3 Evaluate the sources for content to validate the manner in which subject matter, symbols and ideas are used in works of art
- 3.4 Select and use subject matter, symbols and ideas to communicate meaning in works of art
- 3.5 Describe and differentiate the origins of specific subject matter, symbols and ideas in works of art
- 3.6 Analyze how the use of subject matter, symbols and ideas are used in works of art

Standard 4: Understanding the visual arts in relation to history and cultures

Essential Questions: To what extent does history reflect upon and have an influence on art? To what extent does art reflect upon and have an influence on history?

- 4.1 Identify historical and cultural characteristics of works of art
- 4.2 Describe how the arts and artists influence each other across history and cultures
- 4.3 Compare the purpose of works of art and design in history and cultures
- 4.4 Speculate on how history and culture give meaning to a work of art
- 4.5 Describe and differentiate the roles of artists in society across history and cultures
- 4.6 Describe how history and cultures influence the visual arts
- 4.7 Describe how the visual arts influence history and cultures

Standard 5: Reflecting upon and assessing the characteristics and merits of their work and the work of others

Essential Questions: What makes some works of art great? When does a work of art have merit? To what extent is it adequate or appropriate to say, "I like it," or "I don't like it," when discussing the merit of a work of art?

- 5.1 Discuss how individual experiences influence personal works of art
- 5.2 Identify ways the visual arts are used as communication
- 5.3 Describe personal responses to selected works of art
- 5.4 Analyze works of art to speculate why they were created
- 5.5 Evaluate the artist's intent and effectiveness in communicating ideas and emotions in works of art
- 5.6 Apply visual arts vocabulary when reflecting upon and assessing works of art
- 5.7 Describe how a work of art can convey a voice of one or a voice of many

Standard 6: Making connections between visual arts and other disciplines

Essential Questions: How is learning deepened through a study of visual art? In what ways do the learning processes occurring in visual art differ from the learning processes in other disciplines?

- 6.1 Compare and contrast relationships and characteristics between the visual arts and other disciplines
- 6.2 Compare the use of technology, media and processes of the visual arts with other disciplines
- 6.3 Describe and/or demonstrate how skills transfer between the visual arts and other disciplines

6.4 Describe how learning in the visual arts helps develop essential skills for life and the workplace

Each 5th and 6th grade class attends one art class per week. Therefore, each Art Unit will take approximately 4 – 7 weeks to complete. Please see units, dates taught, and objectives addressed below.

Dates	Unit Title	Standards Addressed
September 6 – October 14, 2011	Illustration in Color: Using the "Elements of Art" chart, organize colors into warm and cool. Using a variety of mediums (colored pencils, markers, crayons, paint) each student is to make a new illustration for a book using contrasting warm and cool colors (one in the foreground, one in the background).	<p>Eric Carle, Jan Brett, N.C. Wyeth, Jack Kirby, Howard Pyle</p> <p>1.1 Select and use different media, techniques and processes that are used to create works of art 1.2 Use selected two-dimensional and three-dimensional media to communicate ideas 1.3 Use media and tools in a safe and responsible manner 1.6 Identify different media, techniques and processes that are used to create works of art</p> <p>2.1 Identify the elements of art 2.2 Select and use the elements of art in works of art</p> <p>5.1 Discuss how individual experiences influence personal works of art 5.2 Identify ways the visual arts are used as communication 5.3 Describe personal responses to selected works of art 5.4 Analyze works of art to speculate why they were created 5.5 Evaluate the artist's intent and effectiveness in communicating ideas and emotions in works of art 5.6 Apply visual arts vocabulary when reflecting upon and assessing works of art</p>
October 17 – November 22, 2011	Street Art: A low-budget, exciting way to explore the function and creative process of public art while gaining a deeper understanding of Haring's work. Known as il madonari in Italy, (I modinari means "street painter" in Italian). Students will create an original painting on a rock. The completed rock will be placed throughout the city of Wilmington where others can find it and photograph it.	<p>Keith Haring, http://muralarts.org/, http://www.haringkids.com/lesson_plans/learn/street-art-project</p> <p>1.1 Select and use different media, techniques and processes that are used to create works of art 1.2 Use selected two-dimensional and three-dimensional media to communicate ideas 1.3 Use media and tools in a safe and responsible manner 1.6 Identify different media, techniques and processes that are used to create works of art</p> <p>4.1 Identify historical and cultural characteristics of works of art 4.2 Describe how the arts and artists influence each other across history and cultures 4.3 Compare the purpose of works of art and design in history and cultures 4.4 Speculate on how history and culture give meaning to a work of art 4.5 Describe and differentiate the roles of artists in society across history and cultures 4.6 Describe how history and cultures influence the visual arts</p>

		<p>4.7 Describe how the visual arts influence history and cultures</p> <p>5.1 Discuss how individual experiences influence personal works of art</p> <p>5.2 Identify ways the visual arts are used as communication</p> <p>5.3 Describe personal responses to selected works of art</p> <p>5.4 Analyze works of art to speculate why they were created</p> <p>5.5 Evaluate the artist's intent and effectiveness in communicating ideas and emotions in works of art</p> <p>5.6 Apply visual arts vocabulary when reflecting upon and assessing works of art</p>
<p>November 28 – December 22, 2011</p>	<p>Communicating Feelings through Shape and Color: Focus on how artists use line, color, and shape to convey their feelings. Students will create a self-silhouette, include a painting within their silhouette shape using lines, shapes, and color to illustrate how they feel about being a fifth/sixth grader.</p>	<p>Kadinsky, Karl Johnson</p> <p>1.1 Select and use different media, techniques and processes that are used to create works of art</p> <p>1.2 Use selected two-dimensional and three-dimensional media to communicate ideas</p> <p>1.3 Use media and tools in a safe and responsible manner</p> <p>1.6 Identify different media, techniques and processes that are used to create works of art</p> <p>2.1 Identify the elements of art</p> <p>2.2 Select and use the elements of art in works of art</p> <p>2.3 Identify the principles of design</p> <p>2.7 Select and use the principles of design in works of art</p> <p>2.8 Select and apply the knowledge of the elements of art and principles of design to convey ideas in works of art</p> <p>3.1 Identify subject matter, symbols and ideas in works of art</p> <p>3.2 Integrate a variety of sources for subject matter, symbols and/or ideas which best communicate an intended meaning in works of art</p> <p>3.4 Select and use subject matter, symbols and ideas to communicate meaning in works of art</p> <p>5.1 Discuss how individual experiences influence personal works of art</p> <p>5.2 Identify ways the visual arts are used as communication</p> <p>5.3 Describe personal responses to selected works of art</p> <p>5.4 Analyze works of art to speculate why they were created</p> <p>5.5 Evaluate the artist's intent and effectiveness in communicating ideas and emotions in works of art</p> <p>5.6 Apply visual arts vocabulary when reflecting upon and assessing works of art</p>
<p>January 4 – February 16, 2012</p>	<p>Geometric Pattern-Illusions: The artist sets up the conditions, and the observer reacts to them in a certain way. Change from one visual pattern to another may also occur in the virtual movement experience. Students will describe, represent and analyze patterns and</p>	<p>M. C. Escher, Bridget Riley, Salvador Dali, Giuseppe Arcimboldo, Marcel Duchamp, Oscar Reutersvärd, Victor Vasarely and Charles Allan Gilbert</p> <p>1.1 Select and use different media, techniques and processes that are used to create works of art</p> <p>1.2 Use selected two-dimensional and three-dimensional media to communicate ideas</p> <p>1.3 Use media and tools in a safe and responsible manner</p> <p>1.4 Demonstrate how a single medium or technique can be</p>

	<p>relationships using shapes by creating simple geometric patterns. Students will demonstrate increasing technical ability and skill to complete visual arts assignments. Students will correctly use a ruler to measure distances on paper.</p>	<p>used to create multiple effects in works of art 1.5 Compare and contrast the different effects created by various two-dimensional and three-dimensional works of art 1.6 Identify different media, techniques and processes that are used to create works of art</p> <p>5.1 Discuss how individual experiences influence personal works of art 5.2 Identify ways the visual arts are used as communication 5.3 Describe personal responses to selected works of art 5.4 Analyze works of art to speculate why they were created 5.5 Evaluate the artist's intent and effectiveness in communicating ideas and emotions in works of art 5.6 Apply visual arts vocabulary when reflecting upon and assessing works of art</p> <p>6.3 Describe and/or demonstrate how skills transfer between the visual arts and other disciplines (math) 6.4 Describe how learning in the visual arts helps develop essential skills for life and the workplace (math)</p>
<p>February 21 – March 30, 2012</p>	<p>Quilt Squares: Students will explore the history and evolution of quilts as a piece of artwork as well as a useful object. Students will compare and contrast quilts from various cultures including "Freedom Quilts" and Amish quilts. Students will demonstrate understanding of the elements of art and principles of design by creating their own quilt squares. Creation of the quilt squares requires mastery of shape, color, repetition, balance, and proportion.</p>	<p>Amish quilts, Freedom quilts, Charlotte Warr Andersen</p> <p>1.1 Select and use different media, techniques and processes that are used to create works of art 1.2 Use selected two-dimensional and three-dimensional media to communicate ideas 1.3 Use media and tools in a safe and responsible manner 1.6 Identify different media, techniques and processes that are used to create works of art</p> <p>4.1 Identify historical and cultural characteristics of works of art 4.2 Describe how the arts and artists influence each other across history and cultures 4.3 Compare the purpose of works of art and design in history and cultures 4.4 Speculate on how history and culture give meaning to a work of art 4.5 Describe and differentiate the roles of artists in society across history and cultures 4.6 Describe how history and cultures influence the visual arts 4.7 Describe how the visual arts influence history and cultures</p> <p>5.1 Discuss how individual experiences influence personal works of art 5.2 Identify ways the visual arts are used as communication 5.3 Describe personal responses to selected works of art 5.4 Analyze works of art to speculate why they were created 5.5 Evaluate the artist's intent and effectiveness in communicating ideas and emotions in works of art 5.6 Apply visual arts vocabulary when reflecting upon and assessing works of art</p> <p>6.3 Describe and/or demonstrate how skills transfer between the visual arts and other disciplines 6.4 Describe how learning in the visual arts helps develop essential skills for life and the workplace</p>

<p>April 2 - May 18, 2012</p>	<p>Self-Portraits: Students will learn about the artists Frida Kahlo, Chuck Close, and Giuseppe Arcimboldo, and how they were influenced by their cultures, times, and/or places. Students will learn to create their own self-portrait using different elements and principles of design. This unit should be taught in the beginning of the year to introduce the students to portraiture and using the different media. Students will create portraits inspired by artists studied in class using their choices of media.</p>	<p>Frida Kahlo, Chuck Close, and Giuseppe Arcimboldo</p> <p>1.1 Select and use different media, techniques and processes that are used to create works of art 1.2 Use selected two-dimensional and three-dimensional media to communicate ideas 1.3 Use media and tools in a safe and responsible manner 1.6 Identify different media, techniques and processes that are used to create works of art</p> <p>4.1 Identify historical and cultural characteristics of works of art 4.2 Describe how the arts and artists influence each other across history and cultures 4.3 Compare the purpose of works of art and design in history and cultures 4.4 Speculate on how history and culture give meaning to a work of art 4.5 Describe and differentiate the roles of artists in society across history and cultures 4.6 Describe how history and cultures influence the visual arts 4.7 Describe how the visual arts influence history and cultures</p> <p>5.1 Discuss how individual experiences influence personal works of art 5.2 Identify ways the visual arts are used as communication 5.3 Describe personal responses to selected works of art 5.4 Analyze works of art to speculate why they were created 5.5 Evaluate the artist's intent and effectiveness in communicating ideas and emotions in works of art 5.6 Apply visual arts vocabulary when reflecting upon and assessing works of art</p>
<p>May 21 – June 12, 2012</p>	<p>Painting Still Life: Raised awareness of negative space and positive shapes within a still life will help students overcome compositional problems with painting. Furthermore, observing shadows within negative space can create interesting still life studies. Students may be encouraged to observe the shape of the shadows as the light source is shifted, as well as hues within.</p>	<p>Conor Walton, Rachel Ruysch, Paul Cezanne, Giorgio Morandi, Francisco de Zurbaran</p> <p>1.1 Select and use different media, techniques and processes that are used to create works of art 1.2 Use selected two-dimensional and three-dimensional media to communicate ideas 1.3 Use media and tools in a safe and responsible manner 1.6 Identify different media, techniques and processes that are used to create works of art</p> <p>2.1 Identify the elements of art 2.2 Select and use the elements of art in works of art 2.3 Identify the principles of design 2.7 Select and use the principles of design in works of art 2.8 Select and apply the knowledge of the elements of art and principles of design to convey ideas in works of art</p> <p>5.1 Discuss how individual experiences influence personal works of art 5.2 Identify ways the visual arts are used as communication 5.3 Describe personal responses to selected works of art 5.4 Analyze works of art to speculate why they were created 5.5 Evaluate the artist's intent and effectiveness in communicating ideas and emotions in works of art 5.6 Apply visual arts vocabulary when reflecting upon and</p>



A COLLEGE PREPARATORY CHARTER SCHOOL
FOR BOYS
WILMINGTON, DELAWARE
GIVING BOYS A REAL CHANCE FOR A REAL FUTURE

January 3, 2012

Education Associate for Charter School Program
Delaware Department of Education
401 Federal Street, Suite 2
Dover, DE 19901

5th & 6th Grade Music Theory

Units of Instruction

Overview:

Curriculum development is an important part of what every teacher does, and at Prestige Academy Charter School, we spend a lot of time and energy documenting this work in a consistent and useful format. Prestige Academy Charter School teachers must develop curriculum aligned with the Delaware State Standards and the National Common Core Standards. While State and Common Core learning standards, objectives and skills are not all-encompassing, they must be the starting point for all teacher planning and course curriculum. Prestige Academy Charter School teachers must ensure that every unit addresses Delaware and Common Core standards and that each and every standard receives sufficient attention during the school year.

All curricula is comprised of **clear** and **measurable** standards. Clear and measurable standards are those that clearly define what students should know and are easily assessable. At Prestige Academy Charter School, our teachers and instructional leaders approach curriculum and instruction with urgency and a focus on achievement while making our lessons and day-to-day activities fun and engaging as to create a lifelong love of learning for our scholars.

The following units of study for 5th & 6th Grade Music Theory were chosen because they clearly illustrate Prestige Academy Charter School's commitment to rigorous, engaging, standards-based instruction. Furthermore, the units chosen, Musical Notation and Money, Recorder Karate, and Writing Music Reviews, encompass numerous Delaware State Music standards. Some modifications to these units of study were made to accommodate our all-boys demographic including: more hands-on learning,

1121 THATCHER STREET · WILMINGTON, DE 19802 ·

PHONE: 302.762.3240 · FAX: 302.762.4782

Prestige Academy prepares young men in grades 5-8 for admission to and success in demanding college preparatory high schools. In a highly structured, achievement-oriented school culture, Prestige Academy students develop a strong academic foundation in the core subjects and the REAL values necessary for success: Respect and Responsibility, Excellence in Behavior, Academic Mastery, and Leadership.

collaborative partner work, auditory learning activities, and clearly communicated performance goals.

The following units of instruction reflect our commitment to Music Theory, with each 5th and 6th grade student receiving 25 - 45 minutes of art instruction per week.

In closing, please note that our teachers are using a modified version of state of Delaware Model Units for Music Theory. The units we have submitted reflect a deep dive into the most essential skills and standards for our scholars.

Enclosures:

"Musical Notation and Money" Unit Plan written by Shirley Brockenborough, modified by Dana Davisson

"Recorder Karate" Unit Plan written by Julia Wade

"Writing Music Reviews" Unit Plan written by Barb Philipak, modified by Julia Wade

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You should have a written response to all of the below instructions with details in addition to the budget pages that follow these

The written response explaining how you arrived at all of your budget figures should accompany the budget pages listed as tabs at the bottom of this document. Also attach any detail you received from outside sources such as quotes, invoices from other schools, budgets from other schools, amortization schedules etc. Print all three tabs as well as your detailed explanation and submit them with your application.

***** If you have any problems with this spreadsheet and the calculations please contact Scott Kessel at 302-735-4050.**

There are three budget tabs at the bottom of this page.

Year 1 for new charters is the plan year with no students. Year 1 for renewals and modifications is the current fiscal year.

First: Click on the State and Local Funds tab and follow these directions

- LINE 1 Enter the amount of the State Funds that were calculated from the Charter School Web Site Revenue Estimates located at <http://www.doe.k12.de.us/programs/charterschools/files/Revenue%20Estimates.xls>
- LINE 2 If your estimates did not come from this spreadsheet you must provide an explanation with details on how you arrived at your estimate.
- LINE 3 Same as LINE 1. This number should come from the same spreadsheet. If it does not, explain how you arrived at the number in detail.
- LINE 4 If there is a balance at the end of the prior year enter it here as carryover funds.
- LINE 4 Enter any dollars that you receive for Construction Loans here in the year that you would receive them. Also include the terms and conditions of the loan as well as a repayment schedule as a part of this section of your application package.
- LINE 5 Enter the dollars in the year that you would receive this money as well as the terms and conditions of any lease or loan.
- LINE 6 List any revenue not previously mentioned above. Make sure to include any agreements signed with terms and conditions and any payment plans.
- LINE 7-13 Enter the amount of salaries for the year. Be sure to include an explanation of how you arrived at this number. Is it an average salary or some other method of calculation? Are you using a pay scale? Please include your salary calculation process description in
- LINE 14 Automatically calculated
- LINE 15 Enter amount for all Health Insurance costs and describe in detail how you calculated that number. Show the sources you used to get this value.
- LINE 16 Include any other benefits costs you plan to provide to your staff that is above and beyond any of the above benefits.
- LINE 17-44 **Include the costs associated with each of the following lines. Please provide extensive details on how you arrived at these numbers. Did you estimate a cost per student? Did you get quotes from vendors? The more concrete the detail the better. Guessing at an average is far less concrete and shows less attention to detail and commitment than actually getting quotes from vendors or getting estimates from others with experience in these areas. The more back up you have to support this number the more confidence the approvers have in your commitment to this process. You should have detail for every line on the budget.**

Next: Click on the Federal Funds tab and follow these directions

- LINE 1 Charter School Federal Start Up Funds may be available to NEW APPLICANTS ONLY. The current schedule of allocating these funds is \$125,000 in the first year, \$300,000 in the second year and \$300,000 in the third year. These funds are only available if the Federal Government appropriates them. Please keep in mind that you must meet certain requirements to receive these funds as outlined in the Subgrant Application for Start up Funds available from Linda Fleetwood, Education Associate, Charter School Program.
- LINE 2 As state above the Start Up Funds are contingent upon availability from the Federal Government Charter Schools Program Contact Tammy Korosec, Education Associate for Federal Funds at the Delaware Department of Education. Phone Number - 302-735-4040. Mrs. Korosec will provide you with an estimate of what you will receive in federal entitlement funds.
- LINE 3-9 Enter the amount of salaries for the year. Be sure to include an explanation of how you arrived at this number. Is it an average salary or some other method of calculation? Are you using a pay scale? Please include your salary calculation process description in
- LINE 10 Automatically calculated
- LINE 11 Enter amount for all Health Insurance costs and describe in detail how you calculated that number. Show the sources you used to get this value.
- LINE 12 Include any other benefits costs you plan to provide to your staff that is above and beyond any of the above benefits.
- LINE 13-40 **Include the costs associated with each of the following lines. Please provide extensive details on how you arrived at these numbers. Did you estimate a cost per student? Did you get quotes from vendors? The more concrete the detail the better. Guessing at an average is far less concrete and shows less attention to detail and commitment than actually getting quotes from vendors or getting estimates from others with experience in these areas. The more back up you have to support this number the more confidence the approvers have in your commitment to this process. You should have detail for every line on the budget.** Keep in mind that Federal Funds are very specific in what and how they can be used. Do not plan to use these funds for any purpose other than what they are intended to be used. Mrs. Korosec can provide guidance in this area.

Finally: Click on the Other Funds tab and follow these directions

- LINE 1 Provide detail on how you arrived at this number. If there are other sources outside of the resources on the previous 2 tabs please list them here and attach detail explanation how you will obtain this money.
- LINE 2-8 Enter the amount of salaries for the year. Be sure to include an explanation of how you arrived at this number. Is it an average salary or some other method of calculation? Are you using a pay scale? Please include your salary calculation process description in
- LINE 9 Automatically calculated
- Line 10 Enter amount for all Health Insurance costs and describe in detail how you calculated that number. Show the sources you used to get this value.
- Line 11 Include any other benefits costs you plan to provide to your staff that is above and beyond any of the above benefits.
- LINE 12-39 **Include the costs associated with each of the following lines. Please provide extensive details on how you arrived at these numbers. Did you estimate a cost per student? Did you get quotes from vendors? The more concrete the detail the better. Guessing at an average is far less concrete and shows less attention to detail and commitment than actually getting quotes from vendors or getting estimates from others with experience in these areas. The more back up you have to support this number the more confidence the approvers have in your commitment to this process. You should have detail for every line on the budget.**

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Charter School Application Budget Worksheet

State Local & Loan Revenue		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5					
1	State Appropriations	\$1,905,043	\$1,999,093	\$2,019,084	\$2,039,275	\$2,059,668					
2	School District Local Fund Transfers	\$971,019	\$1,040,729	\$1,051,136	\$1,061,648	\$1,072,264					
3	Prior Year Carryover Funds	\$0	\$0	\$0	\$0	\$0					
4	Construction Loans	\$0	\$0	\$0	\$0	\$0					
5	Equipment Loans	\$0	\$0	\$0	\$0	\$0					
6	Other Loans	\$0	\$0	\$0	\$0	\$0					
STATE LOCAL & LOANS REVENUE		\$2,876,062	\$3,039,822	\$3,070,220	\$3,100,923	\$3,131,932					
State Local & Loans Expenses		YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5					
Personnel Salaries / Other Employer Costs											
		FTE	FTE	FTE	FTE	FTE					
7	Teachers	\$872,653	22.00	\$1,026,968	22.00	\$1,048,905	22.00	\$1,071,281	22.00	\$1,094,104	22.00
8	Principal/Administrative	\$94,048	1.00	\$95,929	1.00	\$97,848	1.00	\$99,804	1.00	\$101,801	1.00
9	Nurse	\$45,900	1.00	\$46,818	1.00	\$47,754	1.00	\$48,709	1.00	\$49,684	1.00
10	Clerical	\$59,650	1.50	\$60,843	1.50	\$62,060	1.50	\$63,301	1.50	\$64,567	1.50
11	Custodial	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
12	Substitutes	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
13	Other	\$248,630	3.00	\$253,603	3.00	\$258,675	3.00	\$263,848	3.00	\$269,126	3.00
14	Other Employer Costs (28.53 % of Salaries)	\$376,847		\$423,431		\$432,299		\$441,343		\$450,569	
15	Health Insurance	\$215,507		\$217,877		\$220,269		\$222,688		\$225,127	
16	Other Benefits	\$0		\$0		\$0		\$0		\$0	
SUBTOTAL SALARIES / OTHER EMPLOYER COSTS		\$1,913,235	28.50	\$2,125,469	28.50	\$2,167,810	28.50	\$2,210,974	28.50	\$2,254,978	28.50
Student Support											
17	Transportation	\$216,000		\$228,500		\$228,500		\$228,500		\$228,500	
18	Cafeteria	\$0		\$0		\$0		\$0		\$0	
19	Extra Curricular	\$8,000		\$8,000		\$8,000		\$8,000		\$8,000	
20	Supplies and Materials	\$74,338		\$65,000		\$65,000		\$65,000		\$65,000	
21	Textbooks	\$1,000		\$3,000		\$3,000		\$3,000		\$3,000	
22	Computers	\$0		\$5,000		\$5,000		\$5,000		\$5,000	
23	Contracted Services	\$47,500		\$51,500		\$51,500		\$51,500		\$51,500	
24	Other	\$72,275		\$43,000		\$35,000		\$35,000		\$35,000	
SUBTOTAL STUDENT SUPPORT		\$419,113		\$404,000		\$396,000		\$396,000		\$396,000	
Operations and Maintenance of Facilities											
25	Insurance (Property/Liability)	\$23,000		\$23,230		\$23,462		\$23,697		\$23,934	
26	Rent	\$0		\$0		\$0		\$0		\$0	
27	Mortgage	\$0		\$0		\$0		\$0		\$0	
28	Utilities	\$42,338		\$37,218		\$31,996		\$26,669		\$21,235	
29	Maintenance	\$113,600		\$114,116		\$114,637		\$115,164		\$115,695	
30	Telephone/Communications	\$0		\$0		\$0		\$0		\$0	
31	Construction	\$0		\$0		\$0		\$0		\$0	
32	Renovation	\$62,925		\$30,000		\$30,000		\$30,000		\$30,000	
33	Other	\$0		\$0		\$0		\$0		\$0	
SUBTOTAL OPERATIONS AND MAINTENANCE OF FACILITIES		\$241,863		\$204,564		\$200,095		\$195,530		\$190,864	
Administrative/Operations Support											
34	Equipment Lease/Maintenance	\$16,900		\$16,900		\$16,900		\$16,900		\$16,900	
35	Equipment Purchase	\$1,500		\$1,500		\$1,500		\$1,500		\$1,500	
36	Supplies and Materials	\$22,100		\$24,600		\$24,600		\$24,600		\$24,600	
37	Printing and Copying	\$12,000		\$12,000		\$12,000		\$12,000		\$12,000	
38	Postage and Shipping	\$4,500		\$4,500		\$4,500		\$4,500		\$4,500	
39	Other	\$39,395		\$100,023		\$99,825		\$101,198		\$92,129	
SUBTOTAL ADMINISTRATIVE/OPERATIONS SUPPORT		\$96,395		\$159,523		\$159,325		\$160,698		\$151,629	
Management Company											
40	Fees	\$28,500		\$13,500		\$13,500		\$3,500		\$3,500	
41	Salaries/Other Employee Costs	\$0		\$0		\$0		\$0		\$0	
42	Curriculum	\$5,000		\$5,000		\$5,000		\$5,000		\$5,000	
43	Accounting and Payroll	\$54,855		\$54,970		\$55,086		\$55,203		\$55,322	
44	Other	\$36,100		\$12,000		\$12,000		\$12,000		\$12,000	
SUBTOTAL MANAGEMENT COMPANY		\$124,455		\$85,470		\$85,586		\$75,703		\$75,822	
STATE LOCAL & LOANS EXPENDITURES		\$2,795,061		\$2,979,026		\$3,008,816		\$3,038,905		\$3,069,293	
REVENUE LESS EXPENDITURES		\$81,001		\$60,796		\$61,404		\$62,018		\$62,639	
2 % CONTINGENCY CHECK		\$57,521.24		\$60,796.44		\$61,404.40		\$62,018.46		\$62,638.64	

Charter School Application Budget Worksheet

Federal Revenue										
	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	
Charter Federal Start-up Funds	\$0		\$0		\$0		\$0		\$0	
Other Federal Funds	\$456,603		\$472,684		\$472,684		\$472,684		\$472,684	
FEDERAL REVENUE	\$456,603		\$472,684		\$472,684		\$472,684		\$472,684	

Federal Expenses										
Personnel Salaries / Other Employer Costs										
	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	
		FTE		FTE		FTE		FTE		FTE
Teachers	\$82,697	3.00	\$82,689	3.00	\$82,689	3.00	\$82,689	3.00	\$82,689	3.00
Principal/Administrative	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Nurse	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Clerical	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Custodial	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Substitutes	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Other	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Other Employer Costs (28.53 % of Salaries)	\$23,593		\$23,591		\$23,591		\$23,591		\$23,591	
Health Insurance	\$21,445		\$21,445		\$21,445		\$21,445		\$21,445	
Other Benefits	\$0		\$0		\$0		\$0		\$0	
SUBTOTAL SALARIES / OTHER EMPLOYER COSTS	\$127,735	3.00	\$127,725	3.00	\$127,725	3.00	\$127,725	3.00	\$127,725	3.00

Student Support										
Transportation	\$0		\$0		\$0		\$0		\$0	
Cafeteria	\$321,844		\$337,935		\$337,935		\$337,935		\$337,935	
Extra Curricular	\$0		\$0		\$0		\$0		\$0	
Supplies and Materials	\$0		\$0		\$0		\$0		\$0	
Textbooks	\$0		\$0		\$0		\$0		\$0	
Computers	\$0		\$0		\$0		\$0		\$0	
Contracted Services	\$0		\$0		\$0		\$0		\$0	
Other	\$0		\$0		\$0		\$0		\$0	
SUBTOTAL STUDENT SUPPORT	\$321,844		\$337,935		\$337,935		\$337,935		\$337,935	

Operations and Maintenance of Facilities										
Insurance (Property/Liability)	\$0		\$0		\$0		\$0		\$0	
Rent	\$0		\$0		\$0		\$0		\$0	
Mortgage	\$0		\$0		\$0		\$0		\$0	
Utilities	\$0		\$0		\$0		\$0		\$0	
Maintenance	\$0		\$0		\$0		\$0		\$0	
Telephone/Communications	\$0		\$0		\$0		\$0		\$0	
Construction	\$0		\$0		\$0		\$0		\$0	
Renovation	\$0		\$0		\$0		\$0		\$0	
Other	\$0		\$0		\$0		\$0		\$0	
SUBTOTAL OPERATIONS AND MAINTENANCE OF FACILITIES	\$0		\$0		\$0		\$0		\$0	

Administrative/Operations Support										
Equipment Lease/Maintenance	\$0		\$0		\$0		\$0		\$0	
Equipment Purchase	\$0		\$0		\$0		\$0		\$0	
Supplies and Materials	\$0		\$0		\$0		\$0		\$0	
Printing and Copying	\$0		\$0		\$0		\$0		\$0	
Postage and Shipping	\$0		\$0		\$0		\$0		\$0	
Other	\$7,024		\$7,024		\$7,024		\$7,024		\$7,024	
SUBTOTAL ADMINISTRATIVE/OPERATIONS SUPPORT	\$7,024		\$7,024		\$7,024		\$7,024		\$7,024	

Management Company										
Fees	\$0		\$0		\$0		\$0		\$0	
Salaries/Other Employee Costs	\$0		\$0		\$0		\$0		\$0	
Curriculum	\$0		\$0		\$0		\$0		\$0	
Accounting and Payroll	\$0		\$0		\$0		\$0		\$0	
Other	\$0		\$0		\$0		\$0		\$0	
SUBTOTAL MANAGEMENT COMPANY	\$0		\$0		\$0		\$0		\$0	

FEDERAL EXPENDITURES	\$456,603		\$472,684		\$472,684		\$472,684		\$472,684	
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REVENUE LESS EXPENDITURES	(\$0)		(\$0)		(\$0)		(\$0)		(\$0)	
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Charter School Application Budget Worksheet

Other Revenue					
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Other Revenue	\$316,000	\$321,120	\$326,342	\$331,669	\$337,103
OTHER REVENUE	\$316,000	\$321,120	\$326,342	\$331,669	\$337,103

Other Expenses												
	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5			
Personnel Salaries / Other Employer Costs		FTE		FTE		FTE		FTE		FTE		
Teachers	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Principal/Administrative	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Nurse	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Clerical	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Custodial	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Substitutes	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Other	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00
Other Employer Costs (25.44 % of Salaries)	\$0		\$0		\$0		\$0		\$0		\$0	
Health Insurance	\$0		\$0		\$0		\$0		\$0		\$0	
Other Benefits	\$0		\$0		\$0		\$0		\$0		\$0	
SUBTOTAL SALARIES / OTHER EMPLOYER COSTS	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00	\$0	0.00

Student Support					
Transportation	\$0	\$0	\$0	\$0	\$0
Cafeteria	\$0	\$0	\$0	\$0	\$0
Extra Curricular	\$0	\$0	\$0	\$0	\$0
Supplies and Materials	\$0	\$0	\$0	\$0	\$0
Textbooks	\$0	\$0	\$0	\$0	\$0
Computers	\$0	\$0	\$0	\$0	\$0
Contracted Services	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0
SUBTOTAL STUDENT SUPPORT	\$0	\$0	\$0	\$0	\$0

Operations and Maintenance of Facilities					
Insurance (Property/Liability)	\$0	\$0	\$0	\$0	\$0
Rent	\$0	\$0	\$0	\$0	\$0
Mortgage	\$231,948	\$231,948	\$231,948	\$231,948	\$231,948
Utilities	\$37,662	\$42,782	\$48,004	\$53,331	\$58,765
Maintenance	\$0	\$0	\$0	\$0	\$0
Telephone/Communications	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0
Renovation	\$0	\$0	\$0	\$0	\$0
Other	\$46,390	\$46,390	\$46,390	\$46,390	\$46,390
SUBTOTAL OPERATIONS AND MAINTENANCE OF FACILITIES	\$316,000	\$321,120	\$326,342	\$331,669	\$337,103

Administrative/Operations Support					
Equipment Lease/Maintenance	\$0	\$0	\$0	\$0	\$0
Equipment Purchase	\$0	\$0	\$0	\$0	\$0
Supplies and Materials	\$0	\$0	\$0	\$0	\$0
Printing and Copying	\$0	\$0	\$0	\$0	\$0
Postage and Shipping	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0
SUBTOTAL ADMINISTRATIVE/OPERATIONS SUPPORT	\$0	\$0	\$0	\$0	\$0

Management Company					
Fees	\$0	\$0	\$0	\$0	\$0
Salaries/Other Employee Costs	\$0	\$0	\$0	\$0	\$0
Curriculum	\$0	\$0	\$0	\$0	\$0
Accounting and Payroll	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0
SUBTOTAL MANAGEMENT COMPANY	\$0	\$0	\$0	\$0	\$0
OTHER EXPENDITURES	\$316,000	\$321,120	\$326,342	\$331,669	\$337,103

REVENUE LESS EXPENDITURES	\$0	\$0	\$0	\$0	\$0
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State & Local Funds Budget Narrative		
State Local & Loan Revenue		
YEAR 1 TO YEAR 5		
1	State Appropriations	Average state funding of \$6,350 per student. 300 students in year 1, 315 students in year 4 to 5 with an anticipated 1% funding growth for education levels & Experience
2	School District Local Fund Transfers	Average Local funding of \$3,237 per student, 300 students in year 1, 315 Students in year 4 to 5 with an anticipated 1% funding growth for inflation
3	Prior Year Carryover Funds	
4	Construction Loans	
5	Equipment Loans	
6	Other Loans	
STATE LOCAL & LOANS REVENUE		
State Local & Loans Expenses		
Personnel Salaries / Other Employer Costs		
7	Teachers	Salaries based on actual staff salaries with a 2% annual increase each year
8	Principal/Administrative	Salaries based on actual staff salaries with a 2% annual increase each year
9	Nurse	Salaries based on actual staff salaries with a 2% annual increase each year
10	Clerical	Salaries based on actual staff salaries with a 2% annual increase each year
11	Custodial	
12	Substitutes	
13	Other	Salaries based on actual staff salaries with a 2% annual increase each year
14	Other Employer Costs (28.53 % of Salaries)	28.53% of Salaries
15	Health Insurance	Based on actual staff elections and averaging
16	Other Benefits	
SUBTOTAL SALARIES / OTHER EMPLOYER COSTS		
Student Support		
17	Transportation	based on actual contract and anticipated afterschool/field trips
18	Cafeteria	
19	Extra Curricular	Flat designated allocated funding for student body activities of \$8,000. Activity restricted to allocated funding
20	Supplies and Materials	Average based on prior year actuals. Year 1 includes a one time expense band program materials supported with a grant
21	Textbooks	1000 first year & \$3,000 year 2 to 5for text resources and materials. We self create most curriculum materials as do most high achieving urban charter schools.
22	Computers	no computers need in year 1, \$5,000 annual replacement cost in year 2 to 5
23	Contracted Services	Average based on prior year actuals of Speech, Occupational & Psychological services
24	Other	Average based on prior year actuals of Student uniforms, contract substitutes, student recruitment activities, etc
SUBTOTAL STUDENT SUPPORT		
Operations and Maintenance of Facilities		
25	Insurance (Property/Liability)	Based on actual contract
26	Rent	
27	Mortgage	
28	Utilities	Based on average per historical data, a portion of cost covered in Other funds and balance covered out of State & Local funds, 1% annual inflation increase in year 2 to 5
29	Maintenance	Based on average per historical data, 1% annual inflation increase in year 2 to 5
30	Telephone/Communications	Based on average per historical data, 1% annual inflation increase in year 2 to 6
31	Construction	
32	Renovation	Year 1 includes \$30,000 Projected costs plus playground renovations supported by a grant, year 2 to 5 is projected annual renovations based on historical averages
33	Other	
SUBTOTAL OPERATIONS AND MAINTENANCE OF FACILITIES		
Administrative/Operations Support		
34	Equipment Lease/Maintenance	Based on actual contracts
35	Equipment Purchase	Annual replacement cost of furniture & equipment
36	Supplies and Materials	Year 1 reduced spending to balance budget, year 2 to 5 average cost based on historical data
37	Printing and Copying	Average cost based on historical data
38	Postage and Shipping	Average cost based on historical data
39	Other	Average cost based on historical data for miscellaneous operating cost of advertising, fundraising expenses, contract admin support contingency funding,...etc
SUBTOTAL ADMINISTRATIVE/OPERATIONS SUPPORT		
Management Company		
40	Fees	Membership Dues & Teach for America fees, Teach for America Fees reduced each year as the fade out of Teach For America Program
41	Salaries/Other Employee Costs	
42	Curriculum	Professional development cost each year
43	Accounting and Payroll	Audit Fee & Contract Fiscal Services
44	Other	Technology expenses, Year 1 includes one time technology upgrades covered by a grant, Year 2 to 5 includes ongoing technology support
SUBTOTAL MANAGEMENT COMPANY		
STATE LOCAL & LOANS EXPENDITURES		
REVENUE LESS EXPENDITURES		
2 % CONTINGENCY CHECK		\$0.00

Federal Funds Budget Narrative		
Federal Revenue		
		<u>YEAR 1 TO YEAR 5</u>
1	Charter Federal Start-up Funds	
2	Other Federal Funds	Based on actual allocation of Title I, IDEA, Title II & Professional Development under consolidated application plus Anticipated Federal Reimbursement for Lunch Program
FEDERAL REVENUE		
Federal Expenses		
Personnel Salaries / Other Employer Costs		
7	Teachers	Salaries based on actual staff salaries
8	Principal/Administrative	
9	Nurse	
10	Clerical	
11	Custodial	
12	Substitutes	
13	Other	
14	Other Employer Costs (28.53 % of Salaries)	28.53% of Salaries
15	Health Insurance	Based on actual staff elections and averaging
16	Other Benefits	
SUBTOTAL SALARIES / OTHER EMPLOYER COSTS		
Student Support		
17	Transportation	
18	Cafeteria	\$1,073 annual cost per student, 300 students in year 1, 315 students in year 2 to 5
19	Extra Curricular	
20	Supplies and Materials	
21	Textbooks	
22	Computers	
23	Contracted Services	
24	Other	Professional development costs covered under Title II & Professional Development of the Consolidated Application
SUBTOTAL STUDENT SUPPORT		
Operations and Maintenance of Facilities		
25	Insurance (Property/Liability)	
26	Rent	
27	Mortgage	
28	Utilities	
29	Maintenance	
30	Telephone/Communications	
31	Construction	
32	Renovation	
33	Other	
SUBTOTAL OPERATIONS AND MAINTENANCE OF FACILITIES		
Administrative/Operations Support		
34	Equipment Lease/Maintenance	
35	Equipment Purchase	
36	Supplies and Materials	
37	Printing and Copying	
38	Postage and Shipping	
39	Other	
SUBTOTAL ADMINISTRATIVE/OPERATIONS SUPPORT		
Management Company		
40	Fees	
41	Salaries/Other Employee Costs	
42	Curriculum	
43	Accounting and Payroll	
44	Other	
SUBTOTAL MANAGEMENT COMPANY		
FEDERAL EXPENDITURES		
REVENUE LESS EXPENDITURES		
2 % CONTINGENCY CHECK		\$0.00

Federal Funds Budget Narrative		
	Other Revenue	
		YEAR 1 TO YEAR 5
2	Other Revenue	Gifts & Grants from fundraising efforts, Miscellaneous revenue from student uniforms & field trip payments
	OTHER REVENUE	
	Other Expenses	
	Personnel Salaries / Other Employer Costs	
7	Teachers	
8	Principal/Administrative	
9	Nurse	
10	Clerical	
11	Custodial	
12	Substitutes	
13	Other	
14	Other Employer Costs (28.53 % of Salaries)	
15	Health Insurance	
16	Other Benefits	
	SUBTOTAL SALARIES / OTHER EMPLOYER COSTS	
	Student Support	
17	Transportation	
18	Cafeteria	
19	Extra Curricular	
20	Supplies and Materials	
21	Textbooks	
22	Computers	
23	Contracted Services	
24	Other	
	SUBTOTAL STUDENT SUPPORT	
	Operations and Maintenance of Facilities	
25	Insurance (Property/Liability)	
26	Rent	
27	Mortgage	Based on Actual Mortgage Payment requirement
28	Utilities	Average cost per historical data. A portion is covered with other funds and state & local funds
29	Maintenance	
30	Telephone/Communications	
31	Construction	
32	Renovation	
33	Other	Based on Actual Debt Service requirement of lender
	SUBTOTAL OPERATIONS AND MAINTENANCE OF FACILITIES	
	Administrative/Operations Support	
34	Equipment Lease/Maintenance	
35	Equipment Purchase	
36	Supplies and Materials	
37	Printing and Copying	
38	Postage and Shipping	
39	Other	
	SUBTOTAL ADMINISTRATIVE/OPERATIONS SUPPORT	
	Management Company	
40	Fees	
41	Salaries/Other Employee Costs	
42	Curriculum	
43	Accounting and Payroll	
44	Other	
	SUBTOTAL MANAGEMENT COMPANY	
	OTHER EXPENDITURES	
	REVENUE LESS EXPENDITURES	
	2 % CONTINGENCY CHECK	<u>\$0.00</u>