

Prestige Academy Charter School

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

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: 9 – 11 hours

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

Primary: Number Sense (6.NSO-N6, 6NSO-N.2)

- Determine value of and order varying numbers.
- Use symbols to compare and contrast and identify situations where comparison is needed.
- Distinguish statements of absolute value from statements about order.
- Use positive and negative numbers to represent quantities in real-world contexts.

Secondary: Computation and Operations (6.NSO-C.9/N.3)

- Use the number line to add numbers and their opposites.
- Know that numbers and their opposites are equal distance from zero on the number line.
- Understand that positive and negative numbers are used to describe quantities having opposite directions or values.
- Recognize that the opposite of the opposite of a number is the number itself.

Key Concepts/Big Ideas

Numbers are both positive and negative, and are used in statements of inequalities as well as statements about relative position.

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.

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

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- 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?
- 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

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

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: Author's Purpose	Grade Level(s): 6
Subject/Topic Area: English Language Arts	
Key Vocabulary: Summary, Purpose, Entertain/Persuade/Inform/Evoke Emotion (EPIE)	
Designed By: Jarrett Burks	Time Frame: 10-11 days Date: 9/30/2011

SUMMARY OF PURPOSE This unit is designed to introduce author's purpose and explore the choices the author makes to help emphasize this purpose in non-fiction text. Retelling, summary, and stamina aims are folded into the aims sequence. This unit should take no more than 11 days; there are three extra days built in for review, extension or discussion.

Stage 1: Desired Results
Common Core/ Delaware Standards
Primary: 1) 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. CC6RL2
Secondary: 2) Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. CC6RL1
Key Concepts/Big Ideas
Author's write for specific purposes; what we can infer from a passage, depends greatly on the author's purpose.
Enduring Understandings
<i>Students will understand that...</i> <ul style="list-style-type: none">All writing has an audience and a purpose; infer the audience for whom a specific text was written.Details in the text that support the author's purpose and intended audience.
Essential Questions
<ul style="list-style-type: none">Why is the author writing?Who is the author writing for?What can we infer about the author's perspective?
Real World Context
<ul style="list-style-type: none">Wee the importance of coherence and name useful coherence strategies (i.e. recognizing and making inferences and understanding genre patterns)Apply transactional strategies to help them understand that literature is a product of an author's choices and to consider the impact of the author's choices

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Learning Targets/Goals

Students will know...

- how a text would change if the author's purpose were to change.
- how the structure of the text supports the author's purpose for writing a text.

Students will be able to...

- Identify how pictures support the author's purpose for writing a text;
- Identify how captions support the author's purpose for writing a text
- Compare and contrast the differences between two texts written for different purposes.

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Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

Poetry Portfolio: The goal of this assignment is to create a collection of poems that create a picture of the identity of the poet to the reader. The role of the student is a poet. The audience is a person who is trying to create a picture in his mind based on a book of poetry. The situation is that they will create poems using existing poems as model texts. The standard will be the use of poetic techniques and skills to create imagery for the reader.

Rubrics for Transfer Tasks

Poetry Rubric

	1	2	3	4
Symbol	The author does not incorporate symbolism into the poem.	In one of the poems, the author incorporates a symbol to enhance the meaning of the poem.	In at least two of the poems, the author incorporates a symbol to enhance the meaning of the poem.	In several of the poems, the author incorporates a symbol to enhance the meaning of the poem.
Imagery	The author uses dull or lacking imagery to support the meaning of the poem.	The author uses imagery to support the meaning of the poem.	The author uses vivid images to support the meaning of the poem.	The author uses vivid images and sensory detail to support the tone and theme of the poem.
Figurative Language	The author does not use figurative language or poetic device in the poetry.	The author attempts to use figurative language and poetic device in the poetry.	The author uses vivid similes and metaphors to contribute to the meaning of the poem.	The author uses a variety of interesting similes, metaphors, and poetic devices to contribute to the meaning of the poem.
Tone	The imagery used lacks the development of a clear tone.	The author attempts to create tone in the poem, but it is sometimes inconsistent.	The author uses imagery to create a clear tone of the poem.	The author uses imagery to create a clear tone of the poem. The author attempts to vary a poem by shifting the tone.
Theme	The poems lack a clear theme or purpose.	Most of the poems, in itself, are organized	Each poem, in itself, is organized around	The content of the portfolio is connected

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	The subjects of each poem seem arbitrary or irrelevant.	around a clear cohesive theme. There is a clear subject of each piece.	a clear cohesive theme. The subjects of the piece are well chosen.	together along an obvious cohesive theme. The subjects of each piece are relevant and interesting.
Formative Assessments: Tests, quizzes, prompts, work samples, observations				
Summative Assessments: Comprehensive exams aligned to standards				

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Student Self-Assessment and Reflection

Pairs Communication Activity

Directions: Grading and discussing partner work.

Reflection:

1. How did you feel about your performance? What did you do well? Explain why. What could you have done better? Explain why.
2. What would have made your performance better?
3. What about the author did you leave out that should have been included in the presentation?
4. What do you know now, that you didn't know before this unit?

Instructional Resources

- Several of these aims ask scholars to compare text with and without a certain text feature. For example, the lesson focusing on the importance of pictures in an article cuts the pictures out for the first viewing and includes them for the second viewing. It may be helpful to buy a screen capture program such as [Snagit](#) or to use this free version http://download.cnet.com/ZapGrab-net-free-screenshot-capture/3000-10247_4-10667351.html.
- Several lessons focus on short excerpts of text. If you are looking for great text excerpts to support your instruction, a great place to start is author Jim Burke's website, www.englishcompanion.com. If you go directly to this link, <http://www.englishcompanion.com/classroom/weeklyReader.shtml#readings> you will find Jim Burke's weekly reader, a list of great websites where you can find many articles, speeches, narratives, comics, etc.
- One aim in this unit focuses on nonfiction text structures. If you would like more information or additional resources for teaching text structures, check out *Teaching Text Structures: A Key to Nonfiction Reading Success* by Sue Dymock and Tom Nicholson.

Differentiation

Partner pairs – High + Low groupings

Individual explanation of directions for students who require it

Reteaching in small groups – during group time, teacher will lead small groups of challenged learners

Extension Activities that correspond to topics covered will be located in 'early finishers' section of room. Students who finish early will be able to complete extra extension activities / challenges

Written definition of terms such as 'noun,' 'predicate,' etc. on individual assignments for those that require it

Students requiring IEP accommodations:

- Retelling, Small group discussions
- Oral Language Activities (story-telling, role playing, giving oral directions, reader's theater, etc...)
- Cooperative Learning (jigsaw, think-pair-share, round robin, choral reading)
- Vocabulary Development (imaging, cloze sentences, listening exercises, puzzles/crosswords,

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vocabulary story)

- Reading Strategies (read aloud, shared reading, paired reading., silent reading)
- Writing Strategies (cloze, rewrites, frames, journals, simple-complex paragraphs, brainstorming, webbing, etc...)
- Audio Visual Aids (pop songs, taped drama, overhead projector, video)

Students requiring remediation:

- independent level texts used for independent reading strategy practice
- instructional level texts used for guided reading practice
- students will receive preferential seating, assignments with font enlarged, and word banks as necessary
- increased guided practice and small group instruction during independent work time

Students requiring extension:

- independent level texts used for independent reading strategy practice
- instructional level texts used for guided reading practice
- opportunity to complete weekly independent projects
- increased, extended guided practice and small group instruction during independent work time
- opportunity to work in partners during independent work time

Enrichment

Ask and provide q provide research and reflection

Make real world connections

Use technology reading writing and other tools to enhances learning

Debate

Higher order thinking (synthesize)

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- Class lectures and taking notes
- Attacking the text
- Group Discussions
- Transfer the skills and strategies you teach during our mini-lessons to independent texts.
- Differentiate and personalize content, process, and product for diverse learners

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?

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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: Identify and Describe Story Elements

Good readers pay attention to the text to figure out who the main character is and to learn everything they can about that character.

- 1) SWBAT explain that all writing has an audience and a purpose; infer the audience for whom a specific text was written.

Agenda:

1. Do Now
2. Audience Matters
3. Together
4. You try it – Read, Baby, Read!

- 2) SWBAT List reasons that an author might write a passage or book; identify the author’s purpose for writing a text; revisit a habits of good readers aim.

Agenda:

1. Do Now
2. Gotta Have it – Evidence.
3. Together
4. You try it! -- Read, Baby, Read!

- 3) SWBAT identify details in the text that support the author’s purpose and intended audience.

Agenda:

1. Do Now
2. Initiating Event and Internal Response
3. Remember María Isabel?
4. Together
5. Your Turn! Read, Baby, Read!

- 4) SWBAT identify how pictures support the author’s purpose for writing a text; ensure that all scholars can read independently for 35 minutes—this aim is a tune up aim.

Agenda:

1. Do Now
2. Clues to the PLAN
3. I’ll Show You
4. Together
5. Your Turn! Read, Baby, Read!

- 5) SWBAT Identify how captions support the author’s purpose for writing a text.

Agenda:

1. Do Now

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2. A Caption is Worth 1000 Words ☺
3. Together
4. You try it! -- Read, Baby, Read!

Lesson 2

General Topics Reflection

- 1) SWBAT identify how the structure of the text supports the author's purpose for writing a text.

Agenda:

1. Do Now
2. On Purpose -- Author's Structure Text
3. Together
4. You try it! -- Read, Baby, Read!

- 2) SWBAT use evidence to identify the major conflict in the book.

Agenda:

1. Do Now
2. Conflict
3. I'll Show You
4. Together
5. Your Turn! Read, Baby, Read!

- 3) SWBAT compare and contrast the differences between two texts written for different purposes.

Agenda:

1. Do Now
2. The 4 types of Conflict
3. Same, Same, but Different
4. Together
5. You try it! -- Read, Baby, Read!

- 4) SWBAT speculate how a text would change if the author's purpose were to change.

Agenda:

1. Do Now
2. If an Author's Purpose Changes...
3. Together
4. Your Turn! Read, Baby, Read!


- 5) SWBAT speculate how a text would change if it were written from a different point of view.

Agenda:

1. Do Now
2. Point of view
3. Together
4. Your Turn! Read, Baby, Read!

Appendix A
Sample Resources

Ranger Rick



Home

What's New?

nature news
& features

What's New?

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More to Explore: November 2009

Up, Up, and Away!



In a "Ranger Rick's Adventures," Boomer discovers an ad for the Disney-Pixar movie, *Up*. If you missed it in theaters, the movie is out soon on DVD.


The "Hole" Story

Animals have lots of ways to use holes. Here are some:

- For hiding in
- For sleeping in
- For finding or storing food in
- As a place to have babies
- As shelter from bad weather

And did you know, mama polar bears dig holes in the snow?

- **When:** In the fall.
- **Why:** To give birth to her cubs. (Only polar bears having babies spend the winter hibernating in snow dens. That protects the tiny newborns from freezing.)
- **What's next:** Come spring, it's time to leave the den. The little bears will follow Mom out onto the sea ice, where she'll hunt for seals. She needs good meals so she can keep nursing her hungry cubs.



Read more about holey forest homes in this month's [Book Nook](#).

Photo courtesy of Howard Rubis

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What a Life



Joe Riis leads a pretty cool life. He hangs out in really beautiful wild places, where he observes and photographs wildlife. (His photos of pronghorns like the ones seen below are featured in Ranger Rick's November 2009 story.)

We asked Joe to tell us more about himself.

1. Ranger Rick: How did you get interested in nature and wildlife?

- **My dad is a biologist** (a scientist who studies plants and animals) and he was always teaching me about biology and conservation.
- **As a kid, I spent hours exploring the woods** and poking around in the river near our house in South Dakota.
- **When I was five years old**, my parents took my sister and me on a camping trip to Alaska. It was the first time I heard the sounds of nature at night, and I loved listening. Alaska was super cool because it was so different from South Dakota. Big, wide valleys opened up between snow-capped mountains -- incredible!
- **All along, I learned how much I enjoy spending time in wild places.**

2. RR: How did you become a photographer?

- **One day when I was in high school**, I discovered a box of old cameras gathering dust in the basement. They belonged to my parents. Since they weren't using them anymore, I hauled them out. I started messing around with them and teaching myself photography.
- **When I got to college at the University of Wyoming**, I knew I wanted to study wildlife. But I didn't want to write down the results of my studies in field notebooks or on a computer. I wanted to record them with a camera.
- **These days I'm still at it**, studying wildlife and using a camera.

3. RR: What do you love about your job?

- **I like using my photographs to show people** the places and animals I care about. I want to inspire others to conserve these wild places and the creatures living there.
- **I've had some amazing experiences.** I've watched a pack of wolves hunting a small group of pronghorns and seen grizzlies, mountain lions, and huge herds of elk.
- **I've also gotten to know some wonderful people** in my travels.



To see more of Joe's photographs and find out more about him, log on to www.joeris.com





The New York Times

Monday, October 26, 2009 Last Update: 3:04 PM E

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Iraq Blast Toll Continues to Rise, Includes Children

By ROD NORDLAND 11:52 AM ET

Workers pored over the wreckage from the Baghdad bomb blasts a day earlier, recovering still more bodies, including children at a day-care center playground.

14 Americans Die in Afghan Helicopter Crashes

By DEXTER FILKINS
21 minutes ago

Ten Americans — seven soldiers and three civilians — died in a helicopter crash, and a separate collision of two coalition helicopters

THE WORLD SERIES




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SPORTS OF THE TIMES

Last Phillies-Yankees Series Won on Mound

By DAVE ANDERSON 1:10 PM ET

These two teams met in October only one other time, in 1950, when Yankee Stadium was still creating its aura.



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Alexander and the Terrible, Horrible, No Good, Very Bad Day

From Wikipedia, the free encyclopedia

Alexander and the Terrible, Horrible, No Good, Very Bad Day published in 1972, is an ALA Notable Children's Book written by Judith Viorst and illustrated by Ray Cruz.^{[1][2]} It has also won a George G. Stone Center Recognition of Merit, a Georgia Children's Book Award, and is a Reading Rainbow book. Viorst followed this book up with a sequel, *Alexander and the Wonderful, Marvellous, Excellent, Terrific Ninety Days*.^[3]

Contents (hide)

- Plot
- TV adaption
- Theater
- Characters
- References

Plot

From the moment he wakes up with gum in his hair, things just do not go Alexander's way. Getting out of bed, he trips on a skateboard and drops his sweater into a sink full of water. At breakfast, Alexander's brothers Nick and Anthony reach into their cereal boxes and pull out amazing prizes, while all Alexander ends up with is cereal.

On the way to school, he doesn't get the window seat in the carpool. At school,^[1] his teacher doesn't like his drawing of an invisible castle (which is actually just a blank sheet of paper) and criticizes him for singing too loud and leaving out 16. His friend Paul reduces Alexander to third best friend and there is no dessert in his lunch.

At the dentist's, the dentist tells Alexander he has a cavity, the elevator door hurts his foot, Anthony pushes him into the mud, Nick calls him a crybaby for crying, and Mom catches him in the act of punching Nick.

At the shoe store, they're sold out of Alexander's choice of sneakers (blue ones with red stripes), so Mom has to buy him plain white sneakers, which he'll refuse to wear.

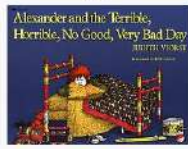
At Dad's office, Alexander makes a mess of things when he fools around with everything there (the copying machine, the books, and the telephone) getting to the point where Dad tells him not to pick him up from work anymore.

At home, Alexander's bad day is far from over. The family has lima beans for dinner (which he hates), there is kissing on TV (which he also hates), bath time becomes a nightmare (too hot water, soap in the eyes, and losing a marble down the drain) and he has to wear his railroad train pajamas (he hates his railroad train pajamas).


At bedtime, Alexander's nightlight burns out, he bites his tongue, Nick takes back a pillow, and the family cat chooses to sleep with Anthony. No wonder Alexander wants to move to Australia.^[1] The book ends with his mother's assurance that everyone has bad days, even people who live in Australia.

^[4] in the New Zealand version he wants to move to Timbuktu, not Australia.

Alexander and the Terrible, Horrible, No Good, Very Bad Day



Alexander and the Terrible, Horrible, No Good, Very Bad Day

Author: Judith Viorst
Country:  United States
Language: English
Genre(s): Children's
Publication date: June 1972
Pages: 32
ISBN: ISBN 0-689-30072-7

THE ING NEW YORK CITY MARATHON Nov. 1, 2009

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About

The premier event of New York Road Runners, the ING New York City Marathon is one of the world's great road races, drawing more than 100,000 applicants annually.

The race attracts many world-class professional athletes, not only for the more than \$600,000 in prize money, but also for the chance to excel in the media capital of the world before two million cheering spectators and 315 million worldwide television viewers. As any one of the more than 700,000 past participants will attest, crossing the finish line in Central Park is one of the great thrills of a lifetime. [\[Watch\]](#)

The History of the Race



History of the ING New York City Marathon

Around the world, the word "marathon" evokes images of New York City. Before the New York race began, marathons were modest events attended and run by a few athletes and sports fans interested

in the limits of human endurance. New York Road Runners and marathon co-founder Fred Lebow changed that. [\[More\]](#)



Our Partners

New York Road Runners and the ING New York City Marathon are fortunate to have the support and commitment of fine sponsors and key partners. Their continued support makes the ING New York City Marathon a world-class event year after year. [\[Partners\]](#)

Become a Sponsor

By partnering with NYRR, sponsors will reinforce their brand image with the loyal sports-minded public, increase image awareness and name visibility for services and products, and generate goodwill throughout New York City and the worldwide running community. [\[Become a Partner\]](#)

World Marathon Majors

On January 23, 2006, Boston, Flora London, real-

The screenshot shows the Barefoot Books website. At the top, there is a navigation bar with 'shop', 'our story', and 'community' links. A red banner at the top left features the Barefoot Books logo. On the right, there are links for 'Sign In', 'Shopping Basket', 'Product Search', 'Advanced', and 'Help'. Below the navigation, the 'shop' section is highlighted. On the left, there are categories like 'OUR BEST SELLERS', 'WHAT'S NEW', 'AWARD WINNERS', 'GIFT IDEAS', 'BY AGE', and 'BY SUBJECT'. The main content area is titled 'Children's Books' and includes a promotional banner for '20% OFF' and 'FREE SHIPPING'. Below this, there are eight book covers displayed in a grid, each with an 'add to basket' button. The books shown are 'The Animal Boogie', 'The Barefoot Book of Pirates', 'The Barefoot Book of Princesses', 'Bear on a Bike', 'The Story Tree', 'Yoga Pretzels', 'We're Getting Dinner on the Way', and 'The Princess Bedtime'.

Chores!

Chores! Chores! Chores! Chores are boring! Scrubbing toilets, cleaning sinks, and washing bathtubs take up a lot of my time and are not fun at all.

Toilets! When you're scrubbing toilets make sure they are not stinky. I've scrubbed one before and I was lucky it didn't stink. I think toilets are one of the hardest things to scrub in the bathroom because it is hard to get up around the rim.

Sinks are one of the easiest things to clean in the bathroom because they have no rims and they are small. I have cleaned one before and it was pretty easy.

Bathtubs, ever washed one? They are big, they are deep, and it is hard to get up around the sides. The bathtub is the hardest, I think, to wash in the bathroom.

All chores are boring, especially making my bed. Cleaning my room is OK because I have to organize, and I like organizing. Dusting is the worst: dust, set down, pick up, dust, set down. There are so many things to dust, and it's no fun.

Chores aren't the worst but they're definitely not the best!

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The Story of Goldilocks and the Three Bears

From http://www.dltk-teach.com/rhymes/goldilocks_story.htm

Once upon a time, there was a little girl named Goldilocks. She went for a walk in the forest. Pretty soon, she came upon a house. She knocked and, when no one answered, she walked right in.

At the table in the kitchen, there were three bowls of porridge. Goldilocks was hungry. She tasted the porridge from the first bowl.

"This porridge is too hot!" she exclaimed.

So, she tasted the porridge from the second bowl.

"This porridge is too cold," she said

So, she tasted the last bowl of porridge.

"Ahhh, this porridge is just right," she said happily and she ate it all up.

After she'd eaten the three bears' breakfasts she decided she was feeling a little tired. So, she walked into the living room where she saw three chairs. Goldilocks sat in the first chair to rest her feet.

"This chair is too big!" she exclaimed.

So she sat in the second chair.

"This chair is too big, too!" she whined.

So she tried the last and smallest chair.

"Ahhh, this chair is just right," she sighed. But just as she settled down into the chair to rest, it broke into pieces!

Goldilocks was very tired by this time, so she went upstairs to the bedroom. She lay down in the first bed, but it was too hard. Then she lay in the second bed, but it was too soft. Then she lay down in the third bed and it was just right. Goldilocks fell asleep.

As she was sleeping, the three bears came home.

"Someone's been eating my porridge," growled the Papa bear.

"Someone's been eating my porridge," said the Mama bear.

"Someone's been eating my porridge and they ate it all up!" cried the Baby bear.

"Someone's been sitting in my chair," growled the Papa bear.

"Someone's been sitting in my chair," said the Mama bear.

"Someone's been sitting in my chair and they've broken it all to pieces," cried the Baby bear.

Prestige Academy Charter School

They decided to look around some more and when they got upstairs to the bedroom, Papa bear growled, "Someone's been sleeping in my bed,"

"Someone's been sleeping in my bed, too" said the Mama bear

"Someone's been sleeping in my bed and she's still there!" exclaimed Baby bear.

Just then, Goldilocks woke up and saw the three bears. She screamed, "Help!" And she jumped up and ran out of the room. Goldilocks ran down the stairs, opened the door, and ran away into the forest. And she never returned to the home of the three bears.

Quick and Healthy Snack Recipes and Cooking Tips

 login to save |  print |  share +

FEATURED RECIPES



Sesame Carrots

Toasted sesame seeds add taste and eye appeal to a cheery plate of carrots.

[» Sesame Carrots](#)



Refuel on the go with these easy, quick and healthy snack recipes.

Planning is key to eating healthy, well-balanced meals, and snacks are no different. You need to have a game plan to keep yourself on track when hunger strikes. Stocking your fridge with ingredients for quick and healthy snacks can help you resist the vending machine when you're at work or avoid that pint of ice cream in the freezer. So, whether you're juggling family activities, work requirements or social commitments, keep on hand these quick recipe ideas to help you stay lean and healthy!

From: http://www.eatingwell.com/recipes_menus/collections/quick_healthy_snack_recipes. Accessed November 16, 2009.

Analyze five types of text and then complete each section of the chart below. Be sure to give evidence (specific examples of words or images) used in the text to show how you figured out who the author intended the audience to be.

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Title	Evidence	Intended Audience (age, gender, interest group)	Author's Purpose

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What you do:

1

Head outside and gather up some pinecones, seeds, seedpods, pine needles, or other fall treasures you find on the ground.

2

Play around with your treasures to see what animals you can make out of them. You can copy some of the designs seen here or make up your own.

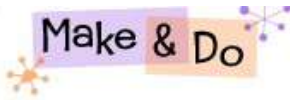
3

Using a tacky glue, glue all the parts of each animal together and let them dry.

—Craft by Robin Walker; Photos by Mark Godfrey

Say: Now we are going to take a look at it with the picture and see if we have some more clarity. One thing I immediately notice is that I'm making a little animal. I didn't even understand that before! Turn and talk with your reading partner to share what new insight you now have by seeing the picture with the article.

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Fall Fun

Here are some seed-pod creatures you can make—for Thanksgiving or for anytime!



What you do:

- 1 Head outside and gather up some pinecones, seeds, seedpods, pine needles, or other fall treasures you find on the ground.
- 2 Play around with your treasures to see what animals you can make out of them. You can copy some of the designs seen here or make up your own.
- 3 Using a tacky glue, glue all the parts of each animal together and let them dry.

—Craft by Robin Walker; Photos by Mark Godfrey

From: Ranger Rick magazine online,

<http://www.nwf.org/rangerrick/kzPage.cfm?siteId=3&departmentId=78&articleId=1022>. Accessed November 2, 2009.

The other thing I want you to think about by seeing the article without and with the picture is how the picture supports the author's purpose for writing the article. For example, this article is meant to teach us how to make a seed-pod creature. Seeing the actual picture made me realize what I was doing. All of a sudden the steps made sense to me! What did seeing the picture help you understand? (Responses) Great! Let's add some of your thoughts in shorthand to our graphic organizer example.

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Title	My "Aha's!" What I realized by seeing the picture and the article at the same time.	Author's Purpose	How does the picture support the author's purpose?
Make and Do: Fall Fun	--I'm making an animal!	-teach how to make a seed pod	--it shows great detail and helps me understand the steps

Guided:

Say: I want you to try one more with your partner before you do this on your own. Read this article and talk with your partner about both what you understand and what you still have questions about.

Six Trix for Better Pix

Want to get some great nature photos? Just grab a camera and follow these easy tips!



Fit the SHAPE

Think of your camera's viewfinder as a picture frame. Try to match the frame to the shape of your subject.

If you have an up-and-down subject, don't hold the camera in the "normal" way (below left). Turn your camera side-ways to fit the shape of your subject (below right).

Now look at the article with the picture and discuss what you saw in the picture that helped you better understand what the article was about. Record your "Aha's!" on the handout.

Photo Zone

Six Trix for Better Pix

Want to get some great nature photos? Just grab a camera and follow these easy tips!



Fit the SHAPE

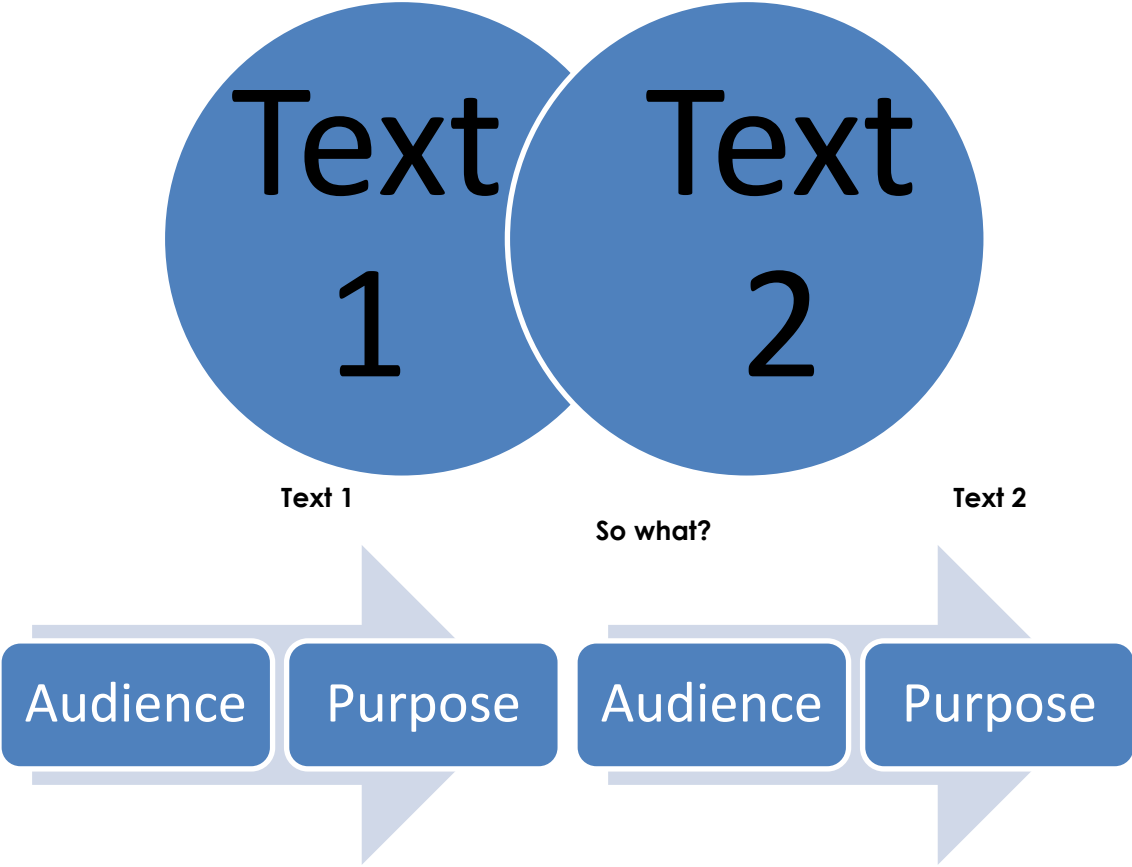
Think of your camera's viewfinder as a picture frame. Try to match the frame to the shape of your subject.

If you have an up-and-down subject, don't hold the camera in the "normal" way (below left). Turn your camera side-ways to fit the shape of your subject (below right).



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Title	My "Aha's!" What I realized by seeing the picture, the caption, and the article at the same time.	Author's Purpose	How does the caption support the author's purpose?





A COLLEGE PREPARATORY CHARTER SCHOOL
FOR BOYS
WILMINGTON, DELAWARE
GIVING BOYS A REAL CHANCE FOR A REAL FUTURE

October 2, 2011

Education Associate for Charter School Program
Delaware Department of Education
401 Federal Street, Suite 2
Dover, DE 19901

6th Grade English Language Arts

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 6th Grade English Language Arts were chosen because they clearly illustrate Prestige Academy Charter School's commitment to rigorous, engaging, standards-based instruction. Furthermore, the units chosen, Author's Purpose, Story Elements, and Theme & Plot, encompass numerous standards that are heavily assessed on the Delaware Comprehensive Assessment System (DCAS). Some modifications to these units of study were made to accommodate our all-boys

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.

demographic including: more hands-on learning, collaborative partner work, auditory learning activities, and clearly communicated performance goals.

The following units of instruction reflect our commitment to language arts, with each 6th grade student receiving 100-130 minutes of ELA instruction per day.

In closing, please note that our teachers are using a modified version of Achievement First Model Units for ELA. The units we have submitted reflect a deep dive into the most essential skills and standards for our scholars.

Enclosures:

“Author's Purpose” Unit Plan by Jarrett Burks

“Story Elements” Unit Plan by Jarrett Burks

“Theme & Plot” Unit Plan by Jarrett Burks

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Unit Title: Story Elements	Grade Level(s): 6
Subject/Topic Area: English Language Arts	
Key Vocabulary: Story elements, character, conflict, plot, resolution, climax, rising action, falling action, introduction	
Designed By: Jarrett Burks	Time Frame: 10-15 days Date: 9/28/2011

SUMMARY OF PURPOSE: In this unit scholars, will revisit story elements in order to get a sense of the text as a whole. Additionally, this unit will help prepare them for the units that follow by giving them an overview of story structure. The pace at which the aims will be taught will be dependent upon scholars’ familiarity with and mastery of the story elements triangle.

Stage 1: Desired Results
Common Core/ Delaware Standards
Primary: 1) 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. CC6RL2 Secondary: 2) Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. CC6RL1
Key Concepts/Big Ideas
1. Label the story elements triangle in order to make sense of the text while reading 2. Label the attempts the character makes to solve his/her “problem.” Question and infer why the problem keeps coming up 3. Ensure that students are hitting the stamina goal of 35 minutes and can read 28 pages at a time
Enduring Understandings
<i>Students will understand that...</i> 1. Identify and give a detailed description of the main character 2. Describe the setting of story, including the time period, place, and the unexpected “happening” within that setting; infer why the author places the book in this setting
Essential Questions
<ul style="list-style-type: none"> • Who, what, where, when, and why a story takes place? • What is plot? • What role does a conflict play in the plot of the story?

Real World Context
<ul style="list-style-type: none"> • Real world situations • Multiple and purposeful opportunities for students to assimilate new understandings and make new connections
Learning Targets/Goals
<p><i>Students will know...</i></p> <ol style="list-style-type: none"> 1. Critical Thinking Triangle (term coined by Mary Ellen Moreau), which is the concept of an initiating event, that causes an internal response (feeling), that causes the character to create a plan to solve his “problem.” 2. The 4 types of conflict; find evidence in the text that supports man vs. society <p><i>Students will be able to...</i> (21st century skills)</p> <ol style="list-style-type: none"> 3. Identifying the main character 4. Making inferences about the main character 5. Identifying the resolution to a story

Stage 2: Evidence of Student Achievement
Transfer Task
Performance Task
<p>Text-based response based upon one of the following, scored by rubric below:</p> <ul style="list-style-type: none"> • “My Name is María Isabel” by Alma Flor Ada • <u>The Outsiders</u> by S.E. Hinton • <u>Riding Freedom</u> by Pam Munoz Ryan • <u>Hatchet</u> by Gary Paulsen • <u>Number the Stars</u> by Lois Lowry • <u>Elijah of Buxton</u> by Christopher Paul Curtis • <u>The Adventures of Tom Sawyer</u> by Mark Twain

Rubrics for Transfer Tasks

Performance Task	
Score	Description
4	My answer gives a logical and thorough explanation supported by sufficient, specific, relevant details from the lesson.
3	My answer gives an adequate explanation supported by some relevant details from the lesson.
2	My answer gives a partial explanation with general references to the lesson.
1	My answer attempts to explain, but there are few or no accurate references to the lesson.
0	My answer is incorrect or irrelevant.

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

Directions: Each scholar is responsible to keep a journal that includes all of the scholar's written work, analysis of poems, proposal for performance assessment and an edited version of the scholars performance assessment with the graded rubric. Scholars compile and reflect on all the information and write a one page journal entry on:

Reflection:

1. On which part of this activity were you most successful or that you enjoyed most and why?
2. Which part was most difficult or that you found least enjoyable and why?
3. What is different, if anything, about your understanding and appreciation of poetry.

Instructional Resources

1. Beers, Kylene. When Kids Can't Read: What Teachers Can Do, A Guide For Teachers 6-12. New Hampshire: Heinemann, 2003. (Grades 6-12)
2. Harvey, Stephanie and Anne Goudvis. Strategies that Work, Second Edition: Teaching Comprehension for Understanding and Engagement. Maine: Stenhouse, 2007. (Grades K-8)
3. Excerpts and novels to use:
 - "My Name is María Isabel" by Alma Flor Ada
 - The Outsiders by S.E. Hinton
 - Riding Freedom by Pam Munoz Ryan
 - Hatchet by Gary Paulsen
 - Number the Stars by Lois Lowry
 - Elijah of Buxton by Christopher Paul Curtis
 - The Adventures of Tom Sawyer by Mark Twain
4. Keene, Ellin Oliver and Susan Zimmermann. *Mosaic of Thought: Teaching Comprehension in a Reader's Workshop*. New Hampshire: Heinemann, 1997. (Grades K-8)

Web address to access Ellin Oliver Keene's extensive work of strategy instruction, rubrics, and assessment:

<http://www.readinglady.com/mosaic/tools/tools.htm#1>

Differentiation

Partner pairs – High + Low groupings

Individual explanation of directions for students who require it

Reteaching in small groups – during group time, teacher will lead small groups of challenged learners

Extension Activities that correspond to topics covered will be located in ‘early finishers’ section of room. Students who finish early will be able to complete extra extension activities / challenges

Written definition of terms such as ‘noun,’ ‘predicate,’ etc. on individual assignments for those that require it

Students requiring IEP accommodations:

- Retelling, Small group discussions
- Oral Language Activities (story-telling, role playing, giving oral directions, reader’s theater, etc...)
- Cooperative Learning (jigsaw, think-pair-share, round robin, choral reading)
- Vocabulary Development (imaging, cloze sentences, listening exercises, puzzles/crosswords, vocabulary story)
- Reading Strategies (read aloud, shared reading, paired reading., silent reading)
- Writing Strategies (cloze, rewrites, frames, journals, simple-complex paragraphs, brainstorming, webbing, etc...)
- Audio Visual Aids (pop songs, taped drama, overhead projector, video)

Students requiring remediation:

- independent level texts used for independent reading strategy practice
- instructional level texts used for guided reading practice
- students will receive preferential seating, assignments with font enlarged, and word banks as necessary
- increased guided practice and small group instruction during independent work time

Students requiring extension:

- independent level texts used for independent reading strategy practice
- instructional level texts used for guided reading practice
- opportunity to complete weekly independent projects
- increased, extended guided practice and small group instruction during independent work time
- opportunity to work in partners during independent work time

Enrichment

Ask and provide questions

Provide research and reflection

Make real world connections: discuss themes which appear in novels

Use technology reading writing and other tools to enhance learning

Debate
Higher order thinking (synthesize)

Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- Class lectures and taking notes
- Attacking the text
- Group Discussions
- transfer the skills and strategies you teach during our mini-lessons to independent texts.
- Differentiate and personalize content, process, and product for diverse learners

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: Identify and Describe Story Elements

Good readers pay attention to the text to figure out who the main character is and to learn everything they can about that character.

- 1) SWBAT identify and give a detailed description of the main character. Stamina aim of __ minutes.

Agenda:

1. Do Now
 2. *Riding Freedom*
 3. Describing the Main Character
 4. I'll Show You
 5. Together
 6. Your Turn – Read, baby, read!
- 2) SWBAT describe the setting of story, including the time period, place, and the unexpected “happening” within that setting; SWBAT

infer why the author places the book in this setting. Stamina aim of ___ minutes for independent practice.

Agenda:

1. Do Now
2. Setting
3. Revisiting the Beginning
4. Looking for Clues
5. I'll Show You
6. Together
7. Your Turn! Read, Baby, Read!

- 3) SWBAT label the story elements triangle in order to make sense of the text while reading. SWBAT retell the initiating event in the story that causes or is the main character's "problem" and recognize the internal response of the main character in response to the initiating event.

Agenda:

1. Do Now
2. Initiating Event and Internal Response
3. Remember María Isabel?
4. Together
5. Your Turn! Read, Baby, Read!

- 4) SWBAT and identify the character's plan (stated or implied by the author) to deal with his/her "problem" created by the initiating event and internal response

Agenda:

1. Do Now
2. Clues to the PLAN
3. I'll Show You
4. Together
5. Your Turn! Read, Baby, Read!

- 5) SWBAT label the attempts the character makes to solve his/her "problem." Question and infer why the problem keeps coming up.

Agenda:

1. Do Now
2. Attempts
3. Description
4. I'll Show You
5. Together
6. Your Turn! Read, Baby, Read!

Lesson 2

General Topics Reflection

- 1) SWBAT define conflict and collect evidence that supports the main

conflict

Agenda:

1. Do Now
 2. Lots of Little Problems Help us See the Conflict
 3. I'll Show You
 4. Together
 5. Your Turn! Read, Baby, Read!
- 2) SWBAT use evidence to identify the major conflict in the book.

Agenda:

1. Do Now
 2. Conflict
 3. I'll Show You
 4. Together
 5. Your Turn! Read, Baby, Read!
- 3) SWBAT name the 4 types of conflict; find evidence in the text that supports man vs. society.

Agenda:

1. Do Now
 2. The 4 types of Conflict
 3. I'll Show You
 4. Together
 5. Your Turn! Read, Baby, Read!
- 4) SWBAT define the lesson learned, message, or moral of the story; find a passage that connects to the message or theme of the story

Agenda:

1. Do Now
 2. So What? Finding the Messages/Lessons for the Reader
 3. I'll Show You
 4. Together
 5. Your Turn! Read, Baby, Read!
- 5) SWBAT infer why the author made the problem a theme in his/her book.

Agenda:

1. Do Now
2. Why did the author put this conflict and these messages in the book?
3. I'll Show You
4. Together
5. Your Turn! Read, Baby, Read!

Appendix A

Sample Resources

Name: _____

Date: _____

Riding Freedom
Double Entry Journal

The Text Says (include the page number)	What It Tells Me about Charlotte
1. "When she was nothing more than a bundle, she surprised her parents and puzzled the doctor by surviving several fevers." (page 2)	This makes me think that Charlotte is special because she is a survivor.
2. "But Charlotte wasn't afraid." (page 2)	Charlotte is brave in the middle of a really dangerous storm. She is observant and doesn't frighten easily.
3. "Her father and mother were killed instantly." (page 3)	
4. "But if anybody can make it alone in this world, it's you. Since the day you were born, you've been determined as a mule and tough as a rawhide bone." (page 4)	
5.	
6.	
7.	

Name: _____

Date: _____

Setting

<u>From the Book:</u> What We Know About The Setting From The Text Time period, place/location	<u>From my Brain:</u> My Thoughts About The Setting Why did the author choose this time/place? How does this setting affect the main character? What is important about the setting?

Closing:

1. Why is understanding and describing the setting important?

2. Does the author pick the setting on purpose? Why or why not?

Story Elements Graphic Organizer
My Name is Maria Isabel

IE: Initiating Event

María Isabel's teacher says, "We already have a Maria in this class. Instead, we will call you Mary."

IR: Internal Response What the Character Feels

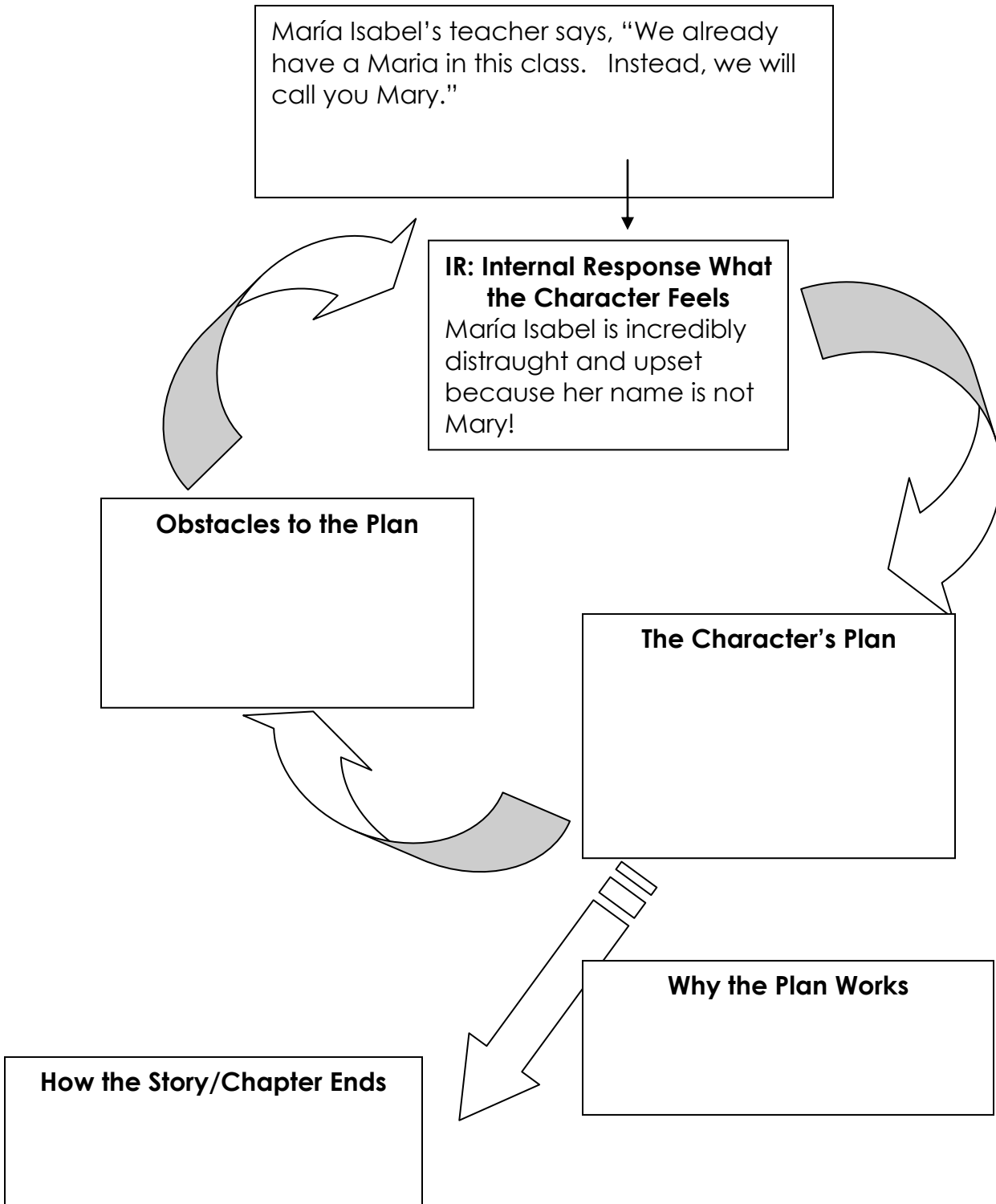
María Isabel is incredibly distraught and upset because her name is not Mary!

Obstacles to the Plan

The Character's Plan

Why the Plan Works

How the Story/Chapter Ends



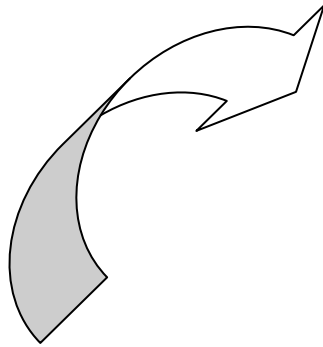
Story Elements Graphic Organizer

Title: _____

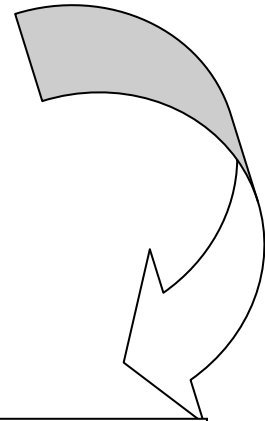
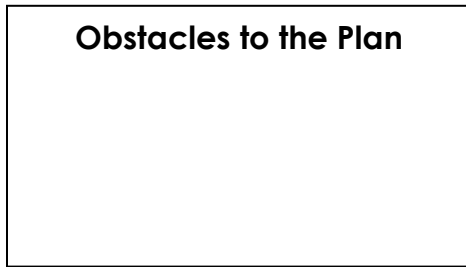
IE: Initiating Event



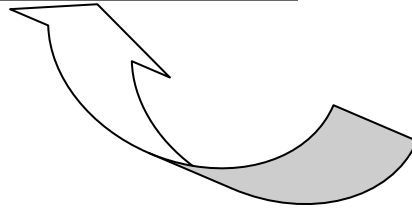
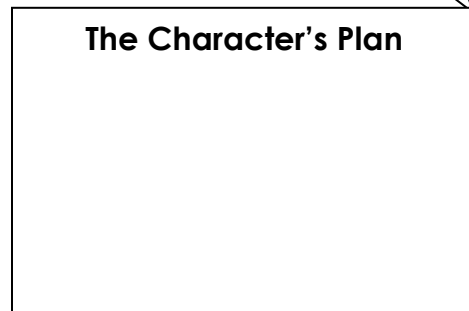
IR: Internal Response What the Character Feels



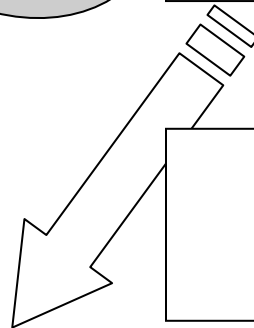
Obstacles to the Plan



The Character's Plan



Why the Plan Works

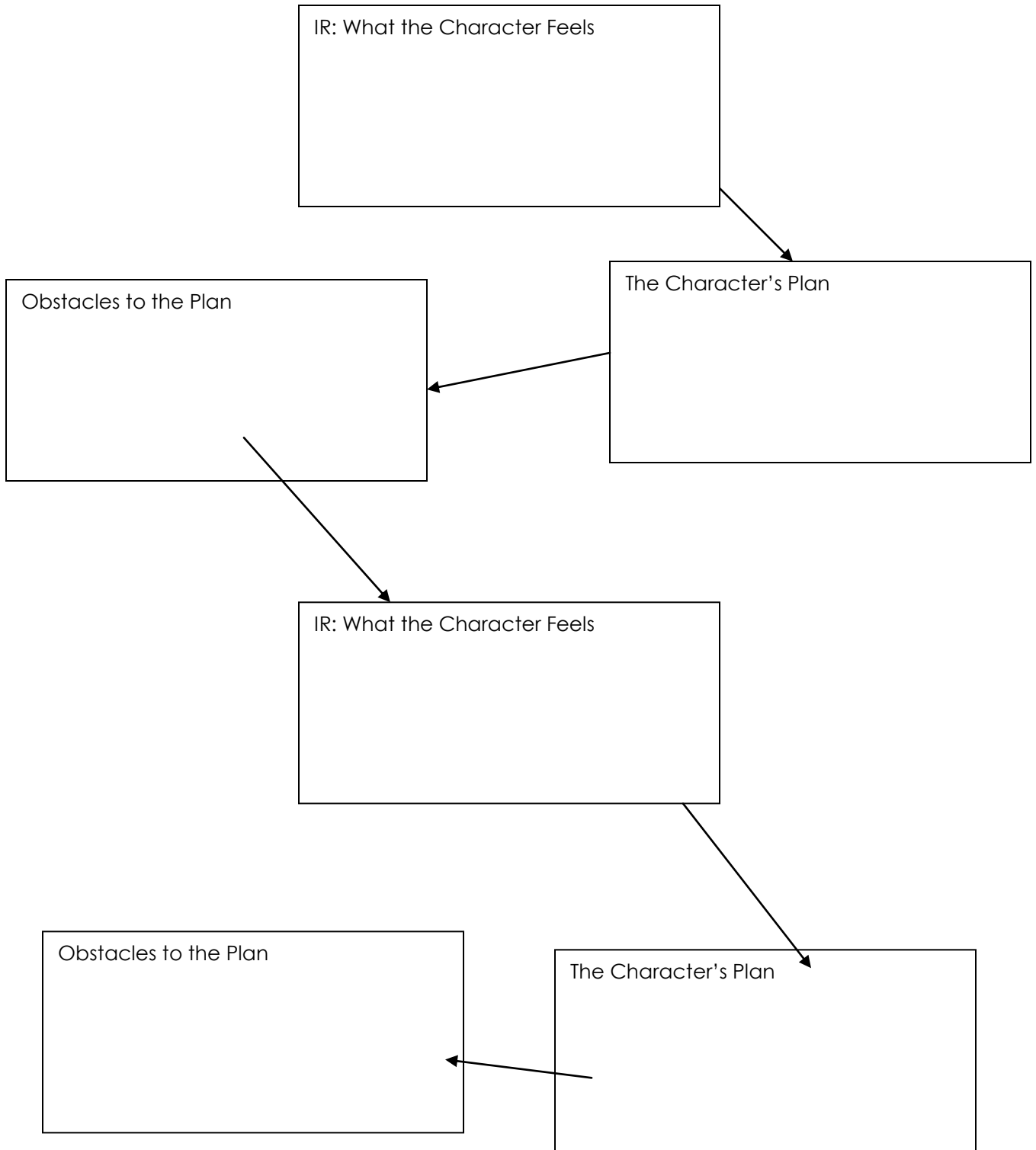


How the Story Ends



Page & Clue that Gives Information about the PLAN	Why I think this is a clue to Charlotte's PLAN
On page 32, Hay drops off a bundle of clothes for Charlotte and she stuffs it in the wood box.	This is a clue that shows how Charlotte is getting ready to run away. I think she is going to disguise herself.

Story Elements Graphic Organizer Triangle Part 2A



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Name: _____

Date: _____

Conflict

Problems in the book so far ○	What all of these problems have in common
Problems so far in our class novel	What all of these problems have in common

Prestige Academy Charter School

Name: _____

Date: _____

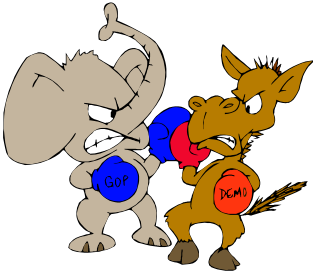
Title: Riding Freedom

The Major Conflict	Evidence in the Text that Supports this as the Major Conflict
<p>In order to get to do what she wants in the world, Charlotte has to pretend that she is a boy.</p>	<p>On pages 68 and 69, Ryan writes about how hard Charlotte works to protect her identity. She describes how Charlotte disguises herself and how she sleeps alone on the stable instead of with the other stable hands.</p>
	<p>On the bottom of page 69 it reads, "For six years, she managed to stay clear of Mr. Millschark... If she was ever found out, her job could end in a moment's recognition... And all her dreams along with it."</p>

Review: I'm thinking while I'm reading! Refocusing on _____

Prestige Academy Charter School

Name: _____
 Date: _____



Types of Conflict

1. Yesterday we said that the conflict in *Riding Freedom* was _____

2. Based on the four types of conflicts, I think this is a _____
 _____ conflict.
3. Evidence from the Text That Supports My Labeling the Conflict as Man vs. Society

Page	Evidence	Rationale
87	There is a woman who is giving out pamphlets about giving women the right to vote and men are laughing at her and jeering.	I think this is an example of man vs. society because it shows how Charlotte (and all woman at this time) do not have the same rights as men in their society.

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Name: _____
Date: _____

So what? What's the Message or Lesson?

The Message or Lesson	Evidence from the Text (Paraphrase a passage or quote a meaningful line) and Explain Why it Spoke to You
If you are determined and work really hard, you will find success even if everyone else doesn't think you can do it.	On page 95, the doctor talks about other women who have had to dress as men in order to survive and protect their families. Just like these other women were determined to get through their hard times, I think that Charlotte will be able to get through his hard time
	"...she had to do what her heart tells her." We picked this because

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Unit Title: Theme and Plot	Grade Level(s): 6
Subject/Topic Area: English Language Arts	
Key Vocabulary: Theme, plot, events, message, inference, summary	
Designed By: Jarrett Burks	Time Frame: 7-11 days Date: 9/30/2011

SUMMARY OF PURPOSE: This unit is the last in a series of three short units about theme. Specifically, it focuses on the connections between theme and plot. It is a short unit that reiterates and builds upon the skills taught in the previous theme and character units. Additionally, retelling, summary, and stamina aims are folded into the aims sequence.

Stage 1: Desired Results
Common Core/ Delaware Standards
Primary: 1) 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. CC6RL2
Secondary: 2) 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. CC6RL3
Key Concepts/Big Ideas
Objects in space can be oriented in an infinite number of ways.
Enduring Understandings
<i>Students will understand that...</i> <ul style="list-style-type: none">• Authors use stories to communicate bigger ideas about the world.• Authors make choices about the plot events. They make specific choices in order to lead the reader to a deeper understanding of the world.• By paying attention to the choices an author makes about plot events, readers can understand the deeper meaning of the text.
Essential Questions
<ul style="list-style-type: none">• What issues are hiding in the text?• How does the author position me to think about the issues?• Which plot events help me better understand what the author is trying to say?
Real World Context
<ul style="list-style-type: none">• Real world situations• Multiple and purposeful opportunities for students to assimilate new understandings and make new connections
Learning Targets/Goals
<i>Students will know...</i> <ul style="list-style-type: none">• Hypothesize, infer and list the big ideas, messages or themes of the text, with a particular emphasis on the plot

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- Assess which theme is most important and track the relevant details of the text in order to develop thinking about the theme across the entire text, with a particular emphasis on the plot
- Turn thematic concepts into thematic statements

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

- Note specific text details that show how the plot or changes in the plot reinforce the theme and explain the rationale for choosing those details.
- Explain how setting reinforces the theme
- Analyze whether character, plot, or setting affected their interpretation of theme the most

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Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

Text-based response based upon one of the following, scored by rubric below:

- “Thank You, M’am” by Langston Hughes (respecting elders)
- The Outsiders by S.E. Hinton (gang affiliation; peer pressure)
- Brian’s Winter by Gary Paulsen (survival)
- The Adventures of Tom Sawyer by Mark Twain (adventure; racism)
- A Christmas Carol by Charles Dickens (greed vs. generosity)

Also, see Appendix A

Rubrics for Transfer Tasks

Performance Task

Score	Description
4	My answer gives a logical and thorough explanation supported by sufficient, specific, relevant details from the lesson.
3	My answer gives an adequate explanation supported by some relevant details from the lesson.
2	My answer gives a partial explanation with general references to the lesson.
1	My answer attempts to explain, but there are few or no accurate references to the lesson.
0	My answer is incorrect or irrelevant.

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 partner

Partners each creates a four corner thematic flow chart.

[One corner includes a picture/sketch with caption that illustrate a theme from either author text that can also be found in the other book. Second corner contains thematic phrasing used by the author used in both text; this could include the mood or tone set by the author. Third corner, visual representation of the protagonist used in each text, including a Venn Diagram comparing/contrasting the two characters. Fourth Corner, same as corner three for the antagonist and the ways the author presented the conflict(s) for the protagonist.

Reflection:

1. On which part of this activity were you most successful and why (giving or receiving directions)?
2. Which part are you most proud of? Explain why.
3. Which part was most difficult and why?
What types of strategies did you develop with your partner to write directions more clearly?

Instructional Resources

The Teaching That Makes Sense site by Steve Peha provides lots of theoretical AND practical tools for teaching scholars about author's craft:

http://www.ttms.org/say_about_a_book/read_like_a_writer.htm

Be sure to check out the following PDFs on this site:

- "Read Like a Reader, Read Like a Writer"
- "What Can You Say about a Book"

Novels and excerpts:

- "Thank You, M'am" by Langston Hughes (respecting elders)
- The Outsiders by S.E. Hinton (gang affiliation; peer pressure)
- Brian's Winter by Gary Paulsen (survival)
- The Adventures of Tom Sawyer by Mark Twain (adventure; racism)
- A Christmas Carol by Charles Dickens (greed vs. generosity)

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Differentiation

Partner pairs – High + Low groupings

Individual explanation of directions for students who require it

Reteaching in small groups – during group time, teacher will lead small groups of challenged learners

Extension Activities that correspond to topics covered will be located in ‘early finishers’ section of room. Students who finish early will be able to complete extra extension activities / challenges

Written definition of terms such as ‘noun,’ ‘predicate,’ etc. on individual assignments for those that require it

Students requiring IEP accommodations:

- Retelling, Small group discussions
- Oral Language Activities (story-telling, role playing, giving oral directions, reader’s theater, etc...)
- Cooperative Learning (jigsaw, think-pair-share, round robin, choral reading)
- Vocabulary Development (imaging, cloze sentences, listening exercises, puzzles/crosswords, vocabulary story)
- Reading Strategies (read aloud, shared reading, paired reading., silent reading)
- Writing Strategies (cloze, rewrites, frames, journals, simple-complex paragraphs, brainstorming, webbing, etc...)
- Audio Visual Aids (pop songs, taped drama, overhead projector, video)

Students requiring remediation:

- independent level texts used for independent reading strategy practice
- instructional level texts used for guided reading practice
- students will receive preferential seating, assignments with font enlarged, and word banks as necessary
- increased guided practice and small group instruction during independent work time

Students requiring extension:

- independent level texts used for independent reading strategy practice
- instructional level texts used for guided reading practice
- opportunity to complete weekly independent projects
- increased, extended guided practice and small group instruction during independent work time
- opportunity to work in partners during independent work time

Enrichment

Ask and provide q provide research and reflection

Make real world connections

Use technology reading writing and other tools to enhances learning

Debate

Higher order thinking (synthesize)

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Stage 3: Learning Plan

Key learning tasks needed to achieve unit goals

- Class lectures and taking notes
- Attacking the text
- Group Discussions
- Transfer the skills and strategies you teach during our mini-lessons to independent texts.
- Differentiate and personalize content, process, and product for diverse learners

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: Identify and Describe Story Elements

Good readers pay attention to the text to figure out who the main character is and to learn everything they can about that character.

- 1) Hypothesize, infer and list the big ideas, messages or themes of the text, with a particular emphasis on the plot.

Connection/Hook:

We are entering our final unit on theme. We've done a lot of really hard but good work in the past two units! Today we are going to return back to an aim that we have covered before, so we can practice it some more. Any time you are learning something new, it takes practice to learn how to do it well. What's an example of something that takes practice to learn? [Solicit an answer.] Exactly, just like _____, identifying the issues hiding in our texts takes a lot of practice.

- 2) Assess which theme is most important and track the relevant details of the text in order to develop thinking about the theme across the entire text, with a particular emphasis on the plot.

Connection/Hook:

Yesterday in our story called "Thank You, Ma'am," we read about a boy who tried to steal a woman's purse but ended up falling down. After the lady kicked and shook him, we thought she might try to enact revenge upon him. However,

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we realized that she was starting to be nice to him. She took him home to wash his face and feed him. Even though the author chose those particular events, we know the story is more than just those specific things. The author uses those events to talk about larger issues. We're not yet sure what those issues are. So far, we have "theft" and "showing kindness to others, even if they've done something bad to you" and "fear." I'm eager to keep reading so we can figure out what the most important issues are and how the author wants us to think about them.

- 3) Distinguish between thematic statements and thematic concepts; turn thematic concepts into thematic statements.

Connection/Hook:

Yesterday we finished reading our story by Langston Hughes, and we talked through which issues were important versus not important. Now we are going to take the important step of translating our most significant issues into a thematic statement that captures what we think the story is really about and how the author wants us to think and feel about it.

- 4) Note specific text details that show how the plot or changes in the plot reinforce the theme and explain the rationale for choosing those details.

Connection/Hook:

We have done some very important work with "Thank You, Ma'am"! We started by paying close attention to the story and naming issues hiding inside it. Then we decided which issues were most important and turned those into a thematic statement. We asked, "What does that author want me to think about the issues?" Today, we are going to go back to our theme and select the most important details from the story about the plot and the changes in the plot that support the theme.

- 5) Explain how setting reinforces theme.

Connection/Hook:

We've done a lot of good work with identifying theme in texts during the past three units. We started by talking broadly about theme, and then we narrowed in and talked about how the choices authors make about characters and the plot affect the theme. Now we're going to add one more element to look at: setting.

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Lesson 2

General Topics Reflection

- 1) Analyze whether character, plot, or setting affected their interpretation of theme the most.

Connection/Hook:

Our final unit on theme is quickly coming to a close! We started by talking broadly about theme, and then we narrowed in and talked about how the choices authors make about characters, the plot, and the setting affect the theme. Now we're going to put it all together and identify specifically what it is in the story that most affects our interpretation of the theme.

- 2) Assess whether, and in what ways, the theme changed over the course of the text and hypothesize whether the author did this deliberately.

Connection/Hook:

We've been talking a lot about how authors make choices when writing a text. They make these choices on purpose in order to try and affect the readers. We've specifically been looking at the choices they make with regard to theme. Today we're going to talk about something tricky that authors may decide to do. They made decide to change the theme in the middle of the story!

Appendix A
Sample Resources

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THEME SUMMATIVE ASSESSMENT: *Show What You Know*

Name: _____ **Class:** _____ **Score:** _____

Scale: 70 = A+ __ - __ = A __ - __ = B __ - __ = C < __ = F

Teacher Comments:

Directions:

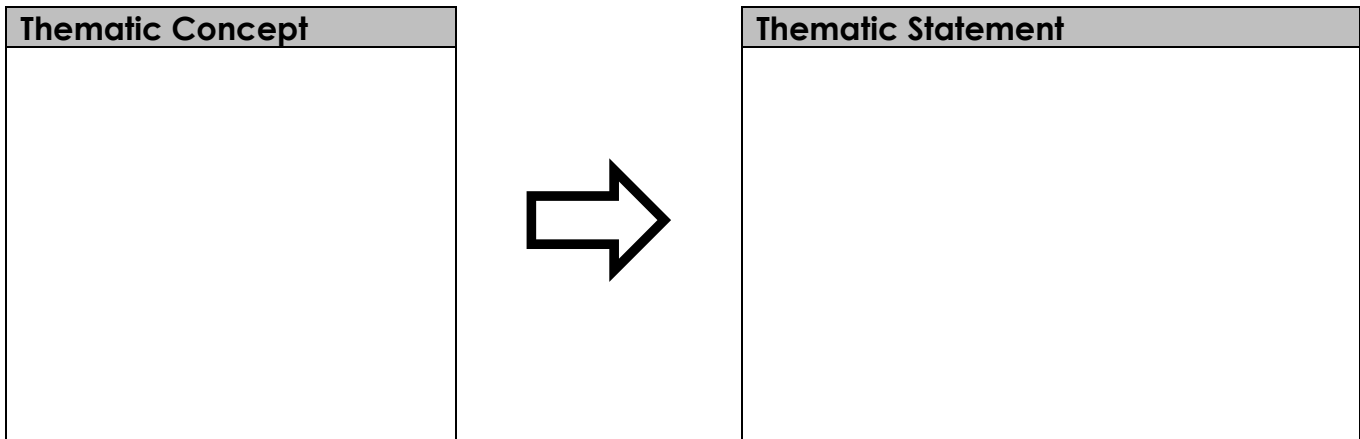
1. Read the short story.
2. Identify at least two of the most important issues (thematic concepts) hiding in the text.
3. Record at least two pieces of evidence for each issue (including the direct quote and a paragraph number).
4. Label each piece of evidence as P (for plot), C (for character), or S (for setting).

Issues Hiding in the Text	Evidence	P = Plot C = Character S = Setting

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Grading Checklist	
Criteria	One point each
Identifies at least one important issue in the text.	
Identifies a second important issue in the text.	
Phrases at least one of the issues as a broad, thematic concept.	
Phrases a second issue as a broad, thematic concept.	
Cites at least two pieces of evidence for the first issue.	
Cites at least two pieces of evidence for the second issue.	
The evidence includes a direct quote.	
The evidence includes a paragraph reference.	
The evidence logically supports the first issue.	
The evidence logically supports the second issue.	
Correctly identifies details as setting, character, or plot details.	
TOTAL POINTS	

Now turn one of your thematic concepts into a thematic statement:



Grading Rubric		
5 points	3 points	1 point
You translated a thematic concept from the story into a statement that coherently and logically expresses how the author positioned readers to think about an issue.	You translated a thematic concept from the story into a statement that somewhat expresses how the author positioned readers to think about an issue.	You attempted to translate a thematic concept into a thematic statement.

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Identify a detail that shows how the main character changed throughout the text and explain how this change connects to the theme.

○	
○	

Grading Rubric		
5 points	3 points	1 point
Identifies an example of how the main character changes and provides a thorough and logical explanation of how this change connects to the theme.	Identifies an example that somewhat shows how the main character changes and provides an explanation of how this change connects to the theme.	Identifies an example that shows how the main character changes but does not provide an explanation of how this change connects to the theme.

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Identify a detail that shows how the character’s personality reinforces the theme and explain the connection between that detail and the theme.

○	
○	

Grading Rubric		
5 points	3 points	1 point
Identifies an example of how the character’s personality reinforces the theme and provides a thorough and logical explanation of how this detail connects to the theme.	Identifies an example that somewhat shows how the character’s personality reinforces the theme and provides an explanation of how this detail connects to the theme.	Identifies an example that shows how the character’s personality reinforces the theme but does not provide an explanation of how this detail connects to the theme.

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Identify a detail that shows how the main character’s actions reinforce the theme.

○	
○	

Grading Rubric		
5 points	3 points	1 point
Identifies an example of how the main character’s actions reinforce the theme and provides a thorough and logical explanation of how this detail connects to the theme.	Identifies an example that somewhat shows how the main character’s actions reinforce the theme and provides an explanation of how this detail connects to the theme.	Identifies an example that shows how the main character’s actions reinforce the theme but does not provide an explanation of how this detail connects to the theme.

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Make a personal connection to the theme and/or characters in the text and explain it.

○	
○	

Grading Rubric		
5 points	3 points	1 point
Articulates a personal connection that demonstrates a deep and meaningful understanding of theme and/or characters.	Articulates a personal connection that demonstrates an understanding of theme and/or characters.	Attempts to articulate a personal connection that demonstrates an understanding of theme and/or characters.

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Compare the theme of this text to another text you've read.

○	
○	

Grading Rubric		
5 points	3 points	1 point
Articulates a text-to-text connection that demonstrates a deep and meaningful understanding of theme and/or characters.	Articulates a text-to-text connection that demonstrates an understanding of theme and/or characters.	Attempts to articulate a text-to-text connection that demonstrates an understanding of theme and/or characters.

Explain how these themes and characters connect to issues in the world.

○	
○	

Grading Rubric		
5 points	3 points	1 point
Articulates a text-to-world connection that demonstrates a deep and meaningful understanding of theme and/or characters.	Articulates a text-to-world connection that demonstrates an understanding of theme and/or characters.	Attempts to articulate a text-to-world connection that demonstrates an understanding of theme and/or characters.

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Explain one of the changes in plot and explain how it connects to the theme.

○	
○	

Grading Rubric		
5 points	3 points	1 point
Identifies a change in plot and provides a thorough and logical explanation of how this detail connects to the theme.	Identifies a change in plot and provides an explanation of how this detail connects to the theme.	Identifies a change in plot but does not provide an explanation of how this detail connects to the theme.

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Did the theme change over the course of the text? Explain your answer.

<input type="radio"/>	
<input type="radio"/>	

Grading Rubric		
5 points	3 points	1 point
Identifies an example of how the character's personality reinforces the theme and provides a thorough and logical explanation of how this detail connects to the theme.	Identifies an example that somewhat shows how the character's personality reinforces the theme and provides an explanation of how this detail connects to the theme.	Identifies an example that shows how the character's personality reinforces the theme but does not provide an explanation of how this detail connects to the theme.

Explain how the setting reinforces the theme.

<input type="radio"/>	
<input type="radio"/>	

Grading Rubric		
5 points	3 points	1 point
Selects character, plot, or setting details and provides a thorough and logical explanation of how these details most affected their interpretation.	Selects character, plot, or setting details and provides an explanation of how these details most affected their interpretation.	Selects character, plot, or setting details but does not provide an explanation of how these details most affected their interpretation.

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Did character, plot, or setting most affect your interpretation of the theme? Explain your answer.

<input type="radio"/>	
<input type="radio"/>	

Grading Rubric		
5 points	3 points	1 point
Selects character, plot, or setting details and provides a thorough and logical explanation of how these details most affected their interpretation.	Selects character, plot, or setting details and provides an explanation of how these details most affected their interpretation.	Selects character, plot, or setting details but does not provide an explanation of how these details most affected their interpretation.

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EXTENSION QUESTION: Identify an example of foreshadowing in the story and explain how it relates to the theme.

○	
○	

Grading Rubric		
5 points	3 points	1 point
Identifies an example of foreshadowing and provides a thorough and logical explanation of how this detail connects to the theme.	Identifies an example of foreshadowing and provides an explanation of how this detail connects to the theme.	Identifies an example of foreshadowing but does not provide an explanation of how this detail connects to the theme.

Thematic Concepts

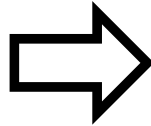
Name: _____ Date: _____

Issues Hiding in the Text	Evidence

Thematic Concepts → Statements

Example from Mini-Lesson

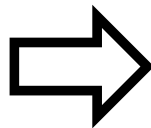
Thematic Concept



Thematic Statement

Example from Guided Practice

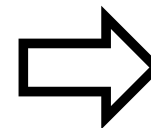
Thematic Concept



Thematic Statement

Example from Independent Practice

Thematic Concept



Thematic Statement

Example from Homework

Thematic Concept

Thematic Statement

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DETAIL THAT SUPPORTS THE THEME

Plot Event:

--

DETAIL THAT SUPPORTS THE THEME

Plot Event:

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DETAIL THAT SUPPORTS THE THEME

Plot Event:

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DETAIL THAT SUPPORTS THE THEME

Plot Event:

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DETAIL THAT SUPPORTS THE THEME

Plot Event:

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Thank You, M'am

She was a large woman with a large purse that had everything in it but a hammer and nails. It had a long strap, and she carried it slung across her shoulder. It was about eleven o'clock at night, dark, and she was walking alone, when a boy ran up behind her and tried to snatch her purse. The strap broke with the sudden single tug the boy gave it from behind. But the boy's weight and the weight of the purse combined caused him to lose his balance. Instead of taking off full blast as he had hoped, the boy fell on his back on the sidewalk and his legs flew up. The large woman simply turned around and kicked him right square in his blue-jeaned sitter. Then she reached down, picked the boy up by his shirt front, and shook him until his teeth rattled.

After that the woman said, "Pick up my pocketbook, boy, and give it here."

She still held him tightly. But she bent down enough to permit him to stoop and pick up her purse. Then she said, "Now ain't you ashamed of yourself?"

Firmly gripped by his shirt front, the boy said, "Yes'm."

The woman said, "What did you want to do it for?"

The boy said, "I didn't aim to."

She said, "You a lie!"

By that time two or three people passed, stopped, turned to look, and some stood watching.

"If I turn you loose, will you run?" asked the woman.

"Yes'm," said the boy.

"Then I won't turn you loose," said the woman. She did not release him.

"Lady, I'm sorry," whispered the boy.

"Um-hum! Your face is dirty. I got a great mind to wash your face for you. Ain't you got nobody home to tell you to wash your face?"

"No'm," said the boy.

"Then it will get washed this evening," said the large woman, starting up the street, dragging the frightened boy behind her.

He looked as if he were fourteen or fifteen, frail and willow-wild, in tennis shoes and blue jeans.

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The woman said, "You ought to be my son. I would teach you right from wrong. Least I can do right now is to wash your face. Are you hungry?"

"No'm," said the being-dragged boy. "I just want you to turn me loose."

"Was I bothering *you* when I turned that corner?" asked the woman.

"No'm."

"But you put yourself in contact with *me*," said the woman. "If you think that that contact is not going to last awhile, you got another thought coming. When I get through with you, sir, you are going to remember Mrs. Luella Bates Washington Jones."

Sweat popped out on the boy's face and he began to struggle. Mrs. Jones stopped, jerked him around in front of her, put a half nelson about his neck, and continued to drag him up the street. When she got to her door, she dragged the boy inside, down a hall, and into a large kitchenette-furnished room at the rear of the house. She switched on the light and left the door open. The boy could hear other roomers laughing and talking in the large house. Some of their doors were open, too, so he knew he and the woman were not alone. The woman still had him by the neck in the middle of her room.

She said, "What is your name?"

"Roger," answered the boy.

"Then, Roger, you go to that sink and wash your face," said the woman, whereupon she turned him loose—at last. Roger looked at the door—looked at the woman—looked at the door—*and went to the sink.*

"Let the water run until it gets warm," she said. "Here's a clean towel."

"You gonna take me to jail?" asked the boy, bending over the sink.

"Not with that face, I would not take you nowhere," said the woman. "Here I am trying to get home to cook me a bite to eat, and you snatch my pocketbook! Maybe you ain't been to your supper either, late as it be. Have you?"

"There's nobody home at my house," said the boy.

"Then we'll eat," said the woman. "I believe you're hungry—or been hungry—to try to snatch my pocketbook!"

"I want a pair of blue suede shoes," said the boy.

"Well, you didn't have to snatch *my* pocketbook to get some suede shoes," said Mrs. Luella Bates Washington Jones. "You could of asked me."

"M'am?"

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The water dripping from his face, the boy looked at her. There was a long pause. A very long pause. After he had dried his face and not knowing what else to do, dried it again, the boy turned around, wondering what next. The door was open. He could make a dash for it down the hall. He could run, run, run, *run!*

The woman was sitting on the day bed. After a while she said, "I were young once and I wanted things I could not get."

There was another long pause. The boy's mouth opened. Then he frowned, not knowing he frowned.

The woman said, "Um-hum! You thought I was going to say *but*, didn't you? You thought I was going to say, *but I didn't match people's pocketbooks*. Well, I wasn't going to say that." Pause. Silence. "I have done things, too, which I would not tell you, son—neither tell God, if He didn't already know. Everybody's got something in common. So you set down while I fix us something to eat. You might run that comb through your hair so you will look presentable."

In another corner of the room behind a screen was a gas plate and an icebox. Mrs. Jones got up and went behind the screen. The woman did not watch the boy to see if he was going to run now, nor did she watch her purse, which she left behind her on the day bed. But the boy took care to sit on the far side of the room, away from the purse, where he thought she could easily see him out of the corner of her eye if she wanted to. He did not trust the woman *not* to trust him. And he did not want to be mistrusted now.

"Do you need somebody to go to the store," asked the boy, "maybe to get some milk or something?"

"Don't believe I do," said the woman, "unless you just want sweet milk yourself. I was going to make cocoa out of this canned milk I got here."

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“That will be fine,” said the boy.

She heated some lima beans and ham she had in the icebox, made the cocoa, and set the table. The woman did not ask the boy anything about where he lived, or his folks, or anything else that would embarrass him. Instead, as they ate, she told him about her job in a hotel beauty shop that stayed open late, what the work was like, and how all kinds of women came in and out, blondes, redheads, and Spanish. Then she cut him a half of her ten-cent cake.

“Eat some more, son,” she said.

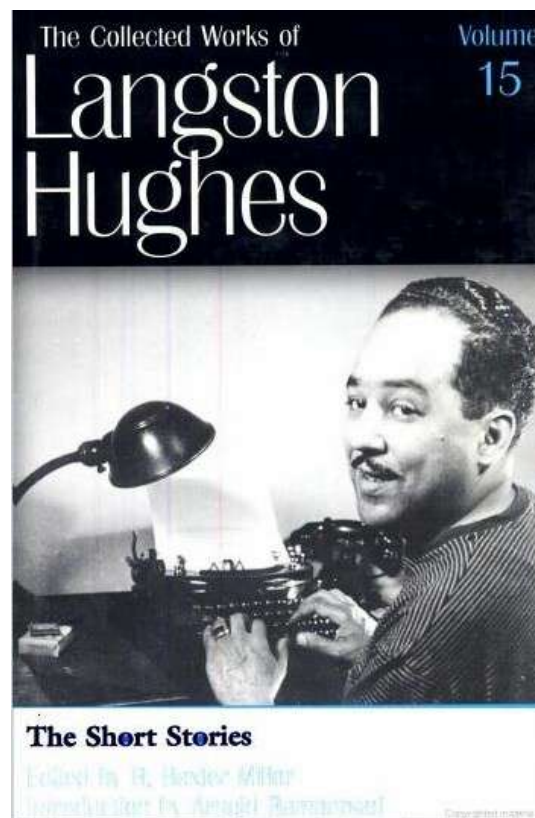
When they were finished eating, she got up and said, “Now here, take this ten dollars and buy yourself some blue suede shoes. And next time,

do not make the mistake of latching onto *my* pocketbook *nor nobody else’s*—because shoes got by devilish ways will burn your feet. I got to get my rest now. But from here on in, son, I hope you will behave yourself.”

She led him down the hall to the front door and opened it. “Good night! Behave yourself, boy!” she said, looking out into the street as he went down the steps.

The boy wanted to say something other than, “Thank you, m’am,” to Mrs. Luella Bates Washington Jones, but although his lips moved, he couldn’t even say that as he turned at the foot of the barren stoop and looked up at the large woman in the door. Then she shut the door.

This copy of “Thank You, M’am” is from the [Collected Works of Langston Hughes](#).



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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: 10-12 hours
	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
Primary: Computation and Operations-Exponents (6.NSO-C.15) <ul style="list-style-type: none">• Translate values between numeric form and exponential form.• Identify and evaluate values of small, positive integers.• Compare and order positive integer exponents.
Secondary: Computation and Operations-Order of Operations (6.NSO-C.8 and C.17) <ul style="list-style-type: none">• Select appropriate operation to solve problems involving the four basic operations and positive integers.• Subtract positive integers from both positive and negative integers.
Key Concepts/Big Ideas
When solving a complex mathematical problem there is only one way to get the correct answer.
Enduring Understandings
<i>Students will understand that...</i> You must follow the order of operations when solving complex problems that involve subtraction, division, or exponents. You can use judgment to solve problems involving only addition or only multiplication.
Essential Questions
<ul style="list-style-type: none">• What is a complex mathematical problem?• What does PEMDAS mean and how is it used?
Real World Context
<ul style="list-style-type: none">•
Learning Targets/Goals
<i>Students will know...</i> <ul style="list-style-type: none">• The words behind the acronym PEMDAS.• In what order to process a complex mathematical problem. <i>Students will be able to...</i> (21 st century skills) <ul style="list-style-type: none">• Find the answer to a complex mathematical problem using order of operations.

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- 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.
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.

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

Prestige Academy Charter School

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 worksheet?
 - 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, and Graphs	
Key Vocabulary: Central Tendency, Data, Mean, Median, Mode, Range, Box-and-Whisker Graph, Quartile, Minimum, Maximum	
Designed By:	Time Frame: 8-10 hours
	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
Primary: Data, Analysis, Statistics and Probability (6.DASP.1) <ul style="list-style-type: none">• Calculate the mean, median, mode, maximum, minimum, and range of a set of data. \• Find the missing number if the mean and other numbers are given.
Secondary: Data, Analysis, Statistics and Probability(6.DASP.2, 6.DASP.3, 6.DASP.5) <ul style="list-style-type: none">• Interpret graphs by comparing variables.• Construct, label, and interpret stem-and-leaf graphs.
Key Concepts/Big Ideas
Display numerical data in plots on including box plots and understand that while a measure of variation describes how its values vary with a single number.
Enduring Understandings
<i>Students will understand...</i> 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.
Essential Questions
<ul style="list-style-type: none">• What do the words mean, median, mode, and range mean?• How does finding patterns help with reading data?
Real World Context
<ul style="list-style-type: none">• 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
<i>Students will know...</i> <ul style="list-style-type: none">• The definitions of mean, median, mode, and range.• What a stem-and-leaf plot is. <i>Students will be able to...</i> (21 st century skills) <ul style="list-style-type: none">• 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.

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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 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

Prestige Academy Charter School

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.



A COLLEGE PREPARATORY CHARTER SCHOOL
FOR BOYS
WILMINGTON, DELAWARE
GIVING BOYS A REAL CHANCE FOR A REAL FUTURE

October 2, 2011

Education Associate for Charter School Program
Delaware Department of Education
401 Federal Street, Suite 2
Dover, DE 19901

6th Grade Mathematics

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 6th Grade Mathematics were chosen because they clearly illustrate Prestige Academy Charter School's commitment to rigorous, engaging, standards-based instruction. Furthermore, the units chosen, Number Sense and Computation, Order of Operations, and Using Data to Come to Conclusions encompass numerous standards that are heavily assessed on the Delaware Comprehensive Assessment System (DCAS). Some modifications to these units of study were made to accommodate our all-boys demographic including: more hands-on learning, collaborative partner work, and clearly communicated performance goals.

The following units of instruction reflect our commitment to mathematics, with each 6th Grade student receiving 100-220 minutes of math instruction per day. Each 6th Grade class receives an extra 90 minute section of math once per week. This class focuses on math skills that need remediation as determined by the 6th Grade math team and is taught by our Academic Dean of Math and Science.

In closing, please note that our teachers are using a modified version of the Delaware State Model Units for Math. The units we have submitted reflect a deep dive into the most essential skills and standards for our scholars.

Enclosures:

6th Grade Unit 1- Number Sense and Computation

6th Grade Unit 2- Order of Operations

6th Grade Unit 3- Using Data to Come to Conclusions

6th Grade Math

Charter Renewal Unit 1 Materials

Number Line, Number Theory, Inverse Relationships

Name: _____
Subject: Math

Date: _____
HR: _____

DO NOW Inverse Relationships #23

$-11 \square -7$

$-10 \square -7$

$-6 \square -3$

$-6 \square -14$

$-9 \square -6$

$-15 \square -15$

$-1 \square -5$

$-11 \square -12$

$-4 \square -3$

$-2 \square -1$

$-14 \square -11$

$-1 \square -1$

$-7 \square -10$

$-7 \square -6$

$-14 \square -5$

$-5 \square -15$

$-12 \square -15$

$-6 \square -15$

$-12 \square -3$

$-14 \square -10$

$-7 \square -4$

$-15 \square -13$

$-1 \square -1$

$-9 \square -15$

$-4 \square -3$

$-4 \square -13$

$-9 \square -9$

$-4 \square -7$

$-13 \square -14$

$-9 \square -4$

$-4 \square -1$

$-8 \square -13$

$-11 \square -13$

$-6 \square -15$

$-6 \square -10$

$-5 \square -4$

$-2 \square -6$

$-11 \square -2$

$-14 \square -14$

$-7 \square -13$

Name: _____

Date: _____

Subject: _____

HR: _____

Guided Notes Inverse Relationships Day #23

What is an inverse relationship?

In math, when you have an inverse relationship, it means that you have a _____ sentence that be completed the way it is written, or by taking the _____ and performing the _____ with the other number given.

Example:

(For addition and subtraction) $3+7=10$ so $10-7=3$

An inverse relationship can also be used to explain concepts on a number line. We know that numbers to the right of the number line are _____ and numbers to the left of the number line are _____. Inverse can also be used to explain the opposites on a number line.

Example:

(For number line) It takes 10 spaces to get from 0 to -10, but it also takes 10 spaces to get from 0 to +10.

Even though -10 and 10 are opposites, they are the inverse of one another, it takes the same amount of spaces on the number, counting from 0, to reach each number.

When plotting numbers on a number line, always start from left to right, with the lowest negative number being plotted first.

Example:

-10, -6, 3, 5, 7

_____ / _____

-10

Plot the rest of the numbers.

Name: _____
Subject: Math

Date: _____
HR: _____

Guided Practice Inverse Relationships Day #23

$3 + (-8) =$

$(-9) - (-4) =$

$7 - 5 =$

$6 - (-4) =$

$(-4) - (-2) =$

$(-4) - 10 =$

$6 - 5 =$

$(-2) - 5 =$

$(-2) - 7 =$

$(-8) + (-2) =$

$8 + 6 =$

$(-9) + 10 =$

$8 + (-10) =$

$2 - (-10) =$

$8 - 5 =$

$8 - (-2) =$

$1 - (-7) =$

$4 + 2 =$

$(-2) + 6 =$

$(-4) - 4 =$

$9 - (-7) =$

$(-1) - 0 =$

$7 - 5 =$

$(-5) + (-10) =$

$(-1) - (-2) =$

$(-5) - (-6) =$

$9 - (-9) =$

$7 - 4 =$

$(-2) + 5 =$

$(-4) - (-10) =$

$8 - (-2) =$

$(-6) + 2 =$

$4 + 1 =$

Name: _____
Subject: Math

Date: _____
HR: _____

Guided Practice Inverse Relationships Day #23

$$-800 \cdot -8,272 \cdot -4,484 = \underline{\hspace{10em}}$$

$$-6,396 \cdot -3,145 \cdot -727 = \underline{\hspace{10em}}$$

$$-479 \cdot -529 \cdot -17 = \underline{\hspace{10em}}$$

$$-9,157 \cdot -7,246 \cdot -592 = \underline{\hspace{10em}}$$

$$-7,715 \cdot -6,257 \cdot -831 = \underline{\hspace{10em}}$$

$$-556 \cdot -5,947 \cdot -3,307 = \underline{\hspace{10em}}$$

$$-498 \cdot -453 \cdot -31 = \underline{\hspace{10em}}$$

$$-584 \cdot -41 \cdot -792 = \underline{\hspace{10em}}$$

$$-967 \cdot -2,178 \cdot -5,766 = \underline{\hspace{10em}}$$

$$-2,606 \cdot -490 \cdot -667 = \underline{\hspace{10em}}$$

Total: 10	Goal: _____	Complete: _____	Correct: _____
-----------	-------------	-----------------	----------------

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Name: _____
Subject: Math

Date: _____
HR: _____

60 Second Sprint for Inverse Relationships #23

$15 \div 5 =$

$18 \div 6 =$

$32 \div 8 =$

$16 \div 4 =$

$5 \div 5 =$

$45 \div 9 =$

$27 \div 9 =$

$30 \div 10 =$

$70 \div 10 =$

$54 \div 9 =$

$50 \div 10 =$

$20 \div 10 =$

$14 \div 7 =$

$10 \div 5 =$

$35 \div 7 =$

$10 \div 5 =$

$20 \div 5 =$

$42 \div 7 =$

$6 \div 3 =$

$27 \div 9 =$

$6 \div 3 =$

$50 \div 10 =$

$9 \div 9 =$

$24 \div 6 =$

$8 \div 8 =$

$48 \div 8 =$

$6 \div 3 =$

$80 \div 10 =$

$9 \div 9 =$

$28 \div 7 =$

$16 \div 8 =$

$63 \div 9 =$

$2 \div 2 =$

$32 \div 8 =$

$30 \div 10 =$

$40 \div 10 =$

$30 \div 6 =$

$2 \div 2 =$

$27 \div 9 =$

$42 \div 7 =$

$45 \div 9 =$

$72 \div 9 =$

$12 \div 6 =$

$16 \div 8 =$

$81 \div 9 =$

$40 \div 8 =$

$2 \div 2 =$

$60 \div 10 =$

$14 \div 7 =$

$9 \div 9 =$

$16 \div 8 =$

$27 \div 9 =$

$20 \div 10 =$

$24 \div 8 =$

$15 \div 5 =$

$2 \div 2 =$

$20 \div 10 =$





$50 \div 10 =$






$3 \div 3 =$






$49 \div 7 =$







Independent Practice Inverse Relationships #23

NOTE: In each section, do NOT connect the last point back to first point.

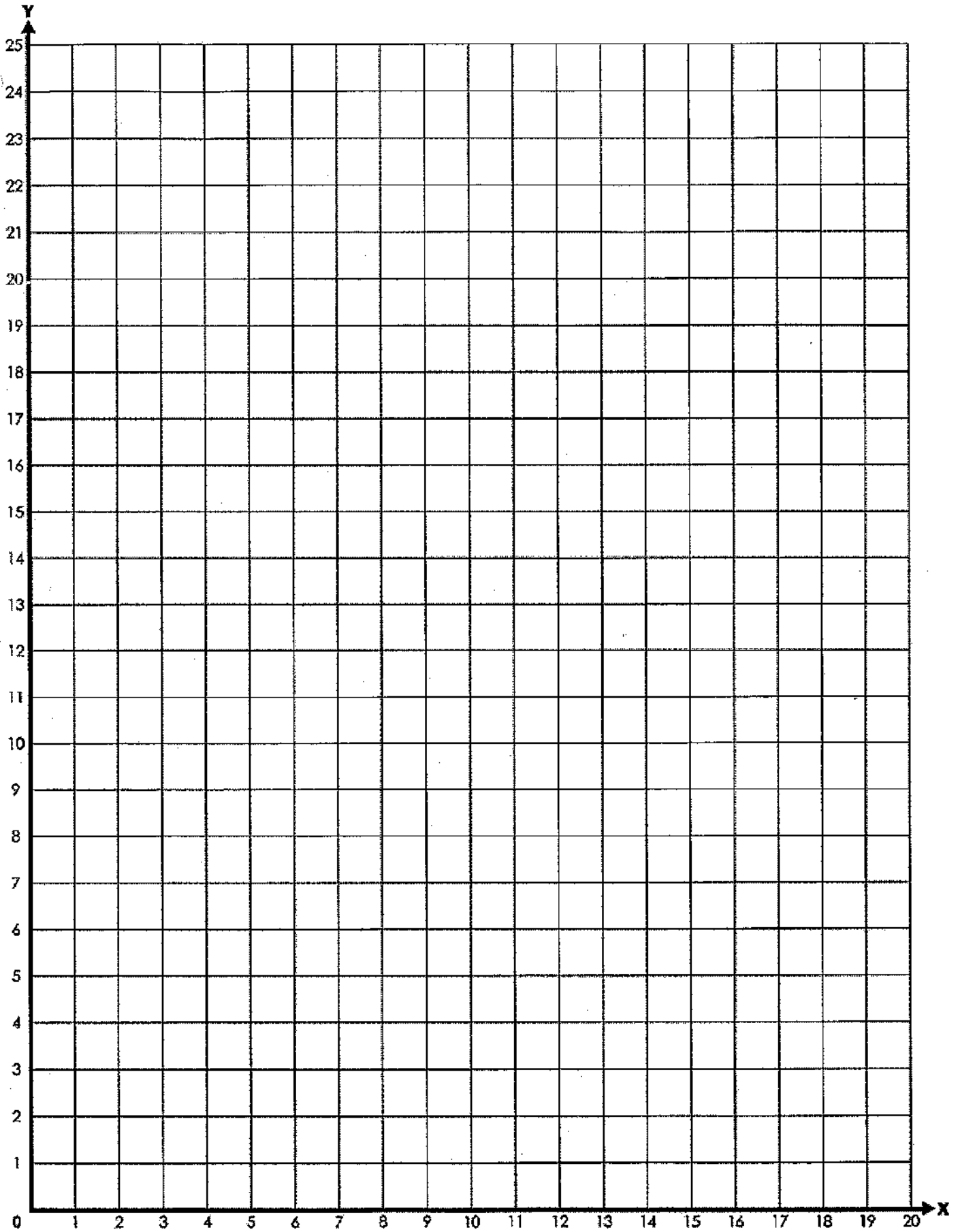
- (X, Y)**
- (5, 5)
 - (3, 10)
 - (5, 16)
 - (7, 17)
 - (5, 19)
 - (5, 22)
 - (7, 24)
 - (13, 24)
 - (15, 22)
 - (15, 19)
 - (13, 17)
 - (15, 16)
 - (17, 10)
 - (15, 5)
 - 
 - (8, 6)
 - (6, 11)
 - (8, 16)
 - (12, 16)
 - (14, 11)
 - (12, 6)
 - 
 - (5, 4)
 - (4, 2)
 - (10, 1)
 - (16, 2)
 - (15, 4)
 - 
 - (0, 5)
 - (6, 5)
 - 

- (X, Y)**
- (7, 6)
 - (6, 6)
 - (6, 3)
 - (7, 3)
 - (7, 6)
 - 
 - (7, 3)
 - (8, 3)
 - (8, 6)
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 - (8, 6)
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 - (11, 3)
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 - (12, 6)
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 - (12, 6)
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- (X, Y)**
- (13, 3)
 - (14, 3)
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 - (7, 19)
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 - (10, 20)
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 - (9, 19)
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 - (9, 5)
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- (X, Y)**
- (14, 5)
 - (20, 5)
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 - (0, 4)
 - (6, 4)
 - 
 - (9, 4)
 - (11, 4)
 - 
 - (14, 4)
 - (20, 4)
 - 
 - (8, 20)
 - (7, 21)
 - (8, 22)
 - (9, 21)
 - (8, 20)
 - 
 - (11, 21)
 - (12, 22)
 - (13, 21)
 - (12, 20)
 - (11, 21)
 - 

Now color your picture



Name: _____
Subject: Math

Date: _____
HR: _____

Independent Practice Inverse Relationships #23

The Hungry Alligators

"Greater Than" Alligator	"Less Than" Alligator
 244,415 <input type="text"/> 244,412	 687,223 <input type="text"/> 687,232
<i>244,415 is greater than 244,412</i>	<i>687,223 is less than 687,332</i>

Step 1: Cut out the alligators at the bottom of the page.

Step 2: Glue "Greater than Alligator" or "Less than Alligator" in each square to show which number is larger. Be sure the alligator is eating the bigger number.

Step 3: Write the answer in words below each alligator. (example: "2,415 is greater than 2,412")

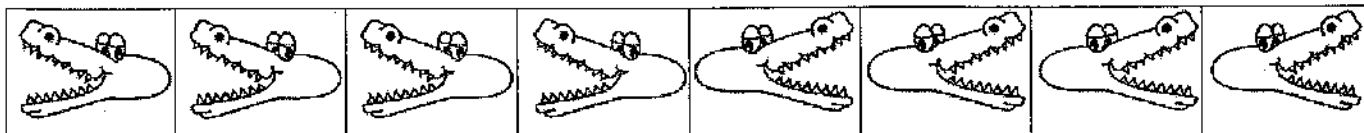
383,565 383,656 945,939 954,293

727,989 721,999 465,283 456,283

75,987 621,987 200,504 200,405

103,419 130,415 687,223 87,223

----- Neatly cut out the alligators and glue them in the boxes above. -----



Name: _____
Subject: Math

Date: _____
HR: _____

Exit Slip Inverse Relationships #23

$-578 \cdot 438 \cdot -88 \cdot -793 =$ _____

$739 \cdot -651 \cdot -88 \cdot -316 =$ _____

$-845 \cdot -52 \cdot -539 \cdot 297 =$ _____

$-222 \cdot 27 \cdot -554 \cdot -542 =$ _____

$34 \cdot -672 \cdot -358 \cdot -617 =$ _____

$712 \cdot -16 \cdot -580 \cdot -800 =$ _____

$138 \cdot -646 \cdot -26 \cdot -834 =$ _____

$-33 \cdot -935 \cdot -816 \cdot 911 =$ _____

$-23 \cdot -202 \cdot 291 \cdot -328 =$ _____

$-839 \cdot 532 \cdot -798 \cdot -84 =$ _____

Total: 10	Goal: _____	Complete: _____	Correct: _____
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Subject: Math

Date: _____

HR: _____

Homework #23 – Inverse Relationships

Parent Signature

Find the answer to the given problem. Make sure your answer is correct by performing the inverse relation. Plot both the correct answer and its inverse on the attached graph. **Show all work!**

1.) $15-2=$

2.) $7 \times 2=$

3.) $63/9=$

4.) $10+4=$

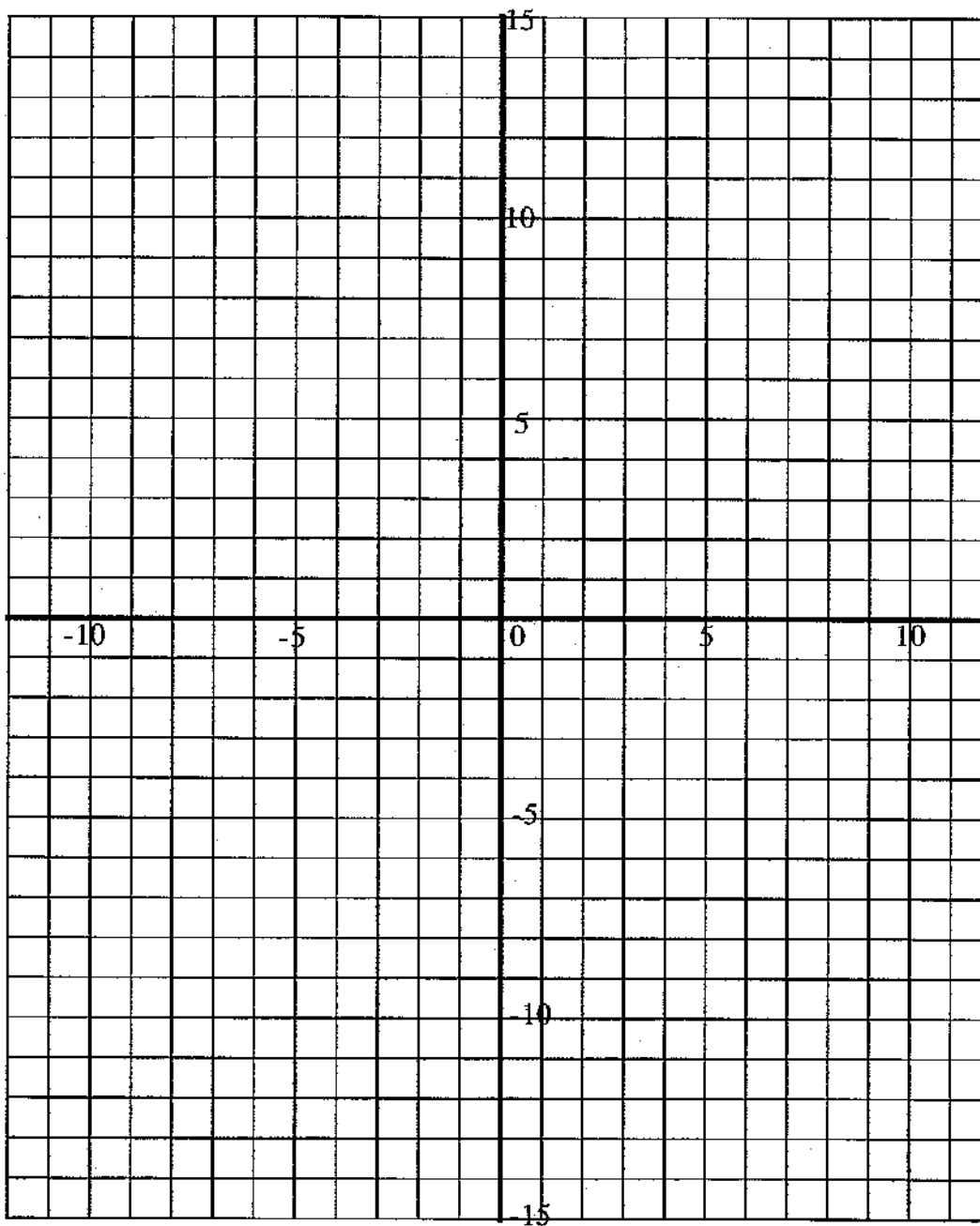
5.) $81/9=$

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Homework #23 – Inverse Relationships.

Parent Signature



Name: _____
Subject: Math

Date: _____
HR: _____

Homework #23 – Inverse Relationships

Parent Signature

Solve the given problems. Use the inverse operation to make sure your answer is correct. Once you have completed the first two steps, plot your answers on the number line attached. Use order of operations. **Show all work!**

1.) $(12 \times 4) - (8 \times 4 / 2) - 20 =$

2.) $(50 / 10) + (9)^2 - (76 + 3 \times 2) =$

3.) $(60 / 2) - (45 + 1) - (14 \times 5) =$

4.) $(24 \times 2) - (12 \times 5 - 15) + (7 - 6)^2 =$

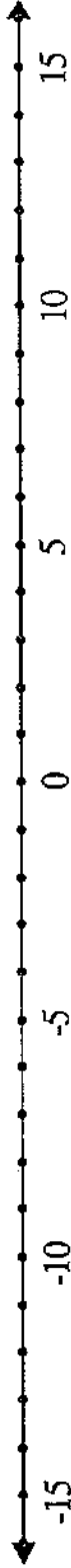
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Homework #23 – Inverse Relationships.

Parent Signature


Integer Number Lines

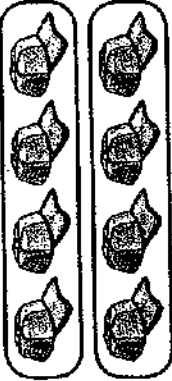


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DO NOW Number Theory #13

Getting Started

1. a. $\underline{\quad} \times \underline{\quad} = \underline{\quad}$ 

b. $\underline{\quad} \times \underline{\quad} = \underline{\quad}$ 

2. a. 6 pencils divided into _____ groups of 2 pencils in each group


$$6 \div 2 = \underline{\quad}$$

dividend divisor quotient


b. 8 hats divided into _____ groups of 4 hats in each group

$$8 \div 4 = \underline{\quad}$$

dividend divisor quotient

3. a. 10 apples in 2 groups with 5 apples in each group 

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

b. 10 apples in 5 groups with 2 apples in each group 

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

Name: _____

Date: _____

Subject: Math

HR: _____

Guided Notes for Number Theory Day #13

Objectives, SWBAT: Determine and apply divisibility rules for 2 and 3, 5 and 10, and 6 and 9.

Division

Always divide ___ unit at a time. Trade _____ for _____ units.

Example: $456/2=$ $457/2=$

Show your work below.

Remainders

Sometimes the remainder forces you to the next _____ number.

Example: $112/25=$

Show your work below.

Sometimes we throw out the _____.

Vocabulary

A _____ is a quantity to be divided.

Provide an example below.

A _____ is a number or quantity to be divided into another number or quantity; a number that is a _____ of another number.

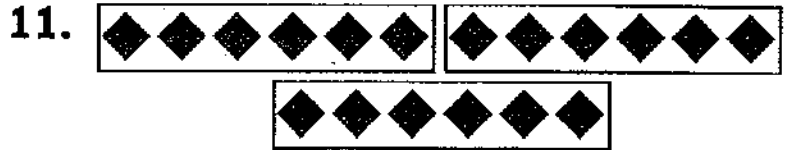
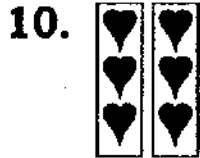
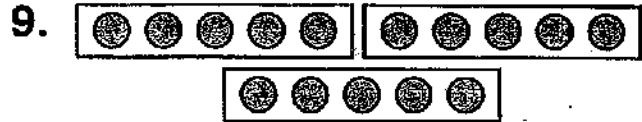
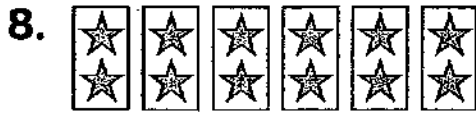
Provide an example below.

A _____ is the result of the division of one number or quantity by another; the integral part of the result of division.

Provide an example below.

Guided Practice Number Theory #13

Write a division sentence for each.



12. 8 pencils in 2 packages
 with 4 pencils in each package

13. 20 stickers on 4 sheets
 with 5 stickers on each sheet

14. 12 candy bars in 4 packs
 with 3 candy bars in each pack

15. 14 erasers in 2 sets
 with 7 erasers in each set

Guided Practice

HOW TO

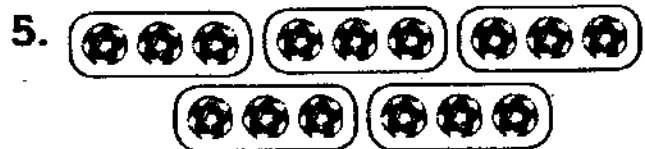
Write Division Sentences

- Group the total number of items together into groups given by the divisor until no items remain.
- To write as a division problem, use the total number of items as the dividend, the number of items in each group as the divisor, and the number of groups as the quotient.

Write a division sentence for each.



$12 \div 3 = \underline{\quad}$



$15 \div \underline{\quad} = \underline{\quad}$

6. 12 crayons for 2 children with
 6 crayons for each child

$\underline{\quad} \div \underline{\quad} = \underline{\quad}$

7. 4 cookies for 2 people
 with 2 cookies for each person

$\underline{\quad} \div \underline{\quad} = \underline{\quad}$

Name: _____
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60 Second Sprint for Number Theory Day #13

Division Facts: 2's (A)

$18 \div 2 =$	$12 \div 2 =$	$12 \div 2 =$	$18 \div 2 =$
$0 \div 2 =$	$20 \div 2 =$	$14 \div 2 =$	$0 \div 2 =$
$0 \div 2 =$	$24 \div 2 =$	$18 \div 2 =$	$0 \div 2 =$
$24 \div 2 =$	$12 \div 2 =$	$4 \div 2 =$	$24 \div 2 =$
$6 \div 2 =$	$8 \div 2 =$	$4 \div 2 =$	$2 \div 2 =$
$6 \div 2 =$	$8 \div 2 =$	$10 \div 2 =$	$14 \div 2 =$
$24 \div 2 =$	$16 \div 2 =$	$2 \div 2 =$	$20 \div 2 =$
$0 \div 2 =$	$14 \div 2 =$	$20 \div 2 =$	$20 \div 2 =$
$0 \div 2 =$	$14 \div 2 =$	$6 \div 2 =$	$2 \div 2 =$
$6 \div 2 =$	$24 \div 2 =$	$10 \div 2 =$	$22 \div 2 =$

Name: _____
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Independent Practice Number Theory #13

Zero holds a place in the quotient.



Example:

$$\begin{array}{r} 1 \\ 5 \overline{) 545} \\ \underline{-5} \\ 04 \end{array}$$

Five goes into
4 zero times.

$$\begin{array}{r} 10 \\ 5 \overline{) 545} \\ \underline{-5} \\ 45 \end{array}$$

Five goes into
45 nine times.

$$\begin{array}{r} 109 \\ 5 \overline{) 545} \\ \underline{-5} \\ 45 \\ \underline{-45} \\ 0 \end{array}$$

1. $4 \overline{) 420}$

2. $6 \overline{) 636}$

3. $9 \overline{) 963}$

4. $9 \overline{) 945}$

5. $9 \overline{) 963}$

6. $8 \overline{) 816}$

7. $3 \overline{) 312}$

8. $3 \overline{) 9,021}$

9. $7 \overline{) 1,386}$

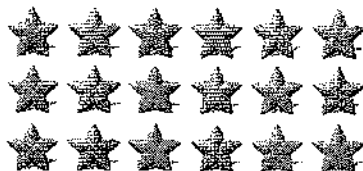
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Independent Practice Number Theory #13

Use the grid and circle sets of numbers to solve each problem:

$18 \div 6$



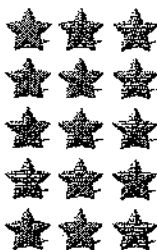
$10 \div 5$



$6 \div 2$



$15 \div 3$



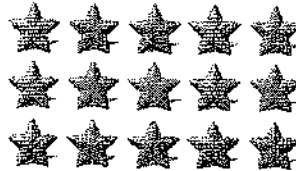
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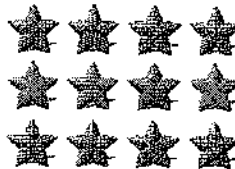
Independent Practice Number Theory #13

Use the grid and circle sets of numbers to solve each problem:

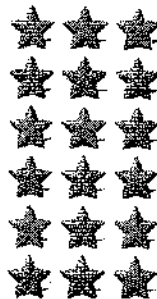
$15 \div 5$



$12 \div 4$



$18 \div 3$



$4 \div 2$



Name: _____

Subject: Math

Date: _____

HR: _____

Independent Word Problem for Number Theory Day #13

Solve each problem.

16. Kailey uses 18 stickers to make 6 cards. She puts 3 stickers on each card. What division sentence shows this situation?

17. There are 5 rows of desks in Jared's classroom. There are 4 desks in each row. How many desks are there in all?

18. Write the division sentence to describe the figure.



Word Problem Attack for Number Theory Day #13

Answer each question.

1. Jaylon packs 21 peaches into 3 baskets with 7 peaches in each basket. Which choice describes this situation?

a. $21 \div 3 = 7$ b. $7 \div 3 = 21$
c. $21 \div 7 = 3$ d. $7 \div 21 = 3$
2. There are 32 marbles. Patrick, Allison, Jessie, and Lynn share the marbles equally. Each person gets 8 marbles. Which sentence describes this situation?

a. $32 \div 8 = 4$ b. $8 \div 4 = 32$
c. $32 \div 4 = 8$ d. $8 \div 32 = 4$
3. In problem 2, why is answer choice d incorrect? Explain.

Exit Slip Number Theory #13

Multiplication and Division

Directions: Multiply or divide to find the answers.

1. Brianne's summer job is mowing lawns for three of her neighbors. Each lawn takes about 1 hour to mow and needs to be done once every week. At the end of the summer, she will have earned a total of \$630. She collected the same amount of money from each job. How much did each neighbor pay for her summer lawn service?



2. If the mowing season lasts for 14 weeks, how much will Brianne earn for each job each week? _____
3. If she had worked for two more weeks, how much would she have earned? _____
4. Brianne agreed to shovel snow from the driveways and sidewalks for the same three neighbors. They agreed to pay her the same rate. However, it snowed only seven times that winter. How much did she earn shoveling snow? _____
5. What was her total income for both jobs? _____

Directions: Multiply or divide.

$$12 \overline{) 7,476}$$

$$23 \overline{) 21,620}$$

$$40 \overline{) 32,600}$$

$32 \times 45 =$ _____ $28 \times 15 =$ _____ $73 \times 14 =$ _____ $92 \times 30 =$ _____

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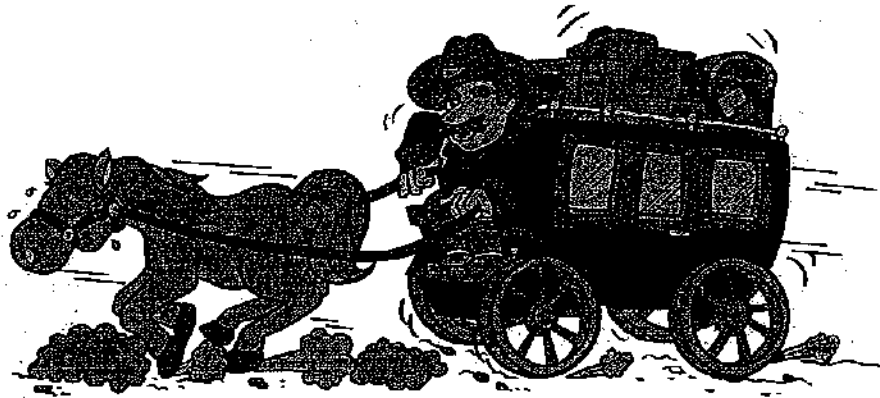
Homework #13 – Number Theory

Parent Signature

The remainder in a division problem must always be less than the divisor.

Example:

$$\begin{array}{r} 244 \text{ r } 23 \\ 26 \overline{) 6,367} \\ \underline{52} \\ 116 \\ \underline{104} \\ 127 \\ \underline{104} \\ 23 \end{array}$$



Directions: Divide.

$$53 \overline{) 1,220}$$

$$37 \overline{) 1,528}$$

$$83 \overline{) 6,270}$$

$$26 \overline{) 3,618}$$

$$14 \overline{) 389}$$

$$29 \overline{) 2,645}$$

$$60 \overline{) 8,010}$$

$$57 \overline{) 5,406}$$

$$35 \overline{) 2,546}$$

$$43 \overline{) 492}$$

$$83 \overline{) 4,608}$$

$$19 \overline{) 185}$$

The Oregon Trail is 2,197 miles long. How long would it take a covered wagon traveling 20 miles a day to complete the trip?

Name: _____

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Subject: Math

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Guided Notes for Number Theory #12

Objectives, SWBAT: State and give examples of prime and composite numbers and write the prime factorization of any given number.

Prime Vs. Composite

A _____ number is a number that has exactly _____ factors, one and itself.

A _____ number is a number that has more than _____ two factors.

What is an example of a prime number? **Show your work.**

What is an example of a composite number? **Show your work.**

_____ is neither prime nor composite; it only has _____ factor.

Out of the 1st 100 numbers, _____ are prime and _____ are composite.

Guided Practice Number Theory #12

Prime vs. Composite

A **prime number** is a number that has exactly two factors, one and itself.
A **composite number** is a number that has more than two factors.

Use these steps to determine the prime numbers from 1 through 100. Then respond to the items below.

- Darken the square to cover 1—it is neither prime nor composite.
- Circle 2—it is prime. Use a "1" to mark all multiples of 2.
- Circle 3—it is prime. Use a "/" to mark all multiples of 3.
- Circle 5—it is prime. Use a "\" to mark all multiples of 5.
- Circle 7—it is prime. Use a "-" to mark all multiples of 7.
- Circle the remaining numbers—they are all prime.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

1. List the prime numbers between 1 and 100.

Guided Practice Number Theory #12

Prime vs. Composite (continued)

2. What do all of the multiples of 6 have in common? Why?

3. Describe the pattern made by the multiples of 3.

For each problem, read the clues to find the mystery number. Write the answer on the line. Use the chart of prime numbers from the previous page to help you.

4. Prime number
 Between 40 and 60
 Sum of digits = 8

I am _____.

6. Even number
 Between 10 and 20
 Multiple of 8

I am _____.

8. Multiple of 3 and 7
 Between 50 and 100
 Even number

I am _____.

5. Multiple of 7
 Between 20 and 30
 Odd number

I am _____.

7. Composite number
 Odd number
 Between 0 and 10

I am _____.

9. Prime number
 Less than 40
 Sum of digits = 8

I am _____.

Replace each of the letters below with its corresponding mystery number. Then, simplify the expression. Hint: The result is neither positive nor negative.

Order of Operations Reminder:

1. First, do operations in parentheses, then brackets.
2. Next, do multiplication and division, in order from left to right.
3. Finally, do addition and subtraction, in order from left to right.

$$\{((A - B) \div C \times D + E) \div F + G - H\} \div I + J + K - L = \underline{\hspace{2cm}}$$

$$\{((\quad - \quad) \div \quad \times \quad + \quad) \div \quad + \quad - \quad \} \div \quad + \quad + \quad - \quad = \underline{\hspace{2cm}}$$

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60 Second Sprint for Number Theory Day #12

$8 \div 2 =$

$4 \div 2 =$

$14 \div 2 =$

$12 \div 2 =$

$18 \div 2 =$

$6 \div 2 =$

$6 \div 2 =$

$8 \div 2 =$

$8 \div 2 =$

$0 \div 2 =$

$4 \div 2 =$

$12 \div 2 =$

$8 \div 2 =$

$20 \div 2 =$

$6 \div 2 =$

$0 \div 2 =$

$22 \div 2 =$

$22 \div 2 =$

$0 \div 2 =$

$20 \div 2 =$

$6 \div 2 =$

$24 \div 2 =$

$0 \div 2 =$

$6 \div 2 =$

$20 \div 2 =$

$24 \div 2 =$

$6 \div 2 =$

$0 \div 2 =$

$12 \div 2 =$

$10 \div 2 =$

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Independent Practice Number Theory #12

Prime by Elimination

Eratosthenes (276–195 B.C.) developed this method of finding prime numbers by “sifting out” the primes. To find all the prime numbers up to 100 (this can be done with any number), circle the 2 and cross out all the numbers that are multiples of 2. Circle the next number (3) and cross out all the numbers that are multiples of 3. Repeat this process for all numbers until only circled numbers remain. These are the prime numbers in this set!

	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Prime numbers up to 100: _____

Name: _____
Subject: Math

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Independent Practice Number Theory #12

Prime Numbers

Directions: Circle the prime numbers.

71	3	82	20	43	69
128	97	23	111	75	51
13	44	137	68	171	83
61	21	77	101	34	16
2	39	92	17	52	29
19	156	63	99	27	147
121	25	88	12	87	55
57	7	139	91	9	37
67	183	5	59	11	95

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Word Problem Attack for Number Theory Day #12

There are 30 candies in Kathy's candy collection. If the candies are organized into 10 groups, how big is each group?

There are 7 students in the class and 14 erasers. If the erasers are divided equally among the students, how many does each student get?

There are 7 students in the class and eggs. If the eggs are divided equally among the students, how many does each student get?

I identify answers w/ Prime #'s

W.P.

Deborah is inviting 10 friends to a party. She has 80 cookies. How many cookies will each friend get?

There are 2 students in the class and 8 candies. If the candies are divided equally among the students, how many does each student get?

Name: _____
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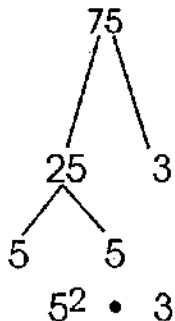
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Exit Slip Number Theory #12

Find the Prime Factors

In each row, draw factor trees to find the prime factors. Then, write the prime factors using exponents.

1.



88

54

2.

20

50

36

3.

98

90

120

4.

60

32

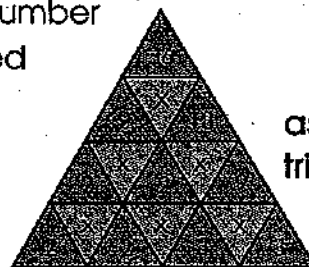


Parent Signature

Prime Triangles

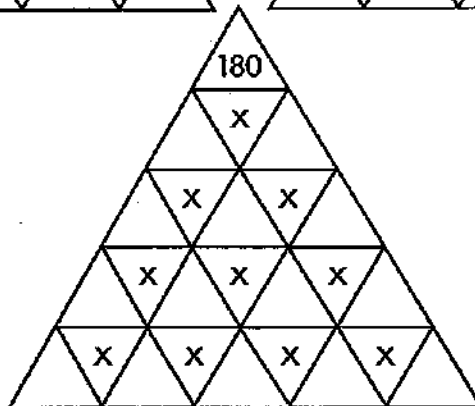
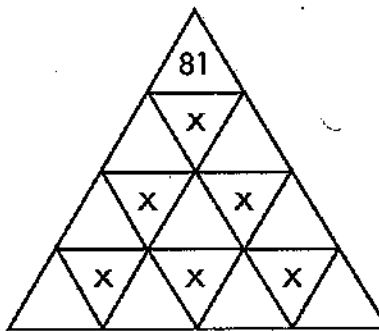
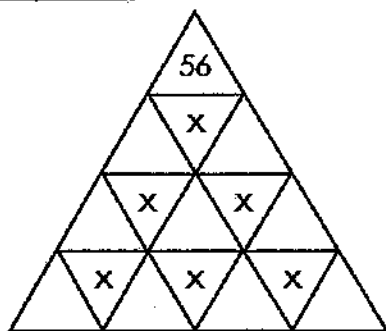
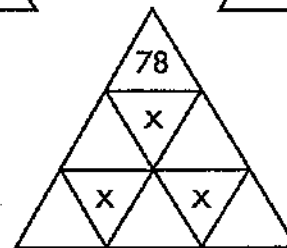
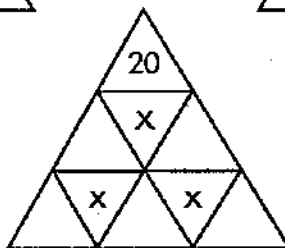
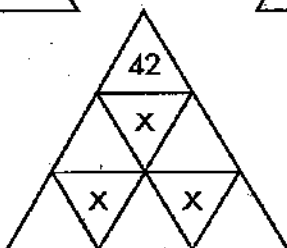
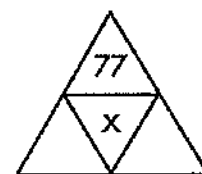
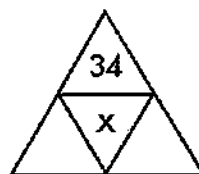
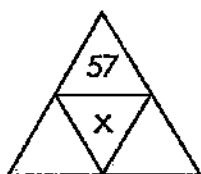
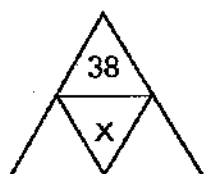
To express a number using prime factorization, divide the number by the smallest prime factor and repeat until all factors listed are prime.

Example: $36 = 2 \times 18$
 $= 2 \times 2 \times 9$
 $= 2 \times 2 \times 3 \times 3$



as a prime triangle

In each row, express the numbers as prime triangles.



DO NOW

Day#11 Number Theory

Factor Trees

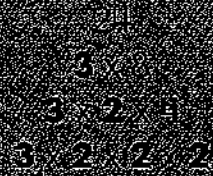
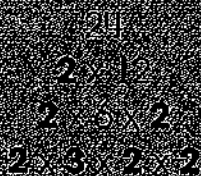


A factor is a number that can be multiplied by another number to give a certain product. The factors of 24 are 1, 2, 3, 4, 6, 8, 12, and 24 because

$1 \times 24 = 24$, $2 \times 12 = 24$, $3 \times 8 = 24$, and $4 \times 6 = 24$

Any composite number can be written as the product of prime number factors. The first ten prime numbers are 2, 3, 5, 7, 11, 13, 17, 19, 23, and 29.

FACTOR TREES FOR 24



No matter how a factor tree is made for a given number, the prime factors in the bottom row are always the same. $24 = 2 \times 2 \times 2 \times 3 = 2^3 \times 3$

Directions: Write the prime factors for each number, using a factor tree.

12

32

48

40

9

42

96

72

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Guided Notes for Number Theory #11

Objectives, SWBAT: Write the GCM and LCM, identify prime factors and common factors.

Factors

Factors are the _____ to give a _____. The _____ (GCF) is the largest number for a set of numbers that divides _____ into each number in the set.

Multiples

A multiple is the _____ of any given number and a _____ such as 1,2,3, and so on.

Common Multiples

Common multiples are _____ multiples that _____ or more numbers share, or have in _____.

Least Common Multiples (LCM)

The least common multiple or LCM is the _____ that a group of numbers has in _____. The LCM helps when _____ and _____ fractions. One way to find the LCM is to find the _____ and choose the _____ one.

Example: Multiples of 6: 6, 12, 18, 24,

Multiples of 9: 9,18,27,36,

Common multiples of 6 and 9 include:

But what is the least common multiple of 6 and 9?

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Guided Practice Number Theory #11

Example:

Multiples of 6: 6, 12, 18, 24, 30, 36, 42

Multiples of 10: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100

Multiples of 18: 18, 36, 54, 72, 90, 108, 126, 144, 162, 180

Multiples of 25: 25, 50, 75, 100, 125, 150, 175, 200, 225

Common multiples are multiples that two or more numbers share or have in common.

Multiples of 6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60

Multiples of 12: 12, 24, 36, 48, 60, 72, 84

Some common multiples of 6 and 12 are 24, 48, and 72.

Find three common multiples for each set of numbers. To do this, list the first ten multiples of each number. Then, look for common multiples. The first one is done for you in the box at the bottom of the page. Show your work on another sheet of paper.

6 and 9 18, 36, 54 15 and 30 _____ 4 and 10 _____

3 and 4 _____ 5 and 25 _____ 8 and 6 _____

4 and 9 _____ 2 and 7 _____ 18 and 3 _____

12 and 16 _____ 2, 4, and 5 _____ 2, 3, and 6 _____

6	12	(18)	24	30	(36)	42	48	(54)	60
9	(18)	27	(36)	45	(54)	63	72	81	90

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Guided Practice Number Theory #11

Find the LCM for each set of numbers. The first one is done for you in the box at the bottom of the page.

8 and 3 24 7 and 21 _____ 5 and 8 _____ 9 and 12 _____

6 and 16 _____ 1 and 9 _____ 4 and 7 _____ 2 and 3 _____

10 and 4 _____ 12 and 16 _____ 6 and 8 _____ 15 and 12 _____

2, 3, and 4 _____ 3, 4, and 5 _____ 2, 4, and 7 _____ 3, 5, and 6 _____

Find two numbers that when multiplied together do not have a product of 30 but have a LCM of 30. _____

8	16	24	32	40	48	56	72	80
3	6	9	12	15	18	21	24	27

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60 Second Sprint for Number Theory Day #11

$6 \div 2 =$

$16 \div 2 =$

$12 \div 2 =$

$16 \div 2 =$

$20 \div 2 =$

$6 \div 2 =$

$6 \div 2 =$

$2 \div 2 =$

$0 \div 2 =$

$12 \div 2 =$

$6 \div 2 =$

$18 \div 2 =$

$4 \div 2 =$

$18 \div 2 =$

$18 \div 2 =$

$6 \div 2 =$

$6 \div 2 =$

$12 \div 2 =$

$0 \div 2 =$

$18 \div 2 =$

$0 \div 2 =$

$20 \div 2 =$

$2 \div 2 =$

$6 \div 2 =$

$24 \div 2 =$

$6 \div 2 =$

$16 \div 2 =$

$8 \div 2 =$

$18 \div 2 =$

$22 \div 2 =$

Name: _____

Date: _____

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Factors

Factors are the numbers multiplied together to give a product. The **greatest common factor (GCF)** is the largest number for a set of numbers that divides evenly into each number in the set.

Example:

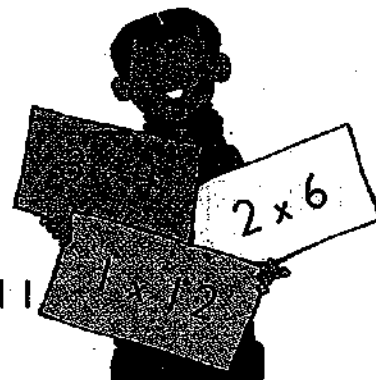
The factors of 12 are 3×4 , 2×6 , and 1×12 .

We can write the factors like this: 3, 4, 2, 6, 12, 1.

The factors of 8 are 2, 4, 8, 1.

The common factors of 12 and 8 are 2 and 4 and 1.

The GCF of 12 and 8 is 4.



Directions: Write the factors of each pair of numbers. Then write the common factors and the GCF.

12: _____, _____, _____, _____, _____, _____

15: _____, _____, _____, _____

The common factors of 12 and 15 are _____, _____.

The GCF is _____.

20: _____, _____, _____, _____, _____, _____

10: _____, _____, _____, _____

The common factors of 10 and 20 are _____, _____, _____, _____.

The GCF is _____.

32: _____, _____, _____, _____, _____, _____

24: _____, _____, _____, _____, _____, _____

The common factors of 24 and 32 are _____, _____, _____, _____.

The GCF is _____.

Directions: Write the GCF for the following pairs of numbers.

28 and 20 _____ 42 and 12 _____

36 and 12 _____ 20 and 5 _____

Name: _____
 Subject: Math

Date: _____
 HR: _____

Greatest Common Factor

Directions: Write the greatest common factor for each set of numbers.

10 and 35 _____

2 and 10 _____

42 and 63 _____

16 and 40 _____

25 and 55 _____

12 and 20 _____

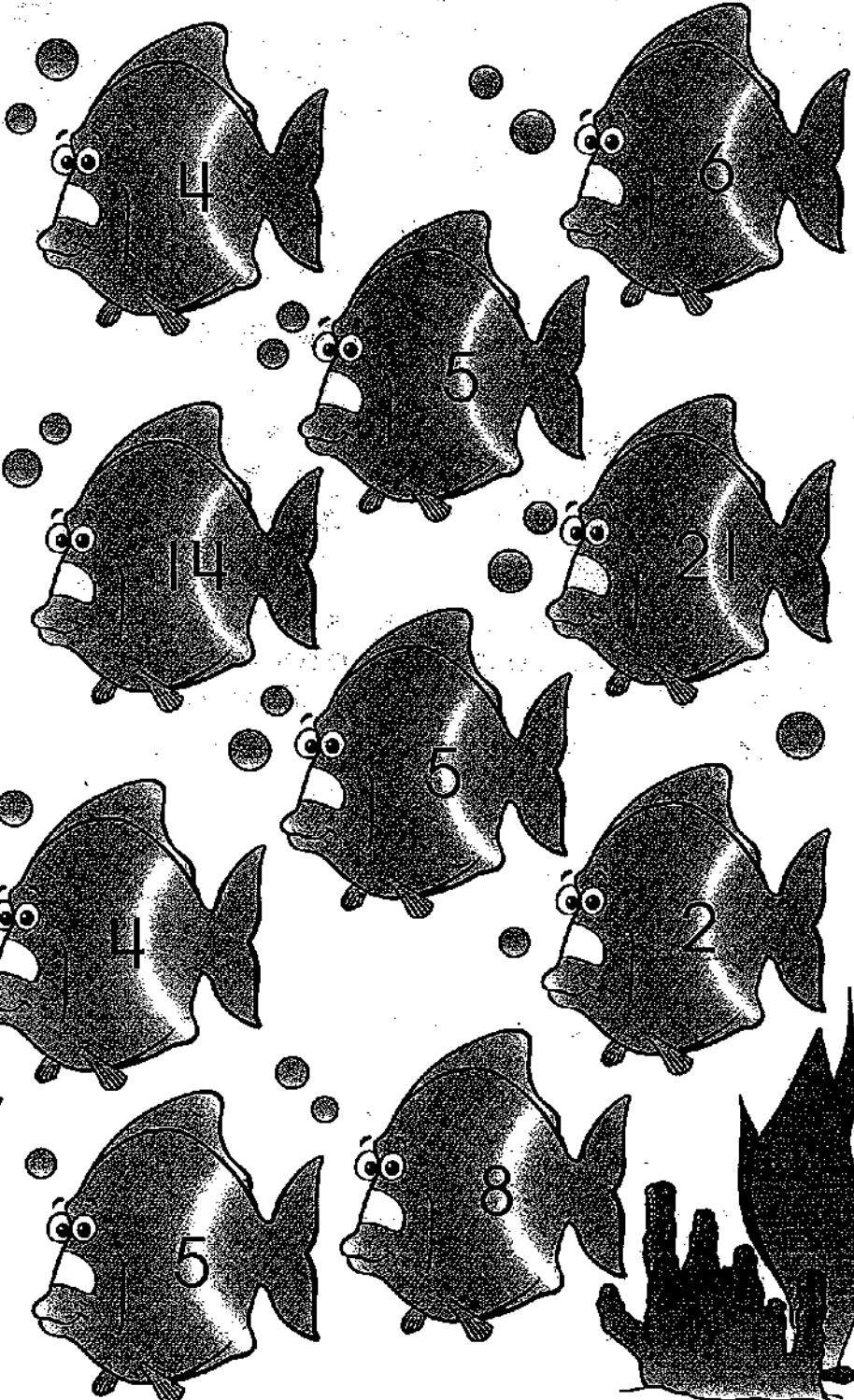
14 and 28 _____

_____ and 20 _____

6 and 27 _____

15 and 35 _____

18 and 48 _____



Name: _____
Subject: Math

Date: _____
HR: _____

Word Problem Attack for Number Theory Day #11

There are 4 students in the class and 28 crayons. If the crayons are divided equally among the students, how many does each student get?

$$28 \text{ crayons} / 4 \text{ students} = 7 \text{ crayons}$$

There are 36 bananas in Diane's banana collection. If the bananas are organized into 6 groups, how big is each group?

$$36 \text{ bananas} / 6 \text{ groups} = 6 \text{ bananas}$$

Louise has 42 oranges stored in boxes. If there are 7 boxes, how many oranges must go in each box?

$$42 \text{ oranges} / 7 \text{ boxes} = 6 \text{ oranges}$$

There are 12 stickers in Cheryl's sticker collection. If the stickers are organized into 4 groups, how big is each group?

$$12 \text{ stickers} / 4 \text{ groups} = 3 \text{ stickers}$$

The school is planning a field trip for 45 students and 9 seats on each bus. How many buses are needed?

$$45 \text{ students} / 9 \text{ seats} = 5 \text{ buses}$$

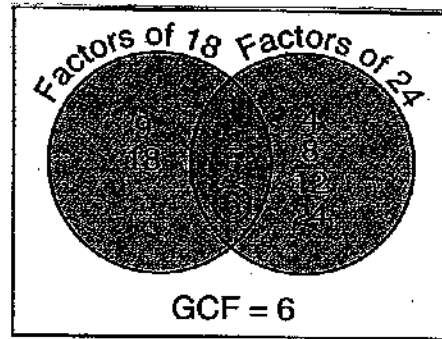
*I identify
the multiples
of your
answer*

Name: _____
Subject: Math

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HR: _____

Exit Slip Number Theory #11

On scratch paper, find the factors for each pair of numbers. In each row, write the **greatest common factor (GCF)** for each pair of numbers on the line below the pair.



1. 16 and 40

10 and 21

2. 24 and 40

36 and 54

48 and 64

3. 18 and 27

12 and 36

21 and 28

4. 16 and 24

18 and 30

8 and 27

5. 45 and 60

28 and 42

48 and 72

6. 26 and 51

100 and 130

24 and 72

7. 27 and 81

18 and 32

42 and 56

Name: _____
Subject: Math

Date: _____
HR: _____

Homework #11 – Number Theory

Parent Signature

Perfect Products

List all of the factors of each number from least to greatest.
Then, tell whether the number of factors is odd or even.



	Number	Factors	Odd or Even Number of Factors
1.	12	1, 2, 3, 4, 6, 12	Even
2.	16		
3.	18		
4.	20		
5.	25		
6.	32		
7.	36		
8.	40		
9.	48		
10.	56		
11.	60		
12.	64		
13.	72		
14.	81		
15.	100		
16.	121		
17.	144		
18.	225		

Look at the numbers that have an odd number of factors. The middle factor of each number should be the square root of the number.

Name: _____
Subject: Math

Date: _____
HR: _____

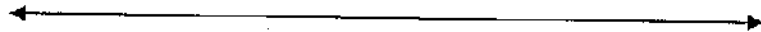
Class Notes #10 – Number Line, Comparison & Contrasting Numbers

Do Now

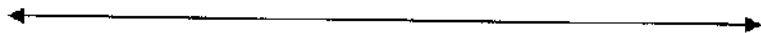


Arrange each set of numbers from least to greatest, and create a number line.

A.) -5, 3, 4, -1, 0



B.) -10, -6, 3, -5, 1



C.) -7, -3, 2, 0, 4



Objectives; SWBAT

- 1.) Compare pairs and order sets of whole numbers.
- 2.) Order and compare whole numbers on a number line
- 3.) Use symbols to compare & contrast integers & absolute value

In some cases, different symbols can be used in order to represent a scenario.

$5 > 4$ could be represented by $5 \geq 4$

Notice that the same relationship can be expressed two different ways.

$$5 > 4$$

Five is greater than four

$$4 < 5$$

Four is less than five

Guided Practice

Use the comparison symbols to compare the numbers below. Also write the mathematical statement for each pair (there may be more than one answer).

1.) 72 ___ 44

2.) 26 ___ 55

3.) 14 ___ -5

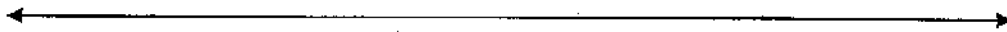
4.) 3 ___ 3

5.) 33 ___ 93

6.) 47 ___ -10

Absolute Value

_____ is the distance an integer is from zero. For example, positive 2 & negative 2 are both _____ units from zero. Therefore, the absolute value of positive 2 & negative 2 is _____.



Absolute value is indicated by _____ bars. The absolute value of five is written as _____.

Guided Practice

Please determine the absolute values for the examples below:

1.) $|4|$

2.) $|55|$

3.) $|24,046|$

4.) $|-984|$

5.) $|-6,500|$

6.) $|-250,987|$

7.) $|4 - 10|$

8.) $|16 + 100|$

9.) $|-25 - 10|$

Please compare the following numbers using comparison symbols:

10.) $|4|$ _____ 6

11.) $|-20|$ _____ 20

12.) $|300|$ _____ $|10|$

Name: _____
Subject: Math

Date: _____
HR: _____

Exit Slip#10 – Number Line, Comparison & Contrasting Numbers

Read the following word problem & answer each portion. Be sure to show your work!

A group of hikers began their trip at the desert floor; 126 feet below sea level. The group camped for the night of on a ridge that was 2,350 feet above sea level.

- 1.) What is the starting height of their hike? _____
- 2.) What is the ending height of their hike? _____
- 3.) What height is sea level? _____

What was the elevation gain from the start of the hike to the campsite? Create a number line to assist you in solving the problem.

8.) $7 \geq -15$ _____

9.) $800 \neq 62$ _____

10.) $100 = |100|$ _____

Please compare each set of numbers below using the comparison symbols (do not use \neq);

11.) $126,978$ _____ $124,800$

12.) $1,004,598$ _____ $1,010,832$

13.) $19,987$ _____ $20,475$

14.) $-1,987$ _____ $-1,500$

15.) $|-45|$ _____ $|-25|$

16.) 0 _____ -95

17.) $|-36|$ _____ 60

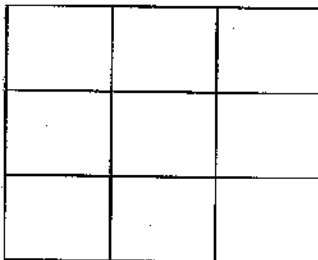
18.) $|-18|$ _____ 18

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Subject: Math

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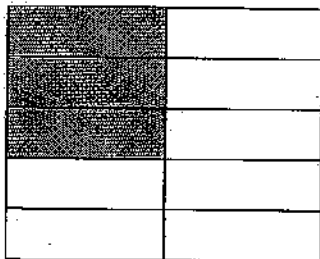
Class Notes #9 – Number Line & Number Theory

Do Now



Shade

$\frac{5}{9}$



**What
Fraction?**

A survey asks "What is your favorite candy bar?"

- 7 people say Twix
- 9 People say Snickers
- 4 People say Milky Way
- 6 People say Butterfinger

What fraction of people said Snickers?

Objectives; SWBAT

- 1.) Understand positive & negative integers
- 2.) Place numbers in numerical order
- 3.) Place whole numbers and fraction on a number line

Understanding Integers

A set of integers contains all positive whole numbers and their negative opposites. In each row, write an integer suggested by each situation.



- | | | | |
|-------------------------------|------------|----------------------------|-------|
| 1. a savings of \$10 | <u>+10</u> | a loss of 7 points | _____ |
| 2. a gain of 4 yards | _____ | 5 miles below sea level | _____ |
| 3. a decrease of 15 pounds | _____ | 10 seconds before liftoff | _____ |
| 4. 3 feet under water | _____ | 100 feet above sea level | _____ |
| 5. a 12-foot-deep crater | _____ | a 15° drop in temperature | _____ |
| 6. an expense of \$39 | _____ | a 20-yard penalty | _____ |
| 7. 50 years ago | _____ | earnings of \$45 | _____ |
| 8. a profit of \$150 | _____ | 14 years from now | _____ |
| 9. a debt of \$175 | _____ | a stock price drop of \$1 | _____ |
| 10. a 17° rise in temperature | _____ | 6 laps behind the lead car | _____ |
| 11. a \$25 profit | _____ | a \$50 bonus | _____ |

Please list the following sets of numbers from greatest to least (stack numbers on the side):

5.) 345 989 903 548

6.) 6798 7809 -745 -659

7.) 1,109,875 109,875 119,756 1,087,564

8.) -5670 456 -459 -4982

Number Line

A _____ is used to order specific _____ from least to greatest.

We can use them to arrange _____ numbers or _____.

The origin of any number line is _____.

Numbers to the right of the origin are _____ and they are all _____ than zero.

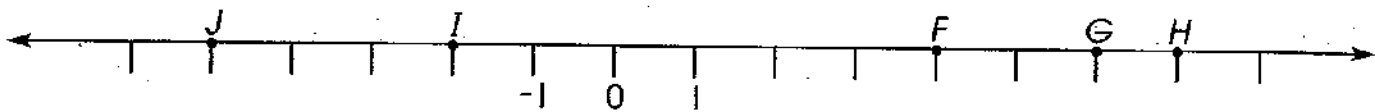
Numbers to the left of the origin are _____ and they are all _____ than zero.

Nifty Number Lines

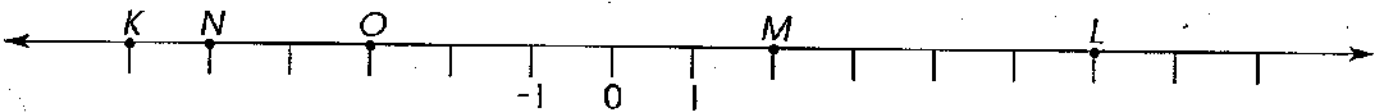
Give the integer for each point on the number lines.



1. $A =$ _____ 2. $B =$ _____ 3. $C =$ _____ 4. $D =$ _____ 5. $E =$ _____

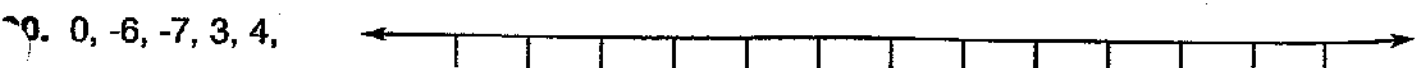
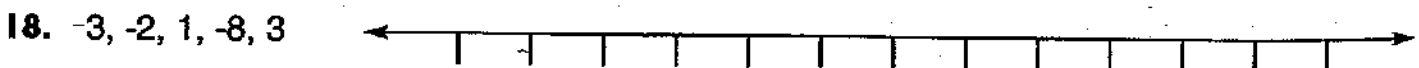
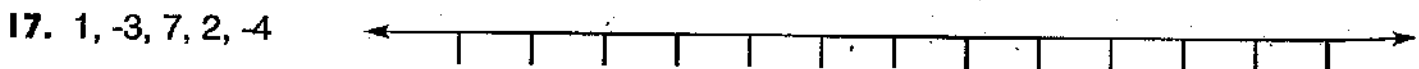
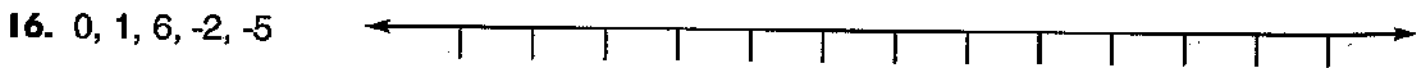


6. $F =$ _____ 7. $G =$ _____ 8. $H =$ _____ 9. $I =$ _____ 10. $J =$ _____



11. $K =$ _____ 12. $L =$ _____ 13. $M =$ _____ 14. $N =$ _____ 15. $O =$ _____

Arrange the numbers on the number lines in their correct positions from the least to the greatest.

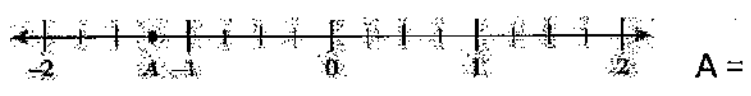
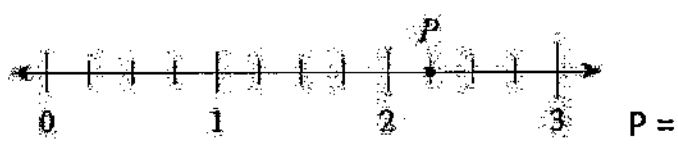
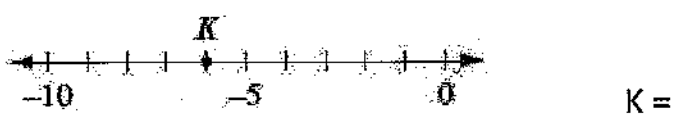


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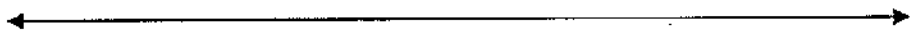
Exit Slip#9 – Number Line

Please list the number designated on the number line.

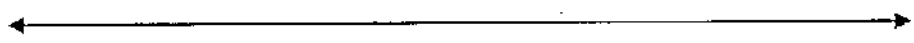


Label & arrange the following numbers on the number line from least to greatest.

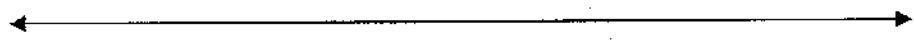
A.) 0, -4, 6, -2, 3



B.) 1, -1, 4, 5, -3



C.) -5, 0, 3, 2, -2



Name: _____
Subject: Math

Date: _____
HR: _____

Homework #9 – Number Line & Number Theory

Parent Signature

1) This table shows the number of times Malik raised his hand in each class. If you listed the numbers in order from least to greatest, which class would be fourth in the list?

<u>Class</u>	<u>Raising Hand</u>
Science	27
Social Studies	101
Math	32
Language Arts	42

- a) Science b) Social Studies c) Math d) Language Arts

2) This table shows the number of times Elijah raised his hand in each class. If you listed the numbers in order from greatest to least, which class would be second in the list?

<u>Class</u>	<u>Raising Hand</u>
Science	3,090
Social Studies	390
Math	309
Language Arts	3,990

- a) Science b) Social Studies c) Math d) Language Arts

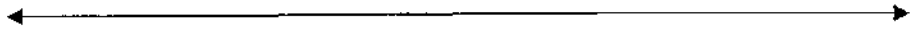
3) Put these numbers in order from greatest to least:

606 6066 666 600

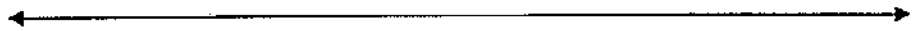
Put the numbers in a list:

4.) Please place the following numbers on a number line in their correct position from least to greatest.

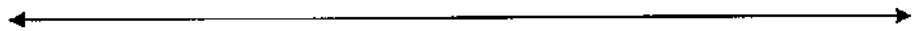
a.) -6, 4, 2, -1, -2



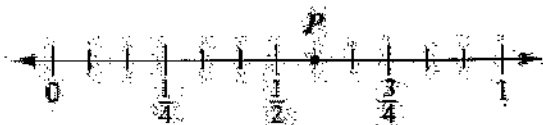
b.) 0, 6, 3, 4, 9



c.) -3, 3, 5, 7, -4



5.) Given the number line below, what is the place value of "P"?



P =

6.) Put these numbers in order from least to greatest:

-860 -175 240 431 -560

Put the numbers in a list:

6th Grade Math

Charter Renewal Unit 2 Materials

Order of Operations and Exponents

Name: _____
Subject: Math

Date: _____
HR: _____

Class Notes #21 – Exponents

DO NOW



Please evaluate the following exponential forms. Please write each product as a factor & provide the solution.

1.) 8^4

2.) 5^5

3.) 6^3

4.) 2^7

5.) 3^3

6.) 4^4

Please write out each expression in words;

7.) 5^3 _____

8.) 12^5 _____

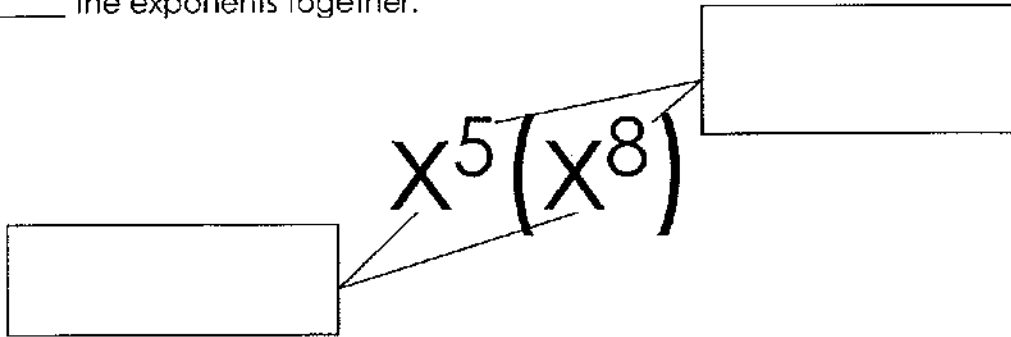
Objectives; SWBAT

- 1.) Compare & order exponential expressions
- 2.) Identify powers of small positive integers
- 3.) Use the laws of exponents to evaluate expressions

PRODUCT OF A POWER RULE

If we multiply two exponential expressions together and they have the same _____, we can apply the _____.

The _____ states if we multiply two like _____, we _____ the exponents together.



$$x^5 + 8 = x^{13}$$

A key point to note is that the bases must be the same in order to use the product of a power rule. We only add the _____.

Please simplify each exponent by applying the product of a power rule;

a.) $8^3 \cdot 8^{11} =$ _____

b.) $10^9 \cdot 10^{10} =$ _____

c.) $5^3 \cdot 5^5 =$ _____

d.) $x^6 \cdot x^{12} =$ _____

e.) $7^2 \cdot 7 =$ _____

f.) $4x^3 \cdot 2x^3 =$ _____

Independent Practice

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.) Any base raised to the power of one equals (one/zero).
- 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.)

a^2	a^3	a^4	
a^2			
a^3			
a^4			

a	b	$2a$	$3a$
b^{-1}			
a^3			
$2b$			

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: $c \cdot c^4 \cdot c^5$

1.) Simplify: $(x^2y^3)^5$

$$\begin{aligned} (x^2y^3)^5 &= x^{(2 \cdot 5)}y^{(3 \cdot 5)} \\ &= x^{10}y^{15} \\ &= x^{10}y^{15} \end{aligned}$$

What did the scholar do wrong? _____

Fix it: Simplify: $(x^2y^3)^5$

Name: _____
Subject: Math

Date: _____
HR: _____

Exit Slip#21 – Exponents

For #1 - #4, evaluate each power. Show all of your work. Draw a box around your final answer.

1.) $(6^2)^5$

2.) $x^3(x^8)$

3.) $y^4(y^9)$

4.) $(10^8)^4$

For #5-#8, please write out each exponential expression two ways.

5.) $8 =$ _____ or _____

6.) $16 =$ _____ or _____

7.) $27 =$ _____ or _____

8.) $125 =$ _____ or _____

Name: _____

Subject: Math

Date: _____

HR: _____

Homework #21 – Exponents

Parent Signature

Please answer each question completely. Show all of your work.

Write the number as a power in two different ways.

1.) $16 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

2.) $81 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

3.) $144 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

4.) $9 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

5.) Describe and correct the error made below.

$$2^4 = 2 \cdot 4$$

Compare the two powers using $<$, $>$, or $=$. Show your work.

6.) $4^2 \underline{\hspace{1cm}} 2^4$

7.) $3^5 \underline{\hspace{1cm}} 5^3$

8.) $7^3 \underline{\hspace{1cm}} 3^4$

9.) $3^2 \underline{\hspace{1cm}} 2^3$

10.) $5^0 \underline{\hspace{1cm}} 15^0$

11.) $11^4 \underline{\hspace{1cm}} 11^{100}$

Please simplify each expression below. Show all of your work.

12.) $f^4(f^{10}) =$ _____

13.) $y^7(y^4) =$ _____

14.) $(6^3)^5 =$ _____

15.) $(4^5)^6 =$ _____

16.) $(2x^2)(2x^4) =$ _____

17.) $(3m^4)(5m^2) =$ _____

18.) $(2x^2)^3 =$ _____

19.) $(5z^3)^2 =$ _____

Name: _____
Subject: Math

Date: _____
HR: _____

Exit Slip#20 – Exponents

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-#8, please write out each exponential expression in words.

5.) 7^5 _____

6.) 3^4 _____

7.) 10^6 _____

8.) 5^8 _____

Name: _____
Subject: Math

Date: _____
HR: _____

Homework #20 – Exponents

Parent Signature

Please answer each question completely. Show all of your work.

1.) A plant grows when its cells divide into pairs. After the fourth cell division, there are $2 \cdot 2 \cdot 2 \cdot 2$ cells.

- a.) Write this as a power: _____
- b.) How many cells are there after the fourth division? _____
- c.) Create a tree diagram showing this scenario. Be sure to label each stage.

2.) Brentin starts a telephone company. He calls three people. Those same people call three people, and the process continues for 5 cycles.

- a.) Write this as a power: _____
- b.) How many cells are there after the fifth cycle? _____
- c.) Create a tree diagram for this scenario. Label each stage.

Write the following expressions as powers:

3.) $25 \times 25 \times 25 =$ _____

4.) $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 =$ _____

5.) $6 \times 6 \times 6 \times 6 =$ _____

6.) $(d)(d)(d)(d)(d) =$ _____

7.) $\frac{2}{7} \times \frac{2}{7} \times \frac{2}{7} \times \frac{2}{7} \times \frac{2}{7} =$ _____

8.) $(a)(a)(a)(a)(a)(a)(a)(a)(a) =$ _____

Write each power as a product of a factor.

9.) $8^4 =$ _____

10.) $2.5^3 =$ _____

11.) $4.9^6 =$ _____

12.) $x^5 =$ _____

13.) $(\frac{2}{3})^4 =$ _____

14.) $(\frac{4}{9})^3 =$ _____

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Class Notes #20 – Exponents

Do Now



Please solve the following problems. Show your work below each problem;

1.) $8 - 2 + (5 \times 7)$

2.) $5 \times 2 - (40 \div 10) + 4$

3.) $(3 \times 6) \div (4 - 2) + 20$

4.) $(9 \div 3) \times (30 - 25) - 5$

5.) $9 + 19 - (10 \times 2)$

6.) $100 \div 10 \times 2 + 9 - 6$

Objectives; SWBAT

- 1.) Translate values between numeric form & exponential form
- 2.) Identify powers of small positive integers
- 3.) Compare & order numbers in exponential form

Naming Powers

Any base raised to the **second power** can be said as the base "squared."

For example, how would you say:

9^2

Any base raised to the **third power** can be said as the base "cubed."

For example, how would you say:

4^3

EXAMPLE #7: Reading Powers

Write how you would read each power below.

a.) $7^1 =$

b.) $3^2 =$

c.) $5^3 =$

d.) $9^0 =$

Exponents & Tree Diagrams

In some scenarios, we are able to represent growth by using a tree diagram. A tree diagram describes each stage in exponential growth.

Example #1:

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, they **EACH CALL THREE PEOPLE**. The cycle continues itself until the entire school knows!

Stage 0

Stage 1

Stage 2

Stage 3

The stage number represents the _____. The circles & legs represent the _____. The calls are _____ during each stage.

13.) $(-1.5) \cdot (-1.5) \cdot (-1.5) =$ _____

14.) $b \cdot b \cdot b \cdot b =$ _____

15.) $\frac{2}{5} \cdot \frac{2}{5} \cdot \frac{2}{5} \cdot \frac{2}{5} =$ _____

16.) $(1.2)(1.2)(1.2) =$ _____

Evaluate each power.

17.) 5^3 _____ 18.) 8^2 _____ 19.) $(9)^1$ _____ 20.) 14^0 _____

21.) There were $3 \cdot 3 \cdot 3 \cdot 3 \cdot 3$ fans in attendance at the WDP Volleyball Team's first game.

a.) Write the number of fans as a power: _____

b.) How many fans were at the first WDP volleyball game? _____

22.) Create a tree diagram for the following scenario. Joe has the chicken pox. One piece of bacteria splits into four new pieces every hour. How many bacteria are in his system after 3 hours?

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DO NOW Order of Operations #19

Perform the operations in the correct order.

1. $1 \times 2 \times 1 \times (4 \times 1 + 1) \times 1$

6. $(3 \times 2 \times 3 + 1 \times (1 + 1)) \times 1$

2. $8 \times 1 \times 1 \times 1 + 3 + 2 + 4$

7. $(3 + 1 + 9 \times 1) \times 1 \times 1 \times 1$

3. $7 + 3 + 1 \times 9 \times 1 \times 1 \times 1$

8. $(1 \times (1 + 1) + 5 + 8 + 5) \times 1$

4. $1 \times 3 \times 1 \times 4 \times 1 \times 1 \times 1$

9. $2 \times 1 \times 1 \times 2 + 2 \times 3 \times 2$

5. $(1 + 1 \times 3 \times 2 \times 1) \times (1 + 1)$

10. $1 \times 1 \times (1 + 1) \times 1 \times 1 \times 2$

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Guided Practice Order of Operations Day #19

$(3 \times 7) + 3 = \underline{\quad}$

$34 - (2 \times 1) = \underline{\quad}$

$(1 \times 2) - 7 = \underline{\quad}$

$72 - (2 \times 7) = \underline{\quad}$

$21 - (7 \times 2) = \underline{\quad}$

$34 - (3 \times 3) = \underline{\quad}$

$26 - (2 \times 7) = \underline{\quad}$

$23 - (2 \times 6) = \underline{\quad}$

$(1 \times 9) + 2 = \underline{\quad}$

$(9 \times 7) - 2 = \underline{\quad}$

$57 - (2 \times 9) = \underline{\quad}$

$(6 \times 6) + 1 = \underline{\quad}$

$(4 \times 8) - 5 = \underline{\quad}$

$20 - (2 \times 7) = \underline{\quad}$

$(5 \times 9) + 4 = \underline{\quad}$

$25 - (7 \times 2) = \underline{\quad}$

Total: 16	Goal: _____	Complete: _____	Correct: _____
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HR: _____

Guided Practice Order of Operations Day #19

$$\begin{array}{r} 12 \quad 4 = 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \quad 2 = 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \quad 2 = 0 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \quad 3 = 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \quad 3 = 0 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \quad 1 = 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \quad 1 = 1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \quad 1 = 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \quad 3 = 1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \quad 1 = 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \quad 2 = 0 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \quad 5 = 1 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \quad 3 = 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \quad 1 = 2 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \quad 4 = 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \quad 4 = 0 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \quad 2 = 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \quad 2 = 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \quad 4 = 12 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \quad 3 = 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \quad 1 = 1 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \quad 2 = 9 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \quad 2 = 1 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \quad 2 = 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \quad 1 = 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \quad 4 = 0 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \quad 3 = 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \quad 2 = 5 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \quad 3 = 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \quad 4 = 2 \\ \hline \end{array}$$

Total: 30	Goal: _____	Complete: _____	Correct: _____
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Name: _____
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HR: _____

60 Second Sprint for Order of Operations #19

$81 \div 9 =$

$2 \div 2 =$

$6 \div 3 =$

$30 \div 6 =$

$3 \div 3 =$

$27 \div 9 =$

$24 \div 8 =$

$7 \div 7 =$

$49 \div 7 =$

$54 \div 9 =$

$35 \div 7 =$

$7 \div 7 =$

$12 \div 4 =$

$24 \div 8 =$

$18 \div 9 =$

$9 \div 9 =$

$56 \div 8 =$

$3 \div 3 =$

$24 \div 8 =$

$12 \div 6 =$

$36 \div 9 =$

$48 \div 8 =$

$12 \div 4 =$

$6 \div 6 =$

$35 \div 7 =$

$3 \div 3 =$

$12 \div 6 =$

$18 \div 6 =$

$64 \div 8 =$

$20 \div 5 =$

$30 \div 6 =$

$7 \div 7 =$

$27 \div 9 =$

$3 \div 3 =$

$2 \div 2 =$

$64 \div 8 =$

$30 \div 6 =$

$9 \div 3 =$

$63 \div 9 =$

$9 \div 9 =$

$9 \div 9 =$

$9 \div 9 =$

$72 \div 9 =$

$24 \div 8 =$

$48 \div 8 =$

$2 \div 2 =$

$8 \div 8 =$

$27 \div 9 =$

$30 \div 6 =$

$21 \div 7 =$

$20 \div 5 =$

$20 \div 5 =$

$24 \div 6 =$

$24 \div 6 =$

$9 \div 3 =$

$45 \div 9 =$

$15 \div 5 =$

$8 \div 8 =$

$1 \div 1 =$

$12 \div 6 =$

Name: _____
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HR: _____

Independent Practice Order of Operations #19

1. $1^2 \times 4 \div 1 \times (10 - 8)$

6. $6 - (9 \times 2 - (1 + 6 + 7))$

2. $(1^{6-5} - (8 - 7)) \div 8$

7. $7 + 3 + 8 - 9 \div (1 \times 1)$

3. $(2 \div 1)^{4 \times (4 - (7 - 4))}$

8. $(7 - 7) \div ((6 + 3 - 2) \div 1)$

4. $4 \div (5 + 9 \times 1 - (3 + 10))$

9. $2 \div 1 + 5 \div (1^3)^1$

5. $(7 - 2 \times (1 + 2)) \times 5 \div 1$

10. $(5 - 1 \times 3)^{4^1} \div 2$

Name: _____
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Independent Practice Order of Operations Day #19

1. $3 \times (2 \times 4^3) \div 4$

2. $(4^3 + 2 - 1)$

3. $(5 \times 3) \times 1 + 5$

4. $(7^2 - 2^3 - 6)$

5. $(5^3 + 7) \times 2$

6. $4 - (9 + 2^2 \div 2)$

7. $6 - (9 + 8^2 \times 1^3) + 5$

8. $(2 \div 4 \times 8)$

9. $8 - (3 + 4^3) \times 5$

10. $5 \times (2^3 - 8) \times 5$

11. $(9 \times 9 + 5)$

12. $(1 + 4 - 4)$

13. $5 \times (4 \div 1^2 + 8)$

14. $(5 - 8^2 + 6 - 1)$

15. $2^2 \div (6 \div 9) - 5$

16. $(3 + 1^2 + 4)$

17. $1^3 - (2 + 3 + 7) \times 5$

18. $3 \times (2^3 + 5) + 2$

19. $9 \times (2^3 \div 4 \times 5)$

20. $(8 + 7 + 2 - 9)$

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Exit Slip Order of Operations #19

$21 - 3^3 = \underline{\quad}$

$94 - 2^2 = \underline{\quad}$

$5^2 + 9 = \underline{\quad}$

$22 - 2^2 = \underline{\quad}$

$7^2 + 6^2 = \underline{\quad}$

$7^2 + 9 = \underline{\quad}$

$7^2 + 9^2 = \underline{\quad}$

$2^2 + 1 = \underline{\quad}$

$93 - 7^2 = \underline{\quad}$

$8^2 + 9^2 = \underline{\quad}$

$4^2 + 9 = \underline{\quad}$

$2^2 + 4 = \underline{\quad}$

$93 - 8^2 = \underline{\quad}$

$3^2 + 3 = \underline{\quad}$

$2^2 + 6^2 = \underline{\quad}$

$4^2 + 5 = \underline{\quad}$

Total: 16	Goal: _____	Complete: _____	Correct: _____
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Homework #19 – Order of Operations

Parent Signature

Perform the operations in the correct order.

1. $4 \div 1 \div (10 - 9) + 10 \div 2 + 1$

6. $(8 \div (5 - 3) + 3) \times 7 \div 7 - 4$

2. $10 \div 10 - (1 - 7 \div 7) \times 2 \times 2$

7. $4 \times (5 \div 5 + 1) + 5 - (3 - 2)$

3. $(1 \times 6 \div 2 + 8 - 7) \div 2 + 3$

8. $(7 + 1 + 10) \div (10 \div (10 \div (4 \div 4)))$

4. $6 \div (4 \div ((8 - 2) \div (3 + 3))) \div 4$

9. $2 \times (9 - 9 \div 1 + 9 - 4 - 5)$

5. $(6 + 3) \div 3 \div ((8 - 6) \times 9 \div 6)$

10. $10 \div (1 + 8 \div (10 \div (10 \div 2) \div 1))$

Name: _____
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DO NOW Order of Operations #18

$$\square \div \square = \square \overline{) \square} = \frac{4}{28}$$

$$96 \div 94 = \square \overline{) \square} = \frac{\square}{\square}$$

$$\square \div \square = 23 \overline{) 58} = \frac{\square}{\square}$$

$$\square \div \square = 97 \overline{) 37} = \frac{\square}{\square}$$

$$\square \div \square = 77 \overline{) 93} = \frac{\square}{\square}$$

$$\square \div \square = \square \overline{) \square} = \frac{41}{68}$$

$$\square \div \square = 21 \overline{) 83} = \frac{\square}{\square}$$

$$11 \div 45 = \square \overline{) \square} = \frac{\square}{\square}$$

Guided Practice and Guided Notes for Order of Operations Day #18

Awesome Associations

An operation is _____ if changing the _____ does **not** change the answer.

A class was given the following problem:

$$(17 + 34) + 25 =$$

This is how Marissa solved it:

$$17 + 34 = 51$$

$$51 + 25 = 76$$

Eve chose to write the problem this way:

$$17 + (34 + 25) =$$

1. Show how Eve would solve the problem.
2. What did Eve and Marissa do differently? Did they get the same answer?

Next, the class was given this problem:

$$52 - (36 - 15) =$$

This is how Marissa solved it:

$$36 - 15 = 21$$

$$52 - 21 = 31$$

Eve chose to write the problem this way:

$$(52 - 36) - 15 =$$

3. Show how Eve would solve the problem.
4. What did Eve and Marissa do differently? Did they get the same answer?

THINK

Is addition associative? Is subtraction associative? Explain how you know.

Guided Practice and Guided Notes for Order of Operations Day #18

Great Groups

An operation is **associative** if changing the grouping does not change the answer.

A class was given the following problem:

$$18 \times 4 \times 21 =$$

John wrote and solved the problem this way:

$$18 \times (4 \times 21) =$$

$$4 \times 21 = 84$$

$$18 \times 84 = 1,512$$

Miguel wrote the problem this way:

$$(18 \times 4) \times 21 =$$

1. Show how Miguel would solve the problem.
2. What did Miguel and John do differently? Did they get the same answer?

Next, the class was given this problem:

$$(18 \div 2) \div 3 =$$

This is how John solved the problem:

$$18 \div 2 = 9$$

$$9 \div 3 = 3$$

Miguel wrote the problem this way:

$$18 \div (2 \div 3) =$$

3. Show how Miguel would solve the problem.
4. What did Miguel and John do differently? Did they get the same answer?

THINK

Is multiplication associative? Is division associative? Explain how you know.

Name: _____
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Guided Practice and Guided Notes for Order of Operations Day #18

A Matter of Order

An operation is _____ if changing the _____ of the numbers does _____ change the answer.

Solve each problem. Then, change the order of the numbers and solve the new problem. You may want to use a calculator. The first two problems have been started for you.

1. $1,721 + 589 =$ _____

$589 + 1,721 =$ _____

2. $876 - 245 =$ _____

$245 - 876 =$ _____

3. $75 - 43 =$ _____

_____ = _____

4. $86 + 325 =$ _____

_____ = _____

5. $782 - 543 =$ _____

_____ = _____

6. $2,301 + 1,746 =$ _____

_____ = _____

7. $658 + 702 =$ _____

_____ = _____

8. $67 - 33 =$ _____

_____ = _____

THINK

Is addition commutative? Is subtraction commutative? Explain how you know.

Name: _____
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60 Second Sprint for Order of Operations #18

1 Minute Drill

$81 \div 9 =$ $2 \div 2 =$ $6 \div 3 =$ $30 \div 6 =$ $3 \div 3 =$

$27 \div 9 =$ $24 \div 8 =$ $7 \div 7 =$ $49 \div 7 =$ $54 \div 9 =$

$35 \div 7 =$ $7 \div 7 =$ $12 \div 4 =$ $24 \div 8 =$ $18 \div 9 =$

$9 \div 9 =$ $56 \div 8 =$ $3 \div 3 =$ $24 \div 8 =$ $12 \div 6 =$

$36 \div 9 =$ $48 \div 8 =$ $12 \div 4 =$ $6 \div 6 =$ $35 \div 7 =$

$3 \div 3 =$ $12 \div 6 =$ $18 \div 6 =$ $64 \div 8 =$ $20 \div 5 =$

$30 \div 6 =$ $7 \div 7 =$ $27 \div 9 =$ $3 \div 3 =$ $2 \div 2 =$

$64 \div 8 =$ $30 \div 6 =$ $9 \div 3 =$ $63 \div 9 =$ $9 \div 9 =$

$9 \div 9 =$ $9 \div 9 =$ $72 \div 9 =$ $24 \div 8 =$ $48 \div 8 =$

$2 \div 2 =$ $8 \div 8 =$ $27 \div 9 =$ $30 \div 6 =$ $21 \div 7 =$

$20 \div 5 =$ $20 \div 5 =$ $24 \div 6 =$ $24 \div 6 =$ $9 \div 3 =$

$45 \div 9 =$ $15 \div 5 =$ $8 \div 8 =$ $1 \div 1 =$ $12 \div 6 =$

Name: _____
Subject: Math

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HR: _____

Independent Practice Order of Operations #18

Order of Operations - (PEMDAS)

1) $((15 - 8) + 6) + 9$

6) $2 + (6 + (11 - 2))$

2) $(16 + (20 \div 4)) + 7$

7) $(13 + (16 \div 2 + 3))$

3) $16 + ((17 - 6) \times 4)$

8) $(9 + (14 \div 7)) \times 4$

4) $12 + (6 + (16 - 2))$

9) $(5 + (14 \div 7 + 6))$

5) $13 + ((11 - 6) + 4)$

10) $((11 - 7) \times 7) + 2$

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Independent Practice Order of Operations #18

Order of Operations - (PEMDAS)

1) $(3 \times 8 - 3^2) - 4$

6) $(69 - 3^2) \div (0 + 4)$

2) $(11 \times 8 - 6^2) - 10$

7) $(9 - 4)^2 + (8 \div 2)$

3) $(36 - 4) \div 4 + 5^2$

8) $(7 + 4)^2 + (12 \div 4)$

4) $(65 - 5) \div 20 - 3^2$

9) $(57 - 5^2) \div (-1 + 3)$

5) $3 \times (11 - 4) - 4^2$

10) $3 \times (11 + 3) - 2^2$

Name: _____
Subject: Math

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Word Problem Attack for Order of Operations Day #18

1.) A certain Math Club makes 35 bars of laundry soap a week and sells these at P 20 each. Before the soap can all be sold, the pupils found out that 6 bars were destroyed by mice. How much will be the total sale at the end of the month?

2.) A certain small factory employs 98 workers. Of these 10 receive a wage of P 350 per day and the rest receive P 255 per day. To the management, a week is equal to 6 working days. How much does the factory pay out for each week?

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Word Problem Independent Practice for Order of Operations Day #18

1.) There are 39 peanuts in a box. Willie has 9 peanuts in a bag. Lois takes 13 peanuts out of the box. How many peanuts are left in the box?

2.) Sean has 33 apples. Tammy has 15 apples. He gives 31 to Lawrence. How many apples will Sean have?

3.) The school is planning a field trip. The school has 8 classrooms. There are 305 students in the school and 61 seats on each school bus. How many buses are needed to take the trip?

Exit Slip Order of Operations #18

With Whom to Associate?

An operation is **associative** if changing the grouping does not change the answer.

$$3 \times (5 \times 6) = (3 \times 5) \times 6$$

$$3 \times 30 = 15 \times 6$$

$$90 = 90$$

On which of the following problems can the associative property be used? If the associative property can be used, rewrite the problem. If not, write **NA** for not applicable.

1. $(56 - 32) - 15 =$

4. $(4 \times 15) \times 8 =$

7. $(12 \times 7) \times 2 =$

2. $48 \div (12 \div 6) =$

5. $(22 + 76) + 91 =$

8. $415 + (88 + 21) =$

3. $251 + (88 + 31) =$

6. $3 \times (14 \times 5) =$

9. $(100 \div 50) \div 5 =$

DO MORE

Explain how you know whether or not the commutative property applies to each problem.

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Homework #18 – Order of Operations

Parent Signature

Proper Properties

Find the sum of each number sentence. To make it easier, use the commutative and associative properties to change the order and regroup the numbers into sums of 10. Write down the name of the property when you use it.

Example:

$$\begin{aligned} &7 + 9 + 3 + 5 + 6 + 8 + 4 + 9 + 2 + 1 \\ &= 7 + 3 + 9 + 1 + 8 + 2 + 6 + 4 + 9 + 5 && \text{commutative property} \\ &= (7 + 3) + (9 + 1) + (8 + 2) + (6 + 4) + (9 + 5) && \text{associative property} \\ &= 10 + 10 + 10 + 10 + 14 \\ &= 40 + 14 \\ &= 54 \end{aligned}$$

1. $9 + 7 + 6 + 3 + 8 + 4 + 1$

4. $1 + 6 + 5 + 3 + 7 + 4 + 5$

2. $8 + 6 + 5 + 3 + 4 + 7 + 2 + 5$

5. $1 + 8 + 3 + 6 + 5 + 4 + 2 + 7 + 9 + 5$

3. $6 + 3 + 2 + 6 + 7 + 4$

6. $7 + 9 + 3 + 5 + 1 + 6 + 8 + 4 + 5$

THINK

In what other ways could the commutative and associative properties be useful?

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HR: _____

Homework #18 – Order of Operations

Parent Signature

Perplexing Properties

An operation is **commutative** if changing the order of the numbers does not change the answer.

$$34 + 82 = 82 + 34$$
$$116 = 116$$

An operation is **associative** if changing the grouping does not change the answer.

$$3 + (5 + 6) = (3 + 5) + 6$$
$$3 + 11 = 8 + 6$$
$$14 = 14$$

Rewrite each problem in an equivalent form using the commutative or associative property. Write commutative or associative to show which property was used.

1. $(54 + 15) + 25 =$ _____

2. $17 \times 12 =$ _____

3. $85 + 66 =$ _____

4. $3 \times (24 \times 5) =$ _____

5. $(412 + 180) + (79 + 366) =$ _____

6. $62 \times (8 \times 14) =$ _____

DO MORE

How can you prove that the problems you wrote are equivalent to the original?

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DO NOW Order of Operations #17

$$6 \overline{)24}$$

$$2 \overline{)16}$$

$$7 \overline{)63}$$

$$2 \overline{)10}$$

$$6 \overline{)42}$$

$$4 \overline{)24}$$

$$7 \overline{)35}$$

$$3 \overline{)15}$$

$$9 \overline{)63}$$

$$5 \overline{)20}$$

$$8 \overline{)48}$$

$$5 \overline{)20}$$

$$8 \overline{)24}$$

$$9 \overline{)27}$$

$$4 \overline{)12}$$

$$3 \overline{)6}$$

$$5 \overline{)35}$$

$$4 \overline{)12}$$

$$8 \overline{)56}$$

$$3 \overline{)3}$$

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Guided Practice and Guided Notes for Order of Operations Day #17

Order of Operations

Drivers are given "rules of the road" that govern how they drive. These rules include stopping at red lights and at stop signs, yielding to oncoming traffic when making a left turn, and so on.

In math, there are also "_____." These rules govern the order in which numbers are computed. They are called the _____. When you must solve a long string of computations, the order of operations tells you what should receive your _____.

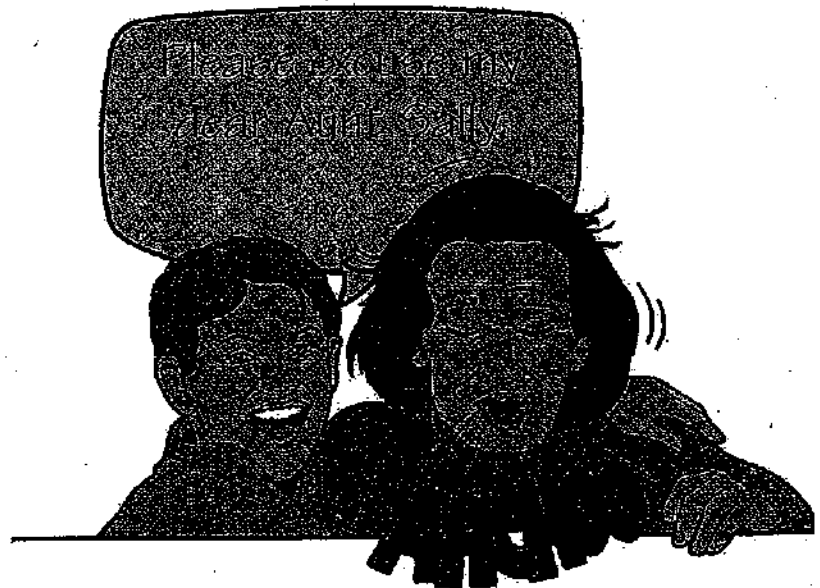
The Order of Operations

P
E
M
D
A
S

Some people use a memory aid to remember the order of operations. Using the first letter of each word above, the following sentence was created:

Please Excuse My Dear Aunt Sally.

It may be easier to remember this sentence than to remember the order of operations. Using the first letter of each word, you can recall the words they represent.



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Guided Practice and Guided Notes for Order of Operations Day #17

Order of Operations (continued)

Put the order of operations to use. Below is an example that includes every step in the order of operations. It shows how you can work through a long number sentence following the "rules of the road."

$$7^2 - (15 + 22) + 16 \div 2 \times 6 =$$

P - Parentheses

$$7^2 - 37 + 16 \div 2 \times 6 =$$

E - Exponents ($7^2 = 7 \times 7$)

$$49 - 37 + 16 \div 2 \times 6 =$$

M - Multiplication and

D - Division

(Solve from left to right.)

$$49 - 37 + 8 \times 6 =$$

$$49 - 37 + 48 =$$

A - Addition and

S - Subtraction

(Solve from left to right.)

$$12 + 48 =$$

60

Without following the order of operations, the example problem could be solved differently and a different answer could be found. For example, if all the multiplication and exponents were done first, you would get the following number sentence:

$$49 - (15 + 22) + 16 \div 12 =$$

Then, solving from left to right, the following solution would be found:

$$49 - 37 + 16 \div 12 =$$

$$28 \div 12 =$$

$$2\frac{1}{3}$$

It is very important that everyone follow the same "rules of the road." Otherwise, one number sentence could have several different answers. Following the order of operations, there is only one possible solution.

PEMDAS Rules

Evaluate the problem in the following order:

- 1) **P** - Parentheses
- 2) **E** - Exponents (Powers and Square Roots)
- 3) **MD** - Multiplication and Division (Left to Right)
- 4) **AS** - Addition and Subtraction (Left to Right)

You can remember the order by saying :

Please Excuse My Dear Aunt Sally

a	x	u	i	d	u
r	p	l	v	d	b
e	o	t	i	i	t
n	n	i	s	t	r
t	e	p	i	i	a
h	n	l	o	o	c
e	t	i	n	n	t
s	s	c			i
e		a			o
s		t			n
		i			
		o			
		n			

Name: _____
Subject: Math

Date: _____
HR: _____

60 Second Sprint for Order of Operations #17

1 Minute Drill

$15 \div 5 =$

$18 \div 6 =$

$32 \div 8 =$

$16 \div 4 =$

$5 \div 5 =$

$45 \div 9 =$

$27 \div 9 =$

$30 \div 10 =$

$70 \div 10 =$

$54 \div 9 =$

$50 \div 10 =$

$20 \div 10 =$

$14 \div 7 =$

$10 \div 5 =$

$35 \div 7 =$

$10 \div 5 =$

$20 \div 5 =$

$42 \div 7 =$

$6 \div 3 =$

$27 \div 9 =$

$6 \div 3 =$

$50 \div 10 =$

$9 \div 9 =$

$24 \div 6 =$

$8 \div 8 =$

$48 \div 8 =$

$6 \div 3 =$

$80 \div 10 =$

$9 \div 9 =$

$28 \div 7 =$

$16 \div 8 =$

$63 \div 9 =$

$2 \div 2 =$

$32 \div 8 =$

$30 \div 10 =$

$40 \div 10 =$

$30 \div 6 =$

$2 \div 2 =$

$27 \div 9 =$

$42 \div 7 =$

$45 \div 9 =$

$72 \div 9 =$

$12 \div 6 =$

$16 \div 8 =$

$81 \div 9 =$

$40 \div 8 =$

$2 \div 2 =$

$60 \div 10 =$

$14 \div 7 =$

$9 \div 9 =$

$16 \div 8 =$

$27 \div 9 =$

$20 \div 10 =$

$24 \div 8 =$

$15 \div 5 =$

$2 \div 2 =$

$20 \div 10 =$

$50 \div 10 =$

$3 \div 3 =$

$49 \div 7 =$

Name: _____
Subject: Math

Date: _____
HR: _____

Independent Practice Order of Operations #17

Order of Operations - (PEMDAS)

1) $(10 + 24 - 2) \div 16$

6) $6 \times 12 \times (8 + 7)$

2) $9 \times 9 \times (9 - 4)$

7) $(15 + 45) \div (28 + 2)$

3) $(21 + 6) \times 12 - 6$

8) $(11 + 6) \times 9 - 3$

4) $(16 + 3) + 18 \div 2$

9) $(12 + 24) \div (16 + 2)$

5) $(9 + 2) + 15 \div 5$

10) $(9 + 35 - 4) \div 20$

Name: _____
Subject: Math

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HR: _____

Independent Practice Order of Operations #17

Order of Operations - (PEMDAS)

1) $12 \times 18 \div 9 - 6$

6) $10 \times 10 - 2 + 3$

2) $6 - 12 \div 4 + 9$

7) $8 \div 4 \times 12 - 8$

3) $2 - 18 \div 6 + 13$

8) $18 \div 3 \times 12 + 19$

4) $9 - 5 \times 17 + 5$

9) $9 + 7 \times 18 \div 3$

5) $16 - 4 \times 18 \div 9$

10) $20 \div 10 \times 4 - 3$

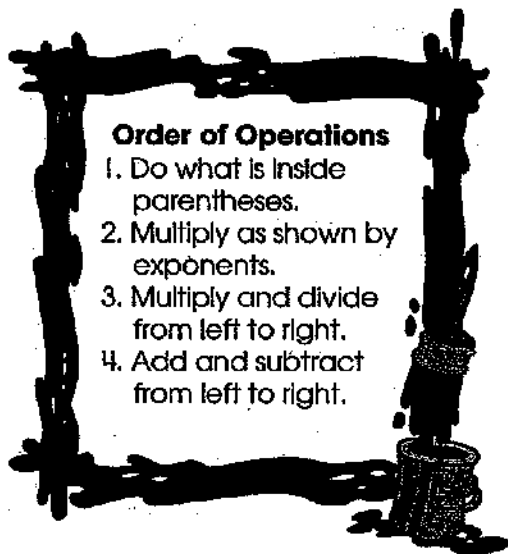
Name: _____
Subject: Math

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HR: _____

Exit Slip Order of Operations #17

Solve It in Order

In each row, find the answer of each number sentence. Follow the order of operations.



1. $16 - 7 \times 2 =$

$12 + 9 \times 3 - 28 =$

2. $54 + 24 \div 3 - 30 =$

$9 \times 4 \div 2 =$

3. $8 \times 2 + 45 \div 9 =$

$16 + 30 \div 3 \times 2 =$

$3 \times 2^2 \div (6 - 3) =$

$2 \times 3 + 10 \div 2 =$

$36 \div 9 - 2 =$

$48 \div (6 \times 2) =$

$45 \div 15 + 2 \times 3 =$

$3 + 7 \times 5 - 1 =$

$(20 + 12) \div (4 + 4) =$

$(15 - 3) \div 12 + 1 =$

$4^2 \div 7 + 2^2 =$

$5 \times (8 - 2) \times 3 =$

Parent Signature

Order of Operations Practice

Follow the order of operations to solve the number sentences below. Match each number sentence with its solution in the column on the right. Use the letters that correspond with each numbered problem to read the coded message. You will not use all the solutions in the right column.

- _____ 1. $15 - (4 + 7) =$
 _____ 2. $5 \times 2^3 - (27 - 21) =$
 _____ 3. $8 + 6 \times 4 \div 8 - 5 =$
 _____ 4. $3^3 \div (3 \times 3) =$
 _____ 5. $9 + 7 - 5 \times 3 + 10 =$
 _____ 6. $32 \div 4 + 4 \times 3 =$
 _____ 7. $3 + 4^3 - 7 \times 6 =$
 _____ 8. $28 + (97 - 3^4) - 5 \times 7 =$
 _____ 9. $90 \div 5 \times 2 + 16 =$
 _____ 10. $5^3 - 84 \div 12 - (6 \times 3) =$
 _____ 11. $98 \div (15 - 8) \times 12 =$
 _____ 12. $67 + 6^2 \times 6 \div (2 + 1) =$
 _____ 13. $114 - 16 \times 3 + 27 - 4 =$
 _____ 14. $8^2 - (2 + 6 \times 4) =$

- | | |
|---------------|---------------|
| A. 25 | N. 139 |
| B. 2 | O. 34 |
| C. 52 | P. 360 |
| D. 4 | Q. 317 |
| E. 168 | R. 6 |
| F. 19 | S. 20 |
| G. 100 | T. 3 |
| H. 9 | U. 36 |
| I. 89 | V. 98 |
| J. 18 | W. 10 |
| K. 43 | X. 206 |
| L. 11 | Y. 27 |
| M. 38 | Z. 32 |

10 2 2 1 1 3 13 ^V 11 3 6 7 12 1 10 2 2 1

14 7 4 8 11 14 7 4 13 9 13 7 12 6 14 7 6 4 11 3

4 8 11 3 ^U 5 11 6 2 ^F 4 8 11 3 2 7 1

6th Grade Math

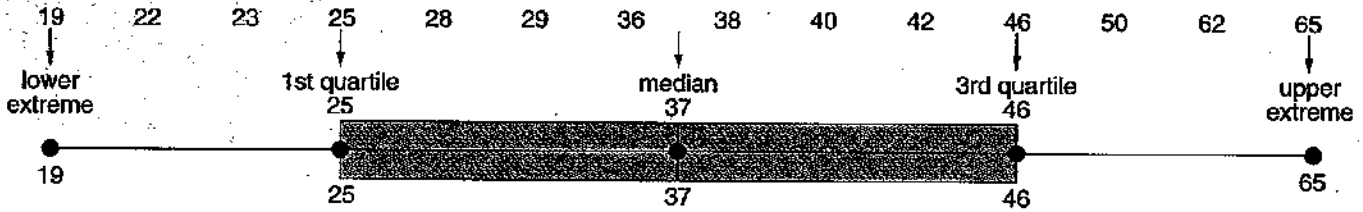
Charter Renewal Unit 3 Materials

Data, Central Tendency, Plots and Graphs

DO NOW Central Tendency #28

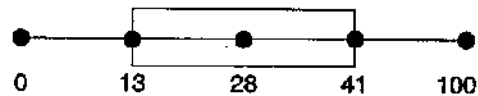
Box-and-Whisker Graphs

A **box-and-whisker graph** organizes data and helps you interpret it. Study the box-and-whisker graph shown below. The **median** is the middle number in the ordered data. The **first quartile** is the **median** of the lower half of the data. The **third quartile** is the median of the upper half of the data.

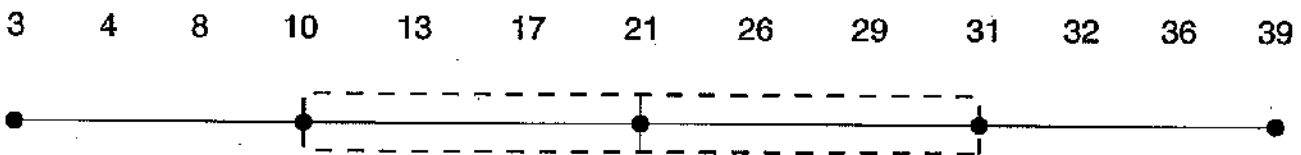


Answer the following questions about the box-and-whisker graph shown below.

1. What is the lower extreme? _____
2. What is the first quartile? _____
3. What is the median? _____
4. What is the third quartile? _____
5. What is the upper extreme? _____



Study the unfinished box-and-whisker graph below. Then, answer the questions and record the information on the box-and-whisker graph.



6. What is the lower extreme? _____
7. What is the first quartile? _____
8. What is the median? _____
9. What is the third quartile? _____
10. What is the upper extreme? _____

Guided Notes for Central Tendency #28

Mode :

The "Mode" for a data set is the element that occurs the most often.

It is not uncommon for a data set to have more than one mode.

This happens when two or more elements occur with equal frequency in the data set. A data set with two modes is called bimodal.

A data set with three modes is called trimodal.

Examples : Single Mode

Data Set = 2, 5, 9, 3, 5, 4, 7

Mode = 5

Examples : Bimodal

Data Set = 2, 5, 2, 3, 5, 4, 7

Modes = 2 and 5

Examples : Trimodal

Data Set = 2, 5, 2, 7, 5, 4, 7

Modes = 2, 5, and 7

Range :

The "Range" for a data set is the difference between the largest value and smallest value contained in the data set. First reorder the data set from smallest to largest then subtract the first element from the last element.

Examples :

Data Set = 2, 5, 9, 3, 5, 4, 7

Reordered = 2, 3, 4, 5, 5, 7, 9

Range = (9 - 2) = 7

Guided Notes for Central Tendency #28

Mean :

The "Mean" is computed by adding all of the numbers in the data together and dividing by the number elements contained in the data set.

Example :

$$\text{Data Set} = 2, 5, 9, 3, 5, 4, 7$$

$$\text{Number of Elements in Data Set} = 7$$

$$\text{Mean} = (2 + 5 + 9 + 7 + 5 + 4 + 3) / 7 = 5$$

Median :

The "Median" of a data set is dependant on whether the number of elements in the data set is odd or even. First reorder the data set from the smallest to the largest then if the number of elements are odd, then the Median is the element in the middle of the data set. If the number of elements are even, then the Median is the average of the two middle terms.

Examples : Odd Number of Elements

$$\text{Data Set} = 2, 5, 9, 3, 5, 4, 7$$

$$\text{Reordered} = 2, 3, 4, \underset{\wedge}{5}, 5, 7, 9$$

$$\text{Median} = 5$$

Examples : Even Number of Elements

$$\text{Data Set} = 2, 5, 9, 3, 5, 4$$

$$\text{Reordered} = 2, 3, 4, \underset{\wedge}{5}, \underset{\wedge}{5}, 9$$

$$\text{Median} = (4 + 5) / 2 = 4.5$$

Name: _____
Subject: Math

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Guided Practice Central Tendency Day #28

Problem 1:

Mode, Median, Mean

Draw box and whisker for the given data:

8, 6, 3, 5, 3, 4, 2, 9

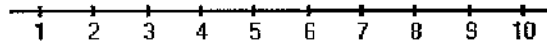
Work Space:

First Quartile =

Second Quartile or Median =

Third Quartile =

Range =



Problem 2:

Draw box and whisker for the given data:

4, 8, 8, 6, 2, 2, 8, 6, 6, 9

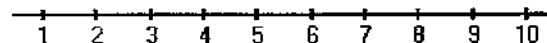
Work Space:

First Quartile =

Second Quartile or Median =

Third Quartile =

Range =



Name: _____
Subject: Math

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Guided Practice Central Tendency Day #28

Mean, Mode, Median, and Range

1) 5, 3, 5, 7, 8, 8

Mean _____ Median _____ Mode _____ Range _____

6) 7, 2, 2, 6, 7, 6

Mean _____ Median _____ Mode _____ Range _____

2) 8, 6, 6, 2, 3

Mean _____ Median _____ Mode _____ Range _____

7) 6, 2, 8, 7, 7, 6, 6, 8, 4

Mean _____ Median _____ Mode _____ Range _____

3) 7, 8, 7, 8, 5

Mean _____ Median _____ Mode _____ Range _____

8) 6, 2, 4, 9, 3, 3, 7, 2, 9

Mean _____ Median _____ Mode _____ Range _____

4) 7, 6, 7, 6, 4, 6

Mean _____ Median _____ Mode _____ Range _____

9) 9, 7, 10, 9, 6, 9, 5, 6, 2

Mean _____ Median _____ Mode _____ Range _____

5) 9, 2, 3, 1, 3, 4, 6

Mean _____ Median _____ Mode _____ Range _____

10) 6, 7, 1, 6, 5

Mean _____ Median _____ Mode _____ Range _____

Name: _____
Subject: Math

Date: _____
HR: _____

60 Second Sprint for Central Tendency #28

132 ÷ 12 =	24 ÷ 12 =	36 ÷ 12 =	24 ÷ 12 =
60 ÷ 12 =	120 ÷ 12 =	120 ÷ 12 =	0 ÷ 12 =
84 ÷ 12 =	0 ÷ 12 =	132 ÷ 12 =	0 ÷ 12 =
96 ÷ 12 =	48 ÷ 12 =	84 ÷ 12 =	72 ÷ 12 =
72 ÷ 12 =	36 ÷ 12 =	144 ÷ 12 =	72 ÷ 12 =
12 ÷ 12 =	12 ÷ 12 =	72 ÷ 12 =	36 ÷ 12 =
144 ÷ 12 =	84 ÷ 12 =	72 ÷ 12 =	144 ÷ 12 =
120 ÷ 12 =	24 ÷ 12 =	84 ÷ 12 =	24 ÷ 12 =
60 ÷ 12 =	12 ÷ 12 =	108 ÷ 12 =	108 ÷ 12 =
36 ÷ 12 =	12 ÷ 12 =	48 ÷ 12 =	144 ÷ 12 =
12 ÷ 12 =	0 ÷ 12 =	0 ÷ 12 =	36 ÷ 12 =
36 ÷ 12 =	12 ÷ 12 =	60 ÷ 12 =	120 ÷ 12 =
72 ÷ 12 =	144 ÷ 12 =	12 ÷ 12 =	60 ÷ 12 =
24 ÷ 12 =	48 ÷ 12 =	24 ÷ 12 =	108 ÷ 12 =
108 ÷ 12 =	144 ÷ 12 =	60 ÷ 12 =	48 ÷ 12 =
60 ÷ 12 =	120 ÷ 12 =	48 ÷ 12 =	12 ÷ 12 =
0 ÷ 12 =	144 ÷ 12 =	84 ÷ 12 =	108 ÷ 12 =
108 ÷ 12 =	108 ÷ 12 =	0 ÷ 12 =	12 ÷ 12 =
132 ÷ 12 =	96 ÷ 12 =	132 ÷ 12 =	12 ÷ 12 =
72 ÷ 12 =	0 ÷ 12 =	48 ÷ 12 =	120 ÷ 12 =
132 ÷ 12 =	0 ÷ 12 =	120 ÷ 12 =	48 ÷ 12 =
72 ÷ 12 =	132 ÷ 12 =	12 ÷ 12 =	24 ÷ 12 =
96 ÷ 12 =	12 ÷ 12 =	96 ÷ 12 =	12 ÷ 12 =
108 ÷ 12 =	120 ÷ 12 =	36 ÷ 12 =	132 ÷ 12 =
12 ÷ 12 =	48 ÷ 12 =	48 ÷ 12 =	60 ÷ 12 =

Name: _____
Subject: Math

Date: _____
HR: _____

Independent Practice Central Tendency #28

Use the list of numbers to find the mean, median and range

-11 • -16 • -3 • -8 • -2

What is the median?
What is the mean?
What is the range?

-14 • -7 • -3

What is the median?
What is the mean?
What is the range?

-3 • -1 • -17

What is the median?
What is the mean?
What is the range?

-19 • -8 • -6

What is the median?
What is the mean?
What is the range?

-2 • -19 • -8 • -16 • -5

What is the median?
What is the mean?
What is the range?

-8 • -3 • -12 • -16 • -1

What is the median?
What is the mean?
What is the range?

Name: _____
Subject: Math

Date: _____
HR: _____

Independent Practice Central Tendency #28

Use the list of numbers to find the mean, median and range

17 • 6 • 2 • 16 • 9

What is the median?
What is the mean?
What is the range?

18 • 3 • 7 • 15 • 2

What is the median?
What is the mean?
What is the range?

17 • 3 • 4

What is the median?
What is the mean?
What is the range?

19 • 7 • 1

What is the median?
What is the mean?
What is the range?

8 • 6 • 15 • 5 • 16

What is the median?
What is the mean?
What is the range?

17 • 6 • 7 • 4 • 11

What is the median?
What is the mean?
What is the range?

Name: _____
Subject: Math

Date: _____
HR: _____

Exit Slip Central Tendency #28

Mean, Median, Mode, Range

Work Space

35, 56, 34, 44, 52, 12, 34, 45 Mean = _____ Median = _____ Mode = _____ Range = _____	
24, 34, 32, 16, 45, 38, 28 Mean = _____ Median = _____ Mode = _____ Range = _____	
86, 24, 65, 65, 24, 24 Mean = _____ Median = _____ Mode = _____ Range = _____	
32, 23, 22, 33, 33, 23, 32, 23, 22 Mean = _____ Median = _____ Mode = _____ Range = _____	

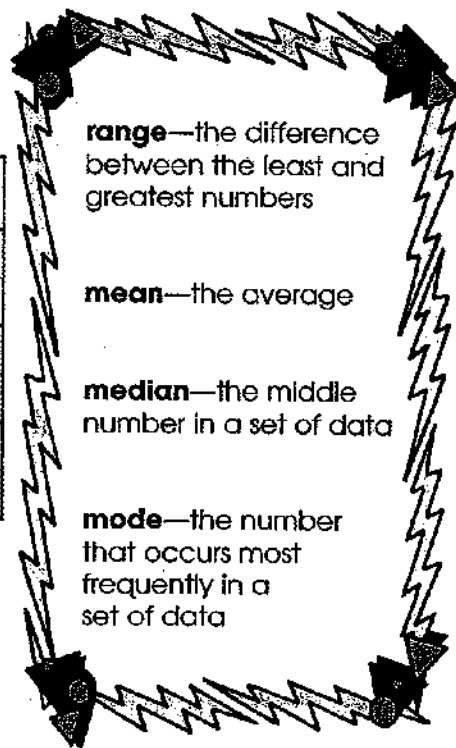
Homework #28 – Central Tendency

Parent Signature

Measures of Central Tendency

Eleven students from each math class competed in a math competition. Their scores are shown below.

Teacher	Scores
Ms. Rowe	79, 83, 96, 75, 100, 80, 91, 87, 72, 86, 79
Mrs. Mldgely	86, 89, 93, 86, 95, 82, 77, 86, 95, 98, 86
Mr. Maynard	68, 95, 72, 100, 82, 85, 72, 73, 68, 72, 80
Mr. Arnalz	80, 75, 78, 80, 92, 66, 70, 78, 68, 90, 78
Ms. Silver	73, 68, 75, 82, 69, 85, 75, 78, 75, 88, 78
Ms. Choi	94, 90, 85, 87, 72, 79, 86, 95, 94, 98, 89



Find the range, the mean to the nearest tenth, the median, and the mode for each class. Write them on the chart below.

Teacher	Range	Mean	Median	Mode
Ms. Rowe				
Mrs. Mldgely				
Mr. Maynard				
Mr. Arnalz				
Ms. Silver				
Ms. Choi				

Use your data to answer the questions.

- Whose class had the highest mean?

- Whose class had the smallest range?

- Whose class had a five-point difference between the median and the mode?

- Whose class had the lowest median?

Name: _____
Subject: Math

Date: _____
HR: _____

DO NOW Central Tendency #29

The plus and minus signs have run away! Now these equations are missing the **plus** and **minus sign**. Write the correct sign in each box.

$8 \quad \square \quad 12 = 20$

$42 \quad \square \quad 10 = 32$

$11 \quad \square \quad 6 = 5$

$12 \quad \square \quad 12 = 24$

$7 \quad \square \quad 9 = 16$

$55 \quad \square \quad 20 = 75$

$100 \quad \square \quad 75 = 25$

$87 \quad \square \quad 2 = 85$

$67 \quad \square \quad 22 = 45$

$20 \quad \square \quad 22 = 42$

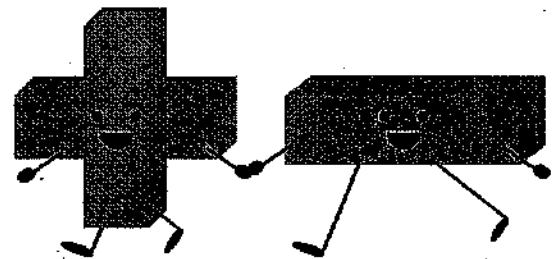
$34 \quad \square \quad 13 = 21$

$56 \quad \square \quad 16 = 40$

$150 \quad \square \quad 50 \quad \square \quad 20 = 120$

$12 \quad \square \quad 12 \quad \square \quad 20 = 4$

$20 \quad \square \quad 32 \quad \square \quad 4 = 56$



Name: _____
Subject: Math

Date: _____
HR: _____

Guided Practice Central Tendency Day #29

$3 + (-8) =$

$(-9) - (-4) =$

$7 - 5 =$

$6 - (-4) =$

$(-4) - (-2) =$

$(-4) - 10 =$

$6 - 5 =$

$(-2) - 5 =$

$(-2) - 7 =$

$(-8) + (-2) =$

$8 + 6 =$

$(-9) + 10 =$

$8 + (-10) =$

$2 - (-10) =$

$8 - 5 =$

$8 - (-2) =$

$1 - (-7) =$

$4 + 2 =$

$(-2) + 6 =$

$(-4) - 4 =$

$9 - (-7) =$

$(-1) - 0 =$

$7 - 5 =$

$(-5) + (-10) =$

$(-1) - (-2) =$

$(-5) - (-6) =$

$9 - (-9) =$

$7 - 4 =$

$(-2) + 5 =$

$(-4) - (-10) =$

$8 - (-2) =$

$(-6) + 2 =$

$4 + 1 =$

Name: _____
Subject: Math

Date: _____
HR: _____

60 Second Sprint for Central Tendency #29

$24 \div 6 =$	$42 \div 6 =$	$24 \div 3 =$	$7 \div 1 =$	$9 \div 1 =$
$9 \div 1 =$	$18 \div 3 =$	$25 \div 5 =$	$48 \div 6 =$	$1 \div 1 =$
$54 \div 9 =$	$14 \div 2 =$	$27 \div 3 =$	$40 \div 5 =$	$21 \div 3 =$
$6 \div 2 =$	$2 \div 1 =$	$4 \div 4 =$	$24 \div 6 =$	$7 \div 7 =$
$36 \div 6 =$	$24 \div 3 =$	$9 \div 3 =$	$6 \div 3 =$	$45 \div 9 =$
$2 \div 2 =$	$40 \div 5 =$	$6 \div 3 =$	$36 \div 4 =$	$14 \div 2 =$
$15 \div 3 =$	$14 \div 2 =$	$8 \div 1 =$	$45 \div 5 =$	$12 \div 2 =$
$54 \div 9 =$	$1 \div 1 =$	$27 \div 3 =$	$24 \div 6 =$	$24 \div 3 =$
$30 \div 6 =$	$63 \div 9 =$	$25 \div 5 =$	$63 \div 7 =$	$24 \div 4 =$
$35 \div 7 =$	$8 \div 8 =$	$4 \div 1 =$	$54 \div 6 =$	$4 \div 4 =$
$5 \div 1 =$	$27 \div 3 =$	$1 \div 1 =$	$45 \div 5 =$	$6 \div 3 =$
$64 \div 8 =$	$3 \div 1 =$	$36 \div 4 =$	$81 \div 9 =$	$16 \div 4 =$
$48 \div 8 =$	$21 \div 7 =$	$3 \div 1 =$	$9 \div 3 =$	$16 \div 8 =$
$20 \div 5 =$	$16 \div 2 =$	$7 \div 1 =$	$4 \div 4 =$	$16 \div 2 =$
$45 \div 9 =$	$24 \div 6 =$	$8 \div 1 =$	$7 \div 7 =$	$25 \div 5 =$
$12 \div 2 =$	$30 \div 6 =$	$56 \div 7 =$	$72 \div 9 =$	$16 \div 2 =$
$36 \div 9 =$	$15 \div 3 =$	$27 \div 9 =$	$24 \div 4 =$	$24 \div 8 =$
$18 \div 9 =$	$72 \div 9 =$	$81 \div 9 =$	$6 \div 3 =$	$48 \div 8 =$
$6 \div 6 =$	$49 \div 7 =$	$36 \div 6 =$	$18 \div 3 =$	$15 \div 3 =$
$4 \div 1 =$	$6 \div 3 =$	$35 \div 7 =$	$8 \div 8 =$	$14 \div 7 =$

Name: _____
Subject: Math

Date: _____
HR: _____

Independent Practice Central Tendency #29

$(+6) + (+48) =$ $(+90) + (-14) =$ $(-57) + (-89) =$

$(+73) + (-55) =$ $(+72) + (-92) =$ $(-71) + (+47) =$

$(-47) + (-61) =$ $(-75) + (+78) =$ $(-53) + (+57) =$

$(-25) + (-31) =$ $(-46) + (-3) =$ $(+95) + (-58) =$

$(-11) + (-47) =$ $(+62) + (+69) =$ $(-61) + (+53) =$

$(+41) + (+99) =$ $(-81) + (-1) =$ $(+89) + (+89) =$

$(-28) + (+93) =$ $(+86) + (-69) =$ $(-61) + (-32) =$

$(-11) + (-98) =$ $(+23) + (-3) =$ $(-1) + (-92) =$

$(+94) + (-66) =$ $(-96) + (-33) =$ $(+45) + (-61) =$

$(-10) + (+5) =$ $(+51) + (-60) =$ $(+3) + (+96) =$

$(+53) + (-88) =$ $(-67) + (+31) =$ $(+95) + (-18) =$

$(-86) + (-53) =$ $(+50) + (-18) =$ $(+12) + (+85) =$

$(-33) + (-72) =$ $(-16) + (+42) =$ $(-34) + (+62) =$

$(-4) + (-59) =$ $(-86) + (-52) =$ $(-34) + (-81) =$

$(+18) + (+14) =$ $(-64) + (-50) =$ $(-36) + (+85) =$

$(-73) + (-9) =$ $(-85) + (+71) =$ $(+85) + (+76) =$

$(+38) + (-58) =$ $(-18) + (-51) =$ $(+58) + (-8) =$

$(+52) + (+54) =$ $(+75) + (+89) =$ $(+61) + (+78) =$

Name: _____
Subject: Math

Date: _____
HR: _____

Independent Practice Central Tendency #29

$(+28) - (-51) =$	$(-94) - (-73) =$	$(-65) - (-41) =$
$(+52) - (+47) =$	$(+35) - (+68) =$	$(-74) - (-61) =$
$(+65) - (-59) =$	$(+2) - (+78) =$	$(-10) - (-12) =$
$(+33) - (-53) =$	$(+49) - (-52) =$	$(-61) - (+92) =$
$(-9) - (-91) =$	$(-47) - (+3) =$	$(+69) - (+39) =$
$(+70) - (-98) =$	$(+95) - (-29) =$	$(-86) - (+63) =$
$(-92) - (+97) =$	$(+63) - (-38) =$	$(-40) - (-52) =$
$(-32) - (+47) =$	$(-5) - (+81) =$	$(+78) - (+81) =$
$(+95) - (+69) =$	$(-68) - (+5) =$	$(+84) - (+13) =$
$(+16) - (+68) =$	$(-40) - (-37) =$	$(-51) - (+23) =$
$(-51) - (+80) =$	$(0) - (+82) =$	$(+58) - (-79) =$
$(+87) - (+49) =$	$(-99) - (+69) =$	$(+81) - (-67) =$
$(+85) - (-97) =$	$(-49) - (+43) =$	$(-56) - (-74) =$
$(-33) - (+87) =$	$(+84) - (+46) =$	$(-77) - (+53) =$
$(-56) - (+31) =$	$(-29) - (+10) =$	$(+30) - (-83) =$
$(+32) - (+13) =$	$(+25) - (+14) =$	$(-4) - (+27) =$
$(+41) - (+77) =$	$(+45) - (+73) =$	$(-4) - (+81) =$
$(-61) - (-88) =$	$(+13) - (-21) =$	$(-18) - (+49) =$

Name: _____
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Word Problem Attack for Central Tendency #29

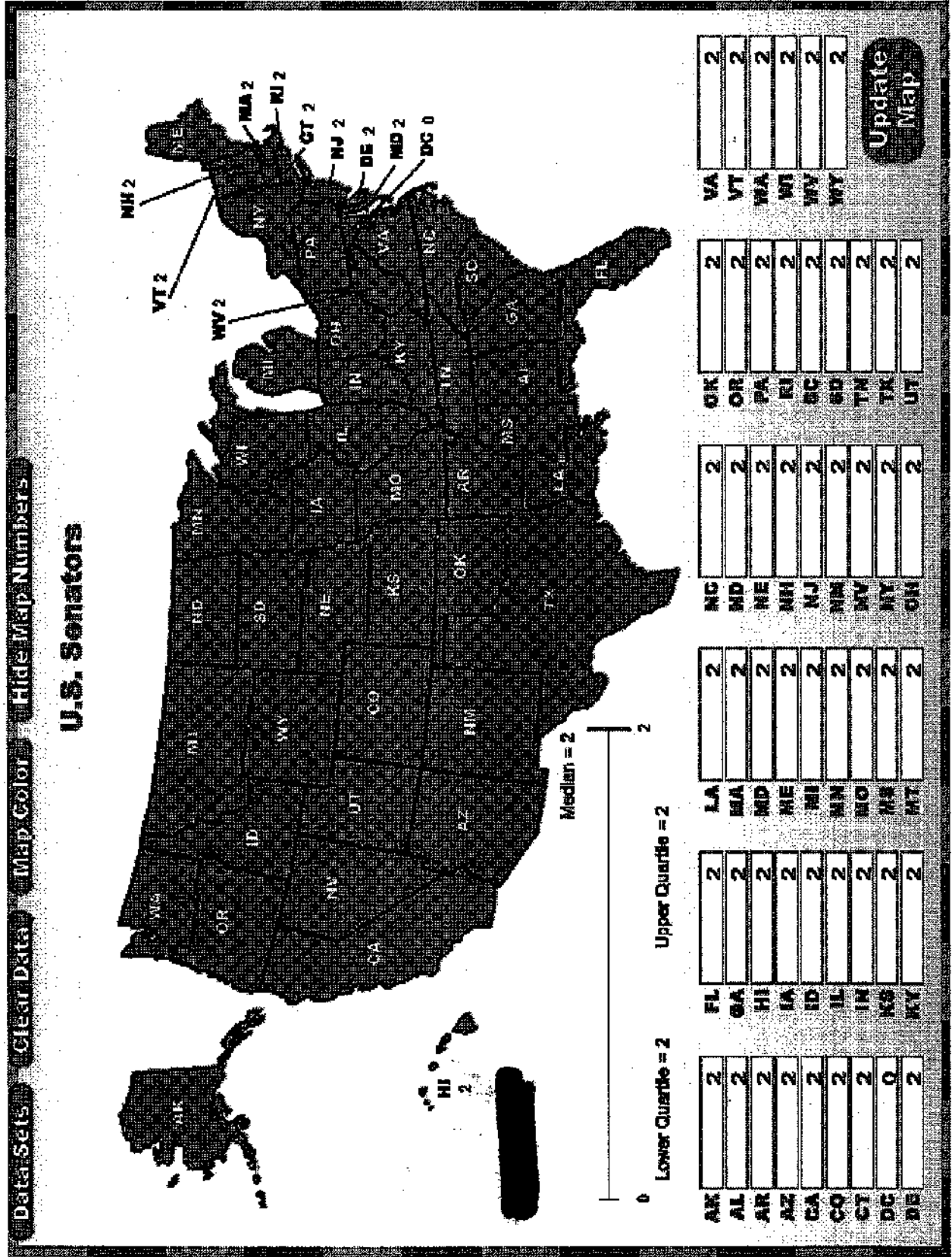
Use the attached map on the data for 'U.S. Senators', find the mean, median, mode, and range. Use the attached number line to graph your findings. Use the space below to show your work for all of your data.

Mean:

Median:

Mode:

Range:



Name: _____
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Exit Slip for Central Tendency #29

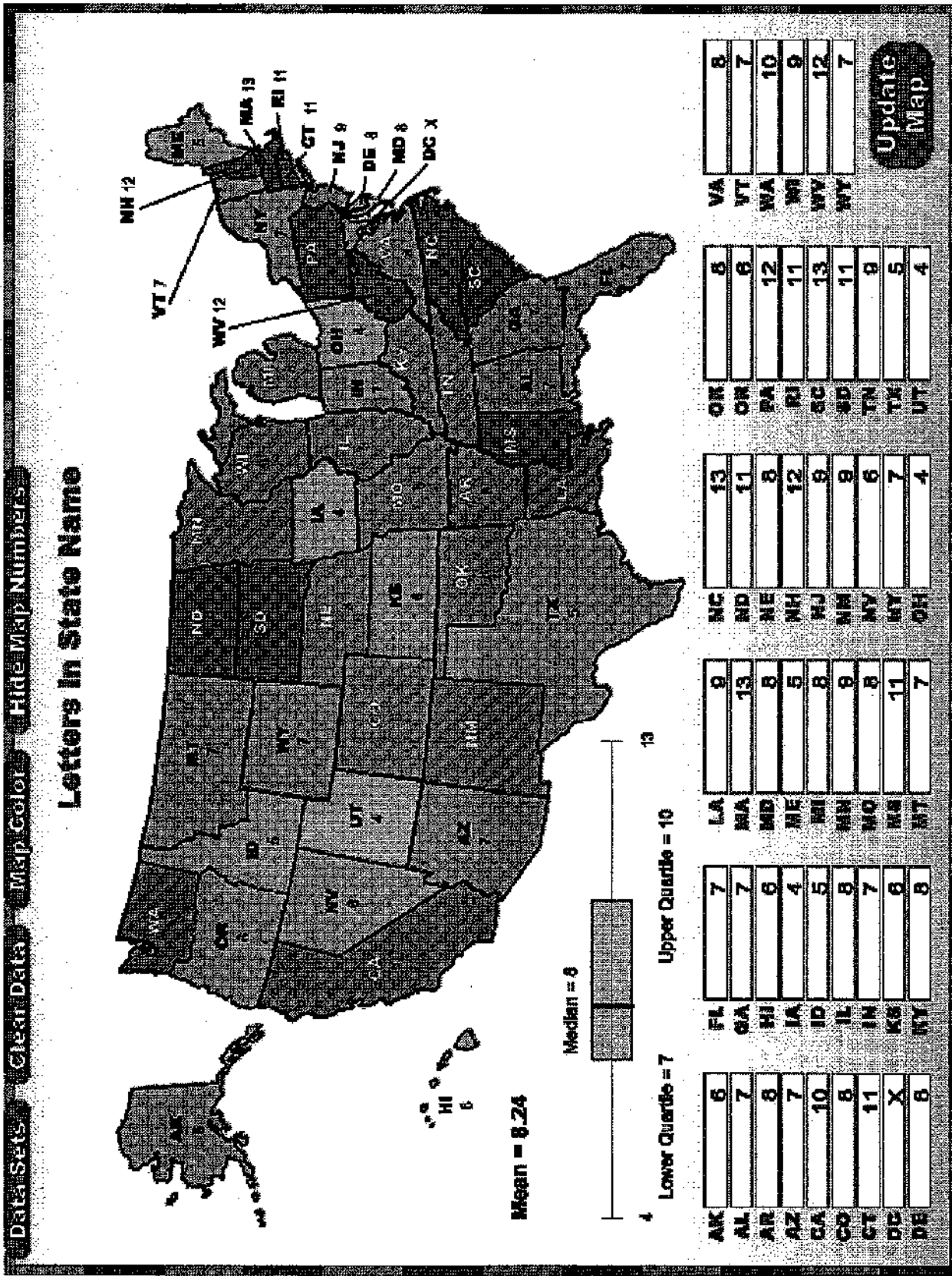
Use the attached map on the data for 'Letters in State Names', find the mean, median, mode, and range. Use the attached number line to graph your findings. Use the space below to show your work for all of your data.

Mean:

Median:

Mode:

Range:



Name: _____
Subject: Math

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Homework for Central Tendency #29

Use the attached map on the data for 'Electoral Votes in Presidential Election', find the mean, median, mode, and range. Use the attached number line to graph your findings. Use the space below to show your work for all of your data.

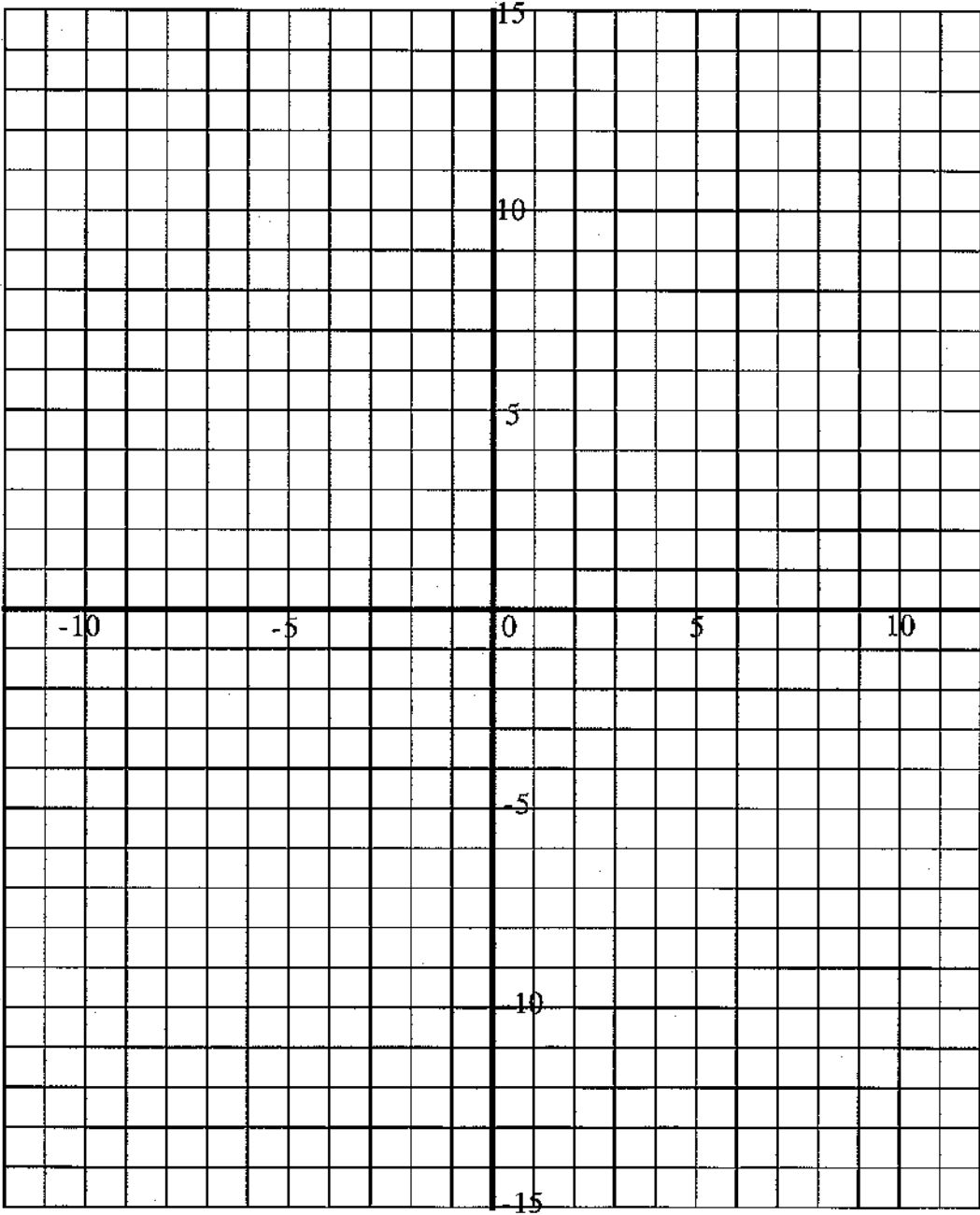
Mean:

Median:

Mode:

Range:

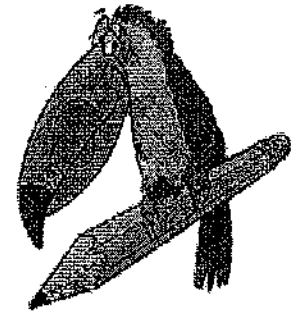
Co-ordinate Grid Paper



Name: _____
Subject: Math

Date: _____
HR: _____

DO NOW Central Tendency #30

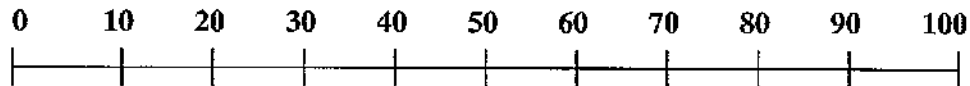


(Attachment 1)

Name _____ Date _____

Assessing Box-and-Whisker Plots Worksheet

The following box-and-whisker plot represents the test scores for students in two different classes:



Class A



Class B



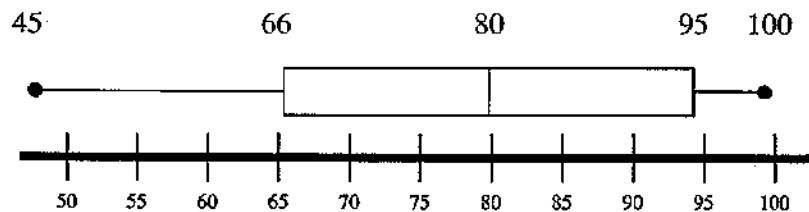
Write a paragraph comparing how these two classes did on this test. Give as much information as you can.

Name: _____
Subject: Math

Date: _____
HR: _____

Guided Notes for Central Tendency #30

- The first step in constructing a box-and-whisker plot is to first find the median, the lower quartile and the upper quartile of a given set of data. (Show this example on Dry erase Board)
- Example: These are the averages of 7 students in Mrs. Johnson math class: **45, 55, 66, 66, 70, 80, 88, 90, 95, 98, 100.**
- First find the median. The median is the value exactly in the middle of an ordered set of numbers. **80** is the median
- Next we consider only the values to the left of the median: **45, 55, 66, 66, 70.** We now find the median of this set of numbers. Remember, the median is the value exactly in the middle of an ordered set of numbers. Thus **66** is the median of the averages less than the median of all averages, and therefore the lower quartile.
- Now consider the only the values to the right of the median: **88, 90, 95, 98, 100.** We now find the median of this set of numbers. The median of this set of averages is **95**; therefore called the upper quartile.
- Now we begin to draw our graph

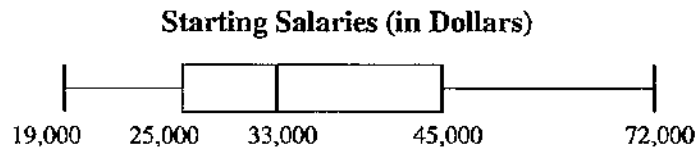


Name: _____
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Guided Practice Central Tendency Day #30

1. The box-and-whisker plot below shows the starting salaries for graduates of a small college.



What is the range of the starting salaries?

- A \$20,000
- B \$33,000
- C \$53,000
- D \$72,000

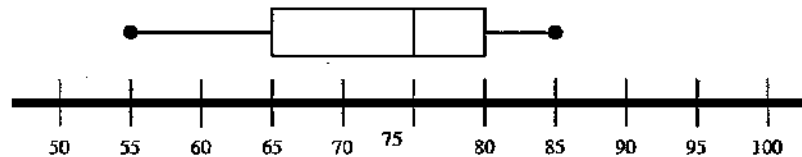
2. Mr. Andrews made a box-and-whisker graph of the quiz grades in his chemistry class.



Which is the median quiz grade for the class?

- A. 70
- B. 77
- C. 80
- D. 85

3. Mr. Fourman grades on a curve in which the top 25% of the test scores earn A's, the middle 50% earn C's, and the bottom 25% earn F's. The box and whisker plot below shows the distribution of scores on the last test.



What is the range of scores for people who earned Cs?

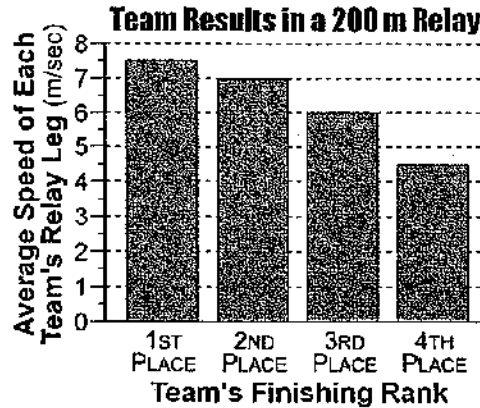
- A 5
- B 10
- C 15
- D 30

Name: _____
Subject: Math

Date: _____
HR: _____

Independent Practice Central Tendency #30

- 23) The USA Track and Field Committee published the following report illustrating the comparison of lap speed and finishing placement of several top relay teams.



Based on the bar graph above, which of the following conclusions is *most* accurate?

- A) The first-place team was twice as fast as the fourth-place team.
 - B) The fastest time for the 200-meter relay is 7 meters per second.
 - C) The first-place and second-place teams were closest in time to one another.
 - D) Every runner on the first-place team ran faster than the runners on the second-place team.
- 24) A television network wants to pilot a new series in a city with 25,000 residents. They decided to choose a random sample of 1,000 people to determine the best time to run the series. The survey asked participants to state what time of day they watched the most television. The table below shows the results.

Time of Day	Number of People
8 am–noon	162
noon–4 pm	187
4 pm–7 pm	322
7 pm–11 pm	258
11 pm–8 am	71

Based on these results, approximately how many people in the city watch television between 4 pm and 7 pm?

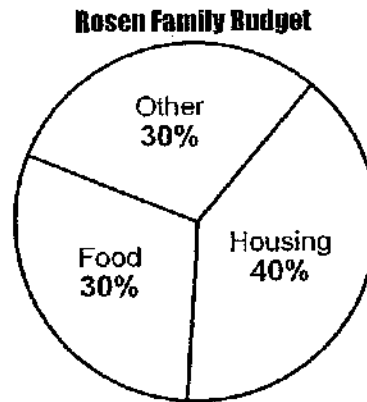
- A) 8,050 people
- B) 1,450 people
- C) 14,500 people
- D) 580 people

Name: _____
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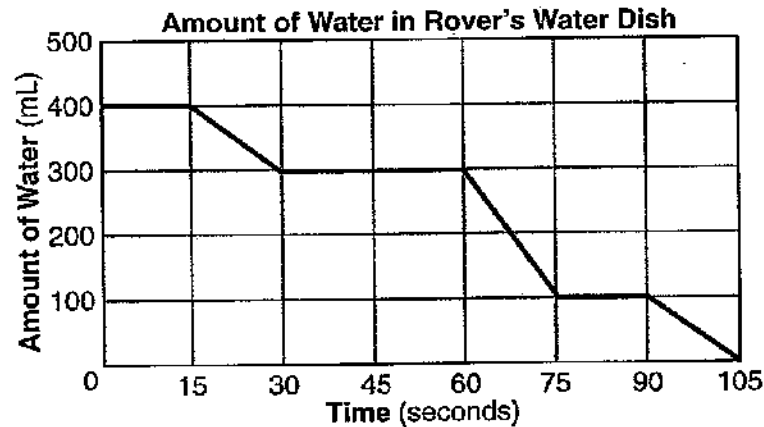
Independent Practice Central Tendency #30

- 25) The Statistical Data Bureau published an analysis of incomes and expenditures of 100 average families throughout the United States. The circle graph below represents the Rosen family's monthly budget.



If their total monthly income is \$1,820, how much money do they spend each month on food?
A) \$546 B) \$728 C) \$606 D) \$182

- 26) The accompanying graph shows the amount of water left in Rover's water dish over a period of time.



How long did Rover wait from the end of his first drink to the start of his second drink of water?
A) 60 sec B) 30 sec C) 10 sec D) 75 sec

- 27) Janae's first seven French grades for the year are 91, 87, 80, 99, 85, 78, and 90. What grade is at the 75th percentile?
A) 90 B) 78 C) 90.5 D) 91

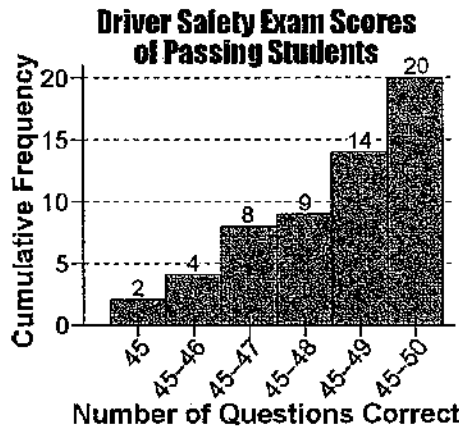
Name: _____
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Exit Slip Central Tendency #30

Questions 35 through 37 refer to the following:

In order to pass a driver's safety course, a person must answer at least 45 out of 50 questions correctly. The cumulative histogram below gives the scores of a group of people who passed the exam.



- 35) According to the table shown, how many total people passed the driver's safety exam?
A) 25 B) 57 C) 50 D) 20
- 36) According to the table shown, how many people answered 49 questions correctly?
A) 5 B) 9 C) 14 D) 41
- 37) According to the table shown, how many people received a score of 48 or less?
A) 23 B) 9 C) 11 D) 25

Name: _____
Subject: Math

Date: _____
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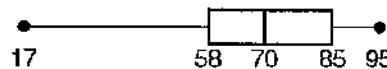
Homework #30 – Central Tendency

Parent Signature

- 28) Terri waitressed 10 days out of the last two weeks. The amount of money she earned each day in tips are \$32, \$58, \$17, \$27, \$69, \$73, \$42, \$38, \$24, and \$52. How much money is at the 50th percentile?
- A) 42 B) 69 C) 38 D) 40

- 29) The median of any set of data always represents the
- A) upper quartile C) mean of the data
B) 50th percentile D) 1st quartile

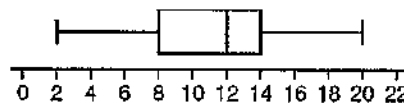
- 30) Ms. Michalson drew a box-and-whisker plot to represent her students' scores on a recent math test.



If Jennifer scored a 85 on the test, explain how her grade compares with the rest of her class.

Questions 31 through 34 refer to the following:

The number of text messages 10 different students sent in 1 day is shown in the box-and-whisker plot below.



- 31) What is the minimum number of text messages sent according to the plot shown?
- A) 0 B) 2 C) 20 D) 8
- 32) What number is at the 50th percentile according to the plot shown?
- A) 12 B) 8 C) 14 D) 10
- 33) According to the plot shown, between what two numbers does half of the data lie?
- A) 10 and 12 B) 8 and 12 C) 8 and 14 D) 2 and 20
- 34) According to the plot shown, how many text messages are at the 75th percentile (upper quartile)?
- A) 15 B) 12 C) 13.5 D) 14

Name: _____
Subject: Math

Date: _____
HR: _____

Homework #30 – Central Tendency

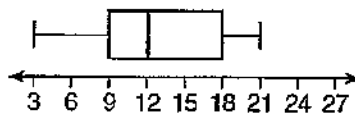
Parent Signature

Questions 19 through 21 refer to the following:

The test scores for 20 students in a Spanish class are shown in the frequency table below.

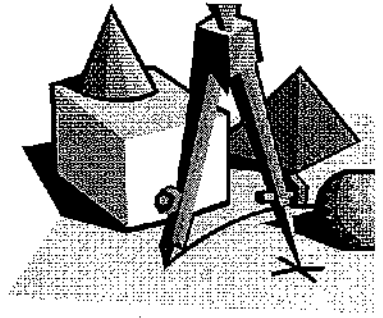
Interval	Frequency
90-99	4
80-89	3
70-79	8
60-69	4
50-59	1

- 19) According to the information shown, how many students received a score greater than a 69?
- 20) The median lies in which interval of the frequency table shown?
- 21) The upper quartile lies in which interval of the frequency table shown?
- 22) Which of the following sets of data values could represent the box-and-whisker plot below?



- A) 3, 10, 11, 13, 21
- B) 3, 6, 9, 12, 15, 18, 21
- C) 3, 9, 10, 12, 16, 18, 21
- D) 3, 9, 10, 11, 13, 15, 18, 21

Algebra/Geometry Institute Summer 2006
Faculty Name: Archie Mitchell
School: Walter C. Robinson Achievement Center (Cleveland, Ms)
Grade Level: 8th Grade



What is a Box and Whisker Plot?

- 1) **Teaching objective(s):**
 - A. The student will collect, organize, and display data in an appropriate chart or graph.
 - B. The student will find and interpret basic statistical measures.

- 2) **Instructional Activities**
 - A. Explain to students that a box-and-whisker plot can be useful for handling many data values. They allow people to explore data and to draw informal conclusions when two or more variables are present. It shows only certain statistics rather than all the data. Another name for the visual representations of a box-and-whisker plot is a five number summary. The five number summaries consist of the median, the quartiles, and the smallest and greatest values in the distribution. Immediate visuals of a box-and-whisker plot are the center, the spread, and the overall range of the distribution.
 - B. Next, I give students the steps in constructing a box-and-whisker. (Below)
 - a) The first step in constructing a box-and-whisker plot is to first find the median, the lower quartile and the upper quartile of a given set of data. (Show this example on Dry erase Board)
Example: These are the averages of 11 students in Mrs. Johnson math class: **45, 55, 66, 66, 70, 80, 88, 90, 95, 98, 100.**
 - 1) First find the median. The median is the value exactly in the middle of an ordered set of numbers. **80** is the median
 - 2) Next we consider only the values to the left of the median: **45, 55, 66, 66, 70.** We now find the median of this set of numbers. Remember, the median is the value exactly in the middle of an ordered set of numbers. Thus **66** is the median of the averages less than the median of all averages, and therefore the lower quartile.
 - 3) Now consider only the values to the right of the median: **88, 90, 95, 98, 100.** We now find the median of this set of numbers. The median of this set of averages is **95**; therefore called the upper quartile.
Now we begin to draw our graph (Attachment 1)
 - 4) After you have successfully demonstrated the first example; give them example with an even number of items.
Second example: 66, 67, 85, 88, 90, 100
In this example the median would be the sum of the two numbers in the middle divided by 2. **$85 + 88 = 173$**

Divide 173 by 2 and you will get a median of 86.5

- b) Explain three more problems dealing with box-and-whisker. Another problem dealing with the construction of a Box-and-whisker plot and two with reading of box an whisker plots.(Attachment 2)
- 3) **Materials and resources**
Dry erase board and markers, Activity sheets on Box-and-whisker, rulers, pencils.
- 4) **Assessment**
Teacher Observation: To assess student's comprehension of the activity, give them a similar data set and have them go through the process on paper. They should identify the median, upper and lower quartiles, and upper and lower endpoints, then draw the graph on a number line. (Attachment 3).

Interim Cycle 1

Teacher: Coleman/Patton

Subject: MATH

Grade: 6

Focus for Week 1: <u>Number Line</u> Sub-Skills: Determine value of varying numbers, order of the numbers, placing in numerical order, use symbols to compare/contrast, identify situations when comparison is necessary.				
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	<u>Diagnostic Entry Test</u>	State Standard (number line) Understand that positive and negative numbers are used together to describe quantities having opposite directions or values; 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 Sub-Skill 1: Determine value of varying numbers Sub-Skill 2: Ordering of numbers, placing in numerical order	LABOR DAY: NO SCHOOL
Focus for Week 2: <u>Number Line; Number Theory; Estimate (intro)</u> Sub-Skills: Determine value of varying numbers, order of the numbers, placing in numerical order, use symbols to compare/contrast, identify situations when comparison is necessary; estimate sums, differences, products and quotients of whole numbers, fractions, decimals & percentages and explain best strategy of estimation, rounding, or regrouping.				
Monday, September 5	Tuesday, September 6, Day #10	Wednesday, September 7, Day #11	Thursday, September 8, Day #12, and Friday September 9, Day #13 and Monday September 12 Day #14	Tuesday, September 13, Day #15
LABOR DAY: NO SCHOOL	State Standard (number line) Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram; Distinguish comparisons of absolute value from statements about order. Sub-Skill 1: use symbols to compare/contrast Sub-Skill 2:	State Standard (number theory) Write, interpret, and explain statements of order for rational numbers in real-world contexts; use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation; Sub-Skill 1:	State Standard (number theory) interpret absolute value as magnitude for a positive or negative quantity in a real-world situation; Distinguish comparisons of absolute value from statements about order Sub-Skill 1: identify situations when comparison is necessary	State Standard (estimate) Round whole numbers and decimals to any given place; Estimate results of computations with whole numbers and with positive fractions, mixed numbers, decimals, and percentages. Determine reasonableness of estimates. Sub-Skill 1: Identify place values from billions to thousandths;

		identify situations when comparison is necessary Sub-Skill 2:	Sub-Skill 2:	Round a given number to any place value from billions to thousandths Sub-Skill 2: Estimate whole-number computations (addition, subtraction, multiplication and division) & reasonableness of answer
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Focus for Week 3: Estimate; Order of Operations; Select Appropriate Operations

Sub-Skills: estimate sums, differences, products and quotients of whole numbers, fractions, decimals & percentages and explain best strategy of estimation, rounding, or regrouping; subtract positive integers from both positive and negative integers; select appropriate operations to solve problems involving addition, subtraction, multiplication, division, and positive integers.

Wednesday, September 14, Day #16	Thursday, September 15, Day #17	Wednesday, September 14, Day #16	Friday, September 16, Day #18	Friday, September 16, Day #18
State Standard (estimate) Round whole numbers and decimals to any given place; Estimate results of computations with whole numbers and with positive fractions, mixed numbers, decimals, and percentages. Determine reasonableness of estimates. Sub-Skill 1: Estimate results of computations with decimals using money and percents Sub-Skill 2: Estimate results of computations using fractions and mixed numbers	State Standard (order of operation) Identify parts of an expression using mathematical terms; Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation Sub-Skill 1: Subtract positive integers from positive integers Sub-Skill 2: Subtract positive integers from negative integers	State Standard Quiz Number line, Number Theory & Estimate	State Standard (order of operation) Identify parts of an expression using mathematical terms; Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation Sub-Skill 1: Subtract positive integers from positive integers Sub-Skill 2: Subtract positive integers from negative integers	State Standard (appr. Operation) Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation; Apply the properties of operations to generate equivalent expressions; Sub-Skill 1: select appropriate operations to solve problems involving addition, subtraction, multiplication, division, and positive integers. Sub-Skill 2:

Focus for Week 4: Exponents; Inverse Relationships; Data in Plots, Tables & Graphs (intro)

Sub-Skills: translate values between numeric form and exponential form, identify powers of small positive integers & compare and order; use the number line to add/subtract integers, add numbers and their opposites, know that numbers & their opposites are equal distance from zero on the number line; construct circle graphs using percents, ratios & proportions, construct, label and interpret stem-in-leaf plots, interpret graphs by comparing variables

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
State Standard (appr. Operation) Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation; Apply the properties of operations to generate equivalent expressions; Sub-Skill 1:	State Standard (exponents) Write and evaluate numerical expressions involving whole-number exponents Sub-Skill 1: translate values between numeric form and exponential form Sub-Skill 2:	State Standard Quiz Order of operation, appropriate operation	State Standard (exponents) Write and evaluate numerical expressions involving whole-number exponents Sub-Skill 1: identify powers of small positive integers & compare and order Sub-Skill 2:	State Standard (inverse) Understand that positive and negative numbers are used together to describe quantities having opposite directions or values; 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

<p>select appropriate operations to solve problems involving addition, subtraction, multiplication, division, and positive integers.</p> <p>Sub-Skill 2:</p>				<p>a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite</p> <p>Sub-Skill 1: number line to add/subtract integers</p> <p>Sub-Skill 2: add numbers and their opposites</p>
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Focus for Week 5: Data in Plots, Tables & Graphs; Data & Central Tendency

Sub-Skills: construct circle graphs using percents, ratios & proportions, construct, label and interpret stem-in-leaf plots, interpret graphs by comparing variables; calculate the mean, median, mode, maximum, minimum and range of a set of data, find the missing number if the mean and other numbers are given.

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 (inverse) Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram; Understand that positive and negative numbers are used together to describe quantities having opposite directions or values; 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>Sub-Skill 1: add numbers and their opposites</p> <p>Sub-Skill 2: know that numbers & their opposites are equal distance from zero on the number line</p>	<p>State Standard (data) Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities; Understand the concept of a unit rate a/b with $b \neq 0$, and use rate language in the context of a ratio relationship; Display numerical data in plots on a number line, including dot plots, histograms, and box plots</p> <p>Sub-Skill 1: ratios & proportions</p> <p>Sub-Skill 2: construct, label and interpret stem-in-leaf plots</p>	<p>State Standard (data) Display numerical data in plots on a number line, including dot plots, histograms, and box plots; Reporting the number of observations; Describing the nature of the attribute under investigation, including how it was measured and its units of measurement</p> <p>Sub-Skill 1: construct circle graphs using percents; construct, label and interpret stem-in-leaf plots</p> <p>Sub-Skill 2: interpret graphs by comparing variables</p>	<p>INTERIM #1 MATH</p>	<p>State Standard (central tendency) 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; 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; 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>Sub-Skill 1: calculate the mean, median, mode, maximum, minimum and range of a set of data</p> <p>Sub-Skill 2:</p>

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Interim Cycle 2

Teacher: Coleman/Patton

Subject: MATH

Grade: 6

Focus for Week 1: Add & Subtract on a Number Line; Compare & Order

Sub-Skills: use the number line to add/subtract integers; determine the value of varying numbers using greatest/least value, order and place numbers on number line in correct order, recognize fastest means taking least amount of time, use symbols to compare, compare numbers mentally, identify situations when comparison is necessary

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><u>State Standard (central tendency)</u> 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; 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; 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><u>Sub-Skill 1:</u> calculate the mean, median, mode, maximum, minimum and range of a set of data</p> <p><u>Sub-Skill 2:</u> find the missing number if the mean and other numbers are given.</p>	<p><u>State Standard (central tendency)</u> 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><u>Sub-Skill 1:</u> find the missing number if the mean and other numbers are given.</p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard Quiz</u></p> <p>Exponents, inverse, data & central tendency</p>	<p><u>State Standard (add/subtract)</u> Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram; Distinguish comparisons of absolute value from statements about order</p> <p><u>Sub-Skill 1:</u> use the number line to add/subtract integers</p> <p><u>Sub-Skill 2:</u> determine the value of varying numbers using greatest/least value</p>	<p><u>State Standard (compare/order)</u> Understand that positive and negative numbers are used together to describe quantities having opposite directions or values; Distinguish comparisons of absolute value from statements about order; 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><u>Sub-Skill 1:</u> order and place numbers on number line in correct order,</p> <p><u>Sub-Skill 2:</u> recognize fastest means taking least amount of time,</p>

Focus for Week 2: Compute w/Integers; Equivalency; Ratios & Proportions

Sub-Skills: Select Appropriate Operations (review); use the number line to add/subtract integers, multiply positive and negative numbers, multiply

two negative numbers, write mixed numbers as decimals and percentages, determine common equivalent fractions, write terminating decimals and repeating decimals, find unit rate using cost and quantity, write equivalent fractions for given fractions				
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
Review for Test	TEST: Number Line, Number Theory, Estimate, Order of Operations, Exponents, Inverse Relationships, Data, Central Tendency, Add/Subtract, Compare/Order.	Test Review	State Standard (compute w/integers) Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation; 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 Sub-Skill 1: multiply positive and negative numbers Sub-Skill 2: multiply two negative numbers	State Standard (equivalency) Identify when two expressions are equivalent; Sub-Skill 1: determine common equivalent fractions Sub-Skill 2: write equivalent fractions for given fractions
Focus for Week 3: <u>Add & Subtract Fractions; Multiply & Divide Fractions</u>				
Sub-Skills: Estimate (review standard); use prime factors to add/subtract fractions with like & unlike denominators, multiply/divide proper fractions and mixed numbers, add decimals with different number of decimal places & proper fractions, multiply decimals & proper fractions, add fractions with unlike denominators using LCM				
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 (ratios) 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. Sub-Skill 1: write mixed numbers as decimals and percentages Sub-Skill 2: write terminating decimals and repeating decimals	State Standard (ratios) Solve unit rate problems including those involving unit pricing and constant speed Sub-Skill 1: find unit rate using cost and quantity Sub-Skill 2:	State Standard Quiz Compute w/Integers; Equivalency; Ratios & Proportions	State Standard (add/subtract fractions) 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; 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	State Standard (add/subtract fractions) 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; 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

			<u>Sub-Skill 1:</u> use prime factors to add/subtract fractions with like & unlike denominators <u>Sub-Skill 2:</u>	<u>Sub-Skill 1:</u> use prime factors to add/subtract fractions with like & unlike denominators <u>Sub-Skill 2:</u>
Focus for Week 4: <u>Add & Subtract Decimals; Multiply & Divide Decimals; Percents (intro)</u> Sub-Skills: Data & Central Tendency (review standard); add/subtract whole numbers and decimals up to 6 digits with regrouping, multiply whole numbers up to 4 digits by 3 digits with regrouping, divide whole numbers up to 5 digits by 2 digits, identify the remainder and determine when to round, multiply/divide positive decimals up to the thousands place with decimals or whole numbers, add decimals with different number of decimal places & proper fractions, multiply decimals & proper fractions, add fractions with unlike denominators using LCM, calculate given percentages of given quantities & solve problems involving sales, interests & tips				
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
<u>State Standard (add/subtract fractions)</u> 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; 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 <u>Sub-Skill 1:</u> add fractions with unlike denominators using LCM <u>Sub-Skill 2:</u>	<u>State Standard (add/subtract fractions)</u> 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; 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 <u>Sub-Skill 1:</u> add decimals with different number of decimal places & proper fractions <u>Sub-Skill 2:</u>	<u>State Standard</u> Quiz Add/subtract fractions	<u>State Standard (mult./divide fractions)</u> 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 <u>Sub-Skill 1:</u> multiply decimals & proper fractions <u>Sub-Skill 2:</u>	<u>State Standard (mult./divide fractions)</u> 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 <u>Sub-Skill 1:</u> multiply/divide proper fractions and mixed numbers <u>Sub-Skill 2:</u>
Focus for Week 5: <u>Percents; Probability</u> Sub-Skills: Data & Central Tendency (review standard)				
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
<u>State Standard (add/subtract decimals)</u> Fluently add, subtract, multiply, and divide multi-digit decimals using the	<u>State Standard (add/subtract decimals)</u> Fluently add, subtract, multiply, and divide multi-digit decimals using the	INTERIM #2 MATH	<u>State Standard (mult./divide decimals)</u> Fluently divide multi-digit numbers using the standard algorithm;	<u>State Standard (mult./divide decimals)</u> Fluently divide multi-digit numbers using the standard algorithm;

<p>standard algorithm for each operation;</p> <p>Sub-Skill 1: add/subtract whole numbers and decimals up to 6 digits with regrouping</p> <p>Sub-Skill 2: add fractions with unlike denominators using LCM</p>	<p>standard algorithm for each operation;</p> <p>Sub-Skill 1: add decimals with different number of decimal places & proper fractions</p> <p>Sub-Skill 2:</p>		<p>Sub-Skill 1: multiply whole numbers up to 4 digits by 3 digits with regrouping</p> <p>Sub-Skill 2: multiply decimals & proper fractions</p>	<p>Sub-Skill 1: divide whole numbers up to 5 digits by 2 digits, identify the remainder and determine when to round</p> <p>Sub-Skill 2: multiply/divide positive decimals up to the thousands place with decimals or whole numbers</p>
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Interim Cycle 3

Teacher:

Subject: MATH

Grade: 6

<p>Focus for Week 1: <u>Probability (combinations)</u></p> <p>Sub-Skills: Probability of a single event (review standard); determine the number of combinations possible from grouping items in up to three categories</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
<p>State Standard (percents) 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>Sub-Skill 1: calculate given percentages of given quantities & solve problems involving sales, interests & tips</p> <p>Sub-Skill 2:</p>	<p>State Standard (percents) 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>Sub-Skill 1: calculate given percentages of given quantities & solve problems involving sales, interests & tips</p> <p>Sub-Skill 2:</p>	<p>State Standard (probability) Compute probabilities of events from simple experiments with equally likely outcomes (e.g., tossing dice, flipping coins, spinning spinners) by listing all possibilities and finding the fraction that meets given conditions. Analyze the outcomes.</p> <p>Sub-Skill 1: Probability of a single event (review standard)</p> <p>Sub-Skill 2:</p>	<p>State Standard (probability)</p> <p>Sub-Skill 1: determine the number of combinations possible from grouping items in up to three categories</p> <p>Sub-Skill 2:</p>	<p>VETERANS DAY: NO SCHOOL</p>
<p>Focus for Week 2: <u>Evaluate Expressions Given Variables; Solve Linear Equations</u></p> <p>Sub-Skills: Write like terms together in simple linear expressions, evaluate expressions using specific values, write algebraic equations from word problems; solve one-step linear equations and check the answers</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>State Standard (linears) 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</p>	<p>State Standard (linears) Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for</p>	<p>State Standard</p> <p>Quiz</p> <p>Percents, Probability, add/subt./mult./divide fractions & decimals</p>	<p>State Standard (linears) Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases</p>	<p>State Standard (eval. Expr) Evaluate expressions at specific values for their variables. Include expressions that arise from formulas in real-</p>

<p>are all nonnegative rational numbers</p> <p>Sub-Skill 1: Write like terms together in simple linear expressions</p> <p>Sub-Skill 2: solve one-step linear equations and check the answers</p>	<p>cases in which p, q and x are all nonnegative rational numbers</p> <p>Sub-Skill 1: write one-step linear equations from word problems</p> <p>Sub-Skill 2: solve one-step linear equations and check the answers</p>		<p>in which p, q and x are all nonnegative rational numbers</p> <p>Sub-Skill 1: write one-step linear equations from word problems</p> <p>Sub-Skill 2: solve one-step linear equations and check the answers</p>	<p>world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations); 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</p> <p>Sub-Skill 1: evaluate expressions using specific values</p> <p>Sub-Skill 2:</p>
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Focus for Week 3: Solve Linear Equations

Sub-Skills: Select Appropriate Operation (review standard); write one-step linear equations from word problems, solve one-step linear equations and check the answers

Monday, November 21, Day #63	Tuesday, November 22, Day #64	Wednesday, November 23	Thursday, November 24	Friday, November 25
<p>State Standard Evaluate expressions at specific values for their variables. Include expressions that arise from formulas in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations); 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,</p>	<p>State Standard Quiz Linear Equations, Evaluate Expressions with given variables</p>	<p>THANKSGIVING BREAK: NO SCHOOL (PD DAY FOR TEACHERS)</p>	<p>THANKSGIVING BREAK: NO SCHOOL</p>	<p>THANKSGIVING BREAK: NO SCHOOL</p>

<p>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</p> <p>Sub-Skill 1: evaluate expressions using specific values</p> <p>Sub-Skill 2: solve one-step linear equations and check the answers</p>				
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Focus for Week 4: Properties of Equalities; Graph Points with Coordinates (intro)

Sub-Skills: Add/Subtract/Multiply/Divide Fractions, Multiply/Divide Fractions (supplement due to ease of content); solve problems using the properties of equality & letter name variables, create new equations by adding/subtracting the same number to both, create new equations by multiplying and dividing both sides by the same non-zero number; identify and graph coordinates in all four quadrants

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 (add/subtract fractions) Use prime factorization to add and subtract fractions with like and unlike denominators (6.NSO-C.11). Accurately and efficiently add, subtract, multiply, and divide positive fractions (including mixed numbers) with like and unlike denominators. Simplify fractions (6.NSO-C.12). Explain the properties of and compute with rational numbers, expressed in a variety of forms</p> <p>Sub-Skill 1: Add/Subtract/Multiply/Divide Fractions</p> <p>Sub-Skill 2:</p>	<p>State Standard (multiply/divide fractions) Accurately and efficiently add, subtract, multiply, and divide positive fractions (including mixed numbers) with like and unlike denominators. Simplify fractions (6.NSO-C.12). Explain the properties of and compute with rational numbers, expressed in a variety of forms (6.NSO-N.1)</p> <p>Sub-Skill 1: Multiply/Divide Fractions</p> <p>Sub-Skill 2:</p>	<p>State Standard (equalities) Understand that adding or subtracting the same number to both sides of an equation creates a new equation that has the same truth values (6.PRA.5). Understand that multiplying or dividing both sides of an equation by the same nonzero number creates a new equation that has the same truth values (6.PRA.6)</p> <p>Sub-Skill 1: solve problems using the properties of equality & letter name variables</p> <p>Sub-Skill 2:</p>	<p>State Standard (equalities) Understand that adding or subtracting the same number to both sides of an equation creates a new equation that has the same truth values (6.PRA.5). Understand that multiplying or dividing both sides of an equation by the same nonzero number creates a new equation that has the same truth values (6.PRA.6)</p> <p>Sub-Skill 1: create new equations by adding/subtracting the same number to both sides by the same non-zero number</p> <p>Sub-Skill 2:</p>	<p>State Standard (graph points) Graph points and identify coordinates of points on the Cartesian coordinate plane in all four quadrants</p> <p>Sub-Skill 1: identify and graph coordinates in all four quadrants</p> <p>Sub-Skill 2:</p>

Focus for Week 5: Graph Points with Coordinates; Distance Between Two Points

Sub-Skills: identify and graph coordinates in all four quadrants; find the distance between two points on horizontal or vertical number lines

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
<p>State Standard (distance) Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value</p>	<p>State Standard (distance) Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of</p>	<p>State Standard</p> <p>Quiz Properties of equality, fractions (add/subtract/multiply/divide)</p>	<p>State Standard</p> <p>Graphing points & distance between two points review</p>	<p>State Standard</p> <p>Quiz Graph Points, Distance between two points</p>

to find distances between points with the same first coordinate or the same second coordinate Sub-Skill 1: Find length (vertical and horizontal) between two points on the Cartesian plane Sub-Skill 2:	coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate Sub-Skill 1: Find length (vertical and horizontal) between two points on the Cartesian plane Sub-Skill 2:			
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Focus for Week 6: Lines & Angles; Measure & Classify Angles

Sub-Skills: Define and identify vertical, adjacent, complementary & supplementary angles; identify, classify, describe & measure various angles, triangles, quadrilaterals, and simple polygons

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
<p>State Standard (lines and angles) Identify angles as vertical, adjacent, complementary, or supplementary; provide descriptions of these terms; and use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle</p> <p>Sub-Skill 1: Identify and describe points</p> <p>Sub-Skill 2: Identify and describe lines</p>	<p>State Standard (lines and angles) Identify angles as vertical, adjacent, complementary, or supplementary; provide descriptions of these terms; and use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle</p> <p>Sub-Skill 1: Define, identify and draw parallel lines</p> <p>Sub-Skill 2: Define, identify and draw perpendicular lines</p>	<p>State Standard (lines and angles) Identify angles as vertical, adjacent, complementary, or supplementary; provide descriptions of these terms; and use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle</p> <p>Sub-Skill 1: Define, identify and draw perpendicular lines</p> <p>Sub-Skill 2: Define, identify and draw intersecting lines</p>	<p>State Standard (measure/classify) Identify angles as vertical, adjacent, complementary, or supplementary; provide descriptions of these terms; and use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle</p> <p>Sub-Skill 1: Define, identify and draw intersecting lines</p> <p>Sub-Skill 2: Define acute, right and obtuse angles</p>	<p>State Standard (measure/classify) Identify angles as vertical, adjacent, complementary, or supplementary; provide descriptions of these terms; and use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle</p> <p>Sub-Skill 1: Define acute, right and obtuse angles</p> <p>Sub-Skill 2: Identify acute, right and obtuse angles</p>

Focus for Week 7: Measure & Classify Angles

Sub-Skills: identify and classify various angles, triangles and quadrilaterals; describe and construct various angles, triangles & quadrilaterals; measure the interior angles of triangles and quadrilaterals; measure the interior angles of simple polygons (up to eight sides)

Monday, December 19, Day #80	Tuesday, December 20, Day #81	Wednesday, December 21, Day #82	Thursday, December 22, Day #83	Friday, December 23
<p>State Standard Identify, measure, describe, classify, and construct various angles, triangles, and</p>	<p>State Standard Identify, measure, describe, classify, and construct various</p>	<p>State Standard Quiz Lines, Angles, Measure & classify</p>	<p>State Standard Review of previous week's material</p>	<p>WINTER BREAK: NO SCHOOL (PD DAY FOR TEACHERS)</p>

<p>quadrilaterals; measure the interior angles of various polygons.</p> <p>Sub-Skill 1: Measure angles of various triangles, quadrilaterals & simple polygons</p> <p>Sub-Skill 2:</p>	<p>angles, triangles, and quadrilaterals; measure the interior angles of various polygons.</p> <p>Sub-Skill 1: Measure angles of various triangles, quadrilaterals & simple polygons</p> <p>Sub-Skill 2:</p>	<p>angles</p>	<p>Preview to 2-D/3-D shapes</p>	
<p>Focus for Week 8: <u>Recap of IA#3 weeks 1-7</u></p> <p>Sub-Skills:</p>				
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
<p>Focus for Week 9: <u>2D representations of 3D shapes; Sum of the Angles in Polygons (intro)</u></p> <p>Sub-Skills: identify three and two dimensional representations, match three dimensional objects and their two dimensional representations (nets, projections, etc...); find the sum of the angles in simple polygons (up to eight sides) with measuring angles & without measuring the angles.</p>				
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
<p>State Standard (2D-3D) 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 mathematical problems</p> <p>Sub-Skill 1: identify three and two dimensional representations</p> <p>Sub-Skill 2:</p>	<p>State Standard (2D-3D) 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 mathematical problems</p> <p>Sub-Skill 1: identify three and two dimensional representations</p> <p>Sub-Skill 2: match three dimensional objects and their two dimensional representations (nets, projections, etc...)</p>	<p>State Standard (2D-3D) 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 mathematical problems</p> <p>Sub-Skill 1: match three dimensional objects and their two dimensional representations (nets, projections, etc...)</p> <p>Sub-Skill 2:</p>	<p>State Standard (2D-3D) 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 mathematical problems</p> <p>Sub-Skill 1: match three dimensional objects and their two dimensional representations (nets, projections, etc...)</p> <p>Sub-Skill 2:</p>	<p>State Standard (sum of angles) Find the sum of the angles in simple polygons (up to eight sides) with and without measuring the angles (6.NSO-C-10). Explain the properties of and compute with rational numbers, expressed in a variety of forms</p> <p>Sub-Skill 1: Find the sum of angles in a polygon with measuring</p> <p>Sub-Skill 2:</p>
<p>Focus for Week 10: <u>Sum of the Angles in Polygons; Transformation</u></p> <p>Sub-Skills: find the sum of the angles in simple polygons (up to eight sides) with measuring angles & without measuring the angles; perform translations on a coordinate plane.</p>				
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 (sum of angles)	State Standard Quiz	State Standard (sum of angles)	State Standard (transformation)

	<p>Find the sum of the angles in simple polygons (up to eight sides) with and without measuring the angles (6.NSO-C-10). Explain the properties of and compute with rational numbers, expressed in a variety of forms</p> <p>Sub-Skill 1: Find the sum of the angles in a polygon without measuring</p> <p>Sub-Skill 2:</p>	2D-3D representation	<p>Find the sum of the angles in simple polygons (up to eight sides) with and without measuring the angles (6.NSO-C-10). Explain the properties of and compute with rational numbers, expressed in a variety of forms</p> <p>Sub-Skill 1: Find the sum of the angles in a polygon without measuring</p> <p>Sub-Skill 2:</p>	<p>Determine if two shapes are congruent by motions or series of motions (e.g., translations, rotations, and reflections); predict the results of transformations on unmarked planes and draw the transformed figure (e.g., predict how tessellations transform under translation, reflection, and rotation)</p> <p>Sub-Skill 1: Determine congruency by translation; define & describe translation</p> <p>Sub-Skill 2: Translate figures & identify translated figures</p>
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Focus for Week 11: Transformation; Circles

Sub-Skills: perform translations on a coordinate plane; use formulas to find the circumference and radius of a circle

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
<p>State Standard (transformation) Determine if two shapes are congruent by motions or series of motions (e.g., translations, rotations, and reflections); predict the results of transformations on unmarked planes and draw the transformed figure (e.g., predict how tessellations transform under translation, reflection, and rotation)</p> <p>Sub-Skill 1: Translate figures & identify translated figures</p> <p>Sub-Skill 2: Determine congruency by reflection; define & describe reflection</p>	<p>State Standard (transformation) Determine if two shapes are congruent by motions or series of motions (e.g., translations, rotations, and reflections); predict the results of transformations on unmarked planes and draw the transformed figure (e.g., predict how tessellations transform under translation, reflection, and rotation)</p> <p>Sub-Skill 1: Reflect figures & identify reflected figures</p> <p>Sub-Skill 2: Determine congruency by rotation; define & describe rotation</p>	Interim #3 Math	<p>State Standard (transformation) Determine if two shapes are congruent by motions or series of motions (e.g., translations, rotations, and reflections); predict the results of transformations on unmarked planes and draw the transformed figure (e.g., predict how tessellations transform under translation, reflection, and rotation)</p> <p>Sub-Skill 1: Rotate & identify rotated figures</p> <p>Sub-Skill 2:</p>	<p>State Standard (circles) Understand the concept of the constant pi; know the formulas for the circumference and area of a circle. Use the concepts to solve problems.</p> <p>Sub-Skill 1: Find circumference of a circle; Find radius of circle when given the circumference</p> <p>Sub-Skill 2: Find the area of a circle</p>

Subject: MATH

Grade: 6

Focus for Week 1: <u>Perimeter; Area (intro)</u> Sub-Skills: use formulas provided to find the perimeter and area of triangles, rectangles & parallelograms, use the formula provided to find the volume of objects and write the correct unit of measurement, use their knowledge of area to work backwards to find the missing dimension of a geometric figure; find the area of triangles, parallelograms & shapes with the same number of sides but different appearances; find the area of circles, find the area of complex or compound shapes by sub-dividing them into basic shapes				
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
<p><u>State Standard (perimeter)</u> Differentiate between and use appropriate units of measures for two- and three dimensional objects (6.M.1). Develop strategies to find the area and perimeter of complex shapes (6.M.3).</p> <p><u>Sub-Skill 1:</u> Define perimeter</p> <p><u>Sub-Skill 2:</u> Find the perimeter of triangles and quadrilaterals by measuring</p>	<p><u>State Standard (perimeter)</u> Differentiate between and use appropriate units of measures for two- and three dimensional objects (6.M.1). Develop strategies to find the area and perimeter of complex shapes (6.M.3).</p> <p><u>Sub-Skill 1:</u> Find the perimeter of triangles and quadrilaterals by using a formula</p> <p><u>Sub-Skill 2:</u> Solve problems involving perimeter of triangles and quadrilaterals</p>	<p><u>State Standard</u></p> <p>Quiz</p> <p>Translation, Rotation, Reflection & sum of angles in a polygon</p>	<p><u>State Standard (perimeter)</u> Differentiate between and use appropriate units of measures for two- and three dimensional objects (6.M.1). Develop strategies to find the area and perimeter of complex shapes (6.M.3).</p> <p><u>Sub-Skill 1:</u> Find perimeter of polygons on grids or diagrams including perimeter of a regular polygon where only one side length is given</p> <p><u>Sub-Skill 2:</u> Find perimeter of polygons by measuring</p>	<p><u>State Standard (perimeter)</u> Differentiate between and use appropriate units of measures for two- and three dimensional objects (6.M.1). Develop strategies to find the area and perimeter of complex shapes (6.M.3).</p> <p><u>Sub-Skill 1:</u> Find perimeter of polygons using formulas</p> <p><u>Sub-Skill 2:</u> Solve problems involving perimeter of polygons</p>
Focus for Week 2: <u>Area; Volume & Surface Area (intro)</u> Sub-Skills: find the area of triangles, parallelograms & shapes with the same number of sides but different appearances; find the area of circles, find the area of complex or compound shapes by sub-dividing them into basic shapes; use the appropriate units in common measuring systems (cubic centimeters to cubic meters, cubic inch to yard) to compute the volume of rectangular solids (including rectangular prisms), know & use the formula s for volumes and surfaces areas of cubes, rectangular prisms, given the lengths of their sides				
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
<p><u>State Standard (area)</u> Find areas of triangles and parallelograms. Recognize that shapes with the same number of sides but different appearances can have the same area (6.M.2). Develop strategies to find the area and perimeter of complex shapes (6.M.3); Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or</p>	<p><u>State Standard (area)</u> Find areas of triangles and parallelograms. Recognize that shapes with the same number of sides but different appearances can have the same area (6.M.2). Develop strategies to find the area and perimeter of complex shapes (6.M.3); Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into</p>	<p><u>State Standard</u></p> <p>Quiz</p> <p>Perimeter</p>	<p><u>State Standard (area)</u> Find areas of triangles and parallelograms. Recognize that shapes with the same number of sides but different appearances can have the same area (6.M.2). Develop strategies to find the area and perimeter of complex shapes (6.M.3); Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or</p>	<p><u>State Standard (surface area)</u> 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 mathematical problems.</p> <p><u>Sub-Skill 1:</u> Relate area to surface area, define surface & how to find it</p> <p><u>Sub-Skill 2:</u> Use net drawings to identify</p>

decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems Sub-Skill 1: Define area; find area of rectangles by measuring, using models, and formulas Sub-Skill 2: Compare/analyze perimeters & areas of shapes with same area or perimeter	triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems Sub-Skill 1: Find area of triangles, trapezoids (formula & sum of the three separate shapes) by formulas, measuring & models Sub-Skill 2: Solve problems with area of trapezoid and triangle		decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems Sub-Skill 1: Find the area solve for area of irregular shapes Sub-Skill 2: Find missing side length of a shape if given the area	shapes, and find surface area
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Focus for Week 3: Volume & Surface Area

Sub-Skills: use the appropriate units in common measuring systems (cubic centimeters to cubic meters, cubic inch to yard) to compute the volume of rectangular solids (including rectangular prisms), know & use the formula s for volumes and surfaces areas of cubes, rectangular prisms, given the lengths of their sides

Monday, February 13, Day #111	Tuesday, February 14, Day #112	Wednesday, February 15, Day #113	Thursday, February 16, Day #114	Friday, February 17
<p>State Standard (surface area) 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 mathematical problems.</p> <p>Sub-Skill 1: Use net drawings to identify shapes, and find surface area</p> <p>Sub-Skill 2: know & use the formula s for volumes and surfaces areas of cubes, rectangular prisms, given the lengths of their sides</p>	<p>State Standard (surface area) 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 mathematical problems.</p> <p>Sub-Skill 1: know & use the formula s for volumes and surfaces areas of cubes, rectangular prisms, given the lengths of their sides</p> <p>Sub-Skill 2: Apply surface area to real world problems/situations (rectangular prisms)</p>	<p>State Standard Quiz Area</p>	<p>State Standard (volume) 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>Sub-Skill 1: use the appropriate units in common measuring systems (cubic centimeters to cubic meters, cubic inch to yard) to compute the volume of rectangular solids (including rectangular prisms)</p> <p>Sub-Skill 2: Develop formula for volume of rectangular prism.</p>	<p>NO SCHOOL (PD DAY FOR TEACHERS)</p>

Focus for Week 4: Unit Conversions

Sub-Skills: apply & create conversion formulas (proportions) within a system of measurement

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	<p>State Standard (volume) 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>Sub-Skill 1: Develop formula for volume of rectangular prism; Find volume of rectangular prisms using formulas</p> <p>Sub-Skill 2: Solve problems of volume for rectangular prisms</p>	<p>State Standard</p> <p>Quiz</p> <p>Surface area</p>	<p>State Standard (unit conv.) Solve problems involving proportional relationships and units of measurement.</p> <p>Sub-Skill 1: Convert units within a system of measurement using proportions.</p> <p>Sub-Skill 2: Solve problems involving conversion of units within a system of measurement.</p>	<p>State Standard (unit conv.) Solve problems involving proportional relationships and units of measurement.</p> <p>Sub-Skill 1: Convert units within a system of measurement using proportions.</p> <p>Sub-Skill 2: Solve problems involving conversion of units within a system of measurement.</p>

Focus for Week 5: Constant Rate of Change; Models, Tables & Graphs (intro)

Sub-Skills: identify mathematical relationships from tables, graphs and expressions, extend and express mathematical relationships from tables, graphs and expressions

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
<p>State Standard (constant rate of change) Identify and describe relationships between two variables with a constant rate of change (e.g., perimeter-side relationship for a square, distance-time graphs, and conversions such as feet to inches). Contrast these with relationships where the rate of change is not constant.</p> <p>Sub-Skill 1: Recognize & describe the change in quantities</p> <p>Sub-Skill 2:</p>	<p>State Standard (constant rate of change) Identify and describe relationships between two variables with a constant rate of change (e.g., perimeter-side relationship for a square, distance-time graphs, and conversions such as feet to inches). Contrast these with relationships where the rate of change is not constant.</p> <p>Sub-Skill 1: Recognize and describe constant rate of change between two variables</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Quiz</p> <p>Volume & Unit Conversions</p>	<p>State Standard (constant rate of change) Identify and describe relationships between two variables with a constant rate of change (e.g., perimeter-side relationship for a square, distance-time graphs, and conversions such as feet to inches). Contrast these with relationships where the rate of change is not constant.</p> <p>Sub-Skill 1: Recognize and describe rate of change between two variables that is not constant</p> <p>Sub-Skill 2:</p>	<p>State Standard (models/tables/graphs) Recognize when information given in a table, graph, or formula suggests a proportional or linear relationship</p> <p>Sub-Skill 1: Define & identify a linear/proportional relationship using a table</p> <p>Sub-Skill 2: Represent & interpret mathematical relationships with tables</p>

Focus for Week 6: <u>Models, Tables & Graphs</u>				
Sub-Skills: Data & Central Tendency (review standard); identify mathematical relationships from tables, graphs and expressions, extend and express mathematical relationships from tables, graphs and expressions				
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
<p><u>State Standard</u> Recognize when information given in a table, graph, or formula suggests a proportional or linear relationship</p> <p><u>Sub-Skill 1:</u> Define & identify a linear/proportional relationship using a graph</p> <p><u>Sub-Skill 2:</u> Represent & interpret mathematical relationships with graphs</p>	<p><u>State Standard</u> Recognize when information given in a table, graph, or formula suggests a proportional or linear relationship</p> <p><u>Sub-Skill 1:</u> Represent & interpret mathematical relationships with formulas, words & number sentences</p> <p><u>Sub-Skill 2:</u> Determine if a function is linear or non-linear</p>	<p><u>State Standard</u> Recognize when information given in a table, graph, or formula suggests a proportional or linear relationship</p> <p><u>Sub-Skill 1:</u> Determine if a function increases or decreases</p> <p><u>Sub-Skill 2:</u> Determine the behavior of a function by making a table</p>	<p><u>State Standard</u> Recognize when information given in a table, graph, or formula suggests a proportional or linear relationship</p> <p><u>Sub-Skill 1:</u> Determine the behavior of a function by making a graph</p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u> Quiz</p> <p>Models, Tables & Graphs</p>
Focus for Week 7: <u>Interpret Graphs</u>				
Sub-Skills: analyze & describe data from tables and graphs in writing, commenting on patterns in trends, and determining the relationship between two variables.				
Monday, March 12, Day #129	Tuesday, March 13, Day #130	Wednesday, March 14, Day #131	Thursday, March 15, Day #132	Friday, March 16
<p><u>State Standard (interpret)</u> 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 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>	<p><u>State Standard (interpret)</u> 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 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>	<p><u>State Standard (interpret)</u> 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 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>	<p><u>State Standard</u> Quiz</p> <p>Interpreting Graphs</p>	<p>NO SCHOOL (PD DAY FOR TEACHERS)</p>

<p>Sub-Skill 1: Analyze relationship between dependent & independent variables in graphs, tables and formulas</p> <p>Sub-Skill 2:</p>	<p>Sub-Skill 1: Answer questions (in writing) describing the data/situation between two variables</p> <p>Sub-Skill 2: State trends and patterns they see in tables, graphs and formulas</p>	<p>Sub-Skill 1: State trends and patterns they see in tables, graphs and formulas</p> <p>Sub-Skill 2:</p>		
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Focus for Week 8: Probability (multiple events)

Sub-Skills: Use or create tree diagrams to predict the probability of up to 3 events, and determine the number of combinations possible from grouping items in up to 3 categories.

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 Use tree diagrams and other models (e.g., lists and tables) to represent possible or actual outcomes of trials.</p> <p>Sub-Skill 1: Define compound events as events consisting of two or more independent (not mutually exclusive) events.</p> <p>Sub-Skill 2: Represent possible outcomes of compound events using tables, lists and tree diagrams.</p>	<p>State Standard Use tree diagrams and other models (e.g., lists and tables) to represent possible or actual outcomes of trials.</p> <p>Sub-Skill 1: Represent possible outcomes of compound events using tables, lists and tree diagrams.</p> <p>Sub-Skill 2: Represent actual outcomes of compound events using tables, lists and tree diagrams.</p>	<p>State Standard Use tree diagrams and other models (e.g., lists and tables) to represent possible or actual outcomes of trials.</p> <p>Sub-Skill 1: Represent actual outcomes of compound events using tables, lists and tree diagrams.</p> <p>Sub-Skill 2:</p>	<p>State Standard Use tree diagrams and other models (e.g., lists and tables) to represent possible or actual outcomes of trials.</p> <p>Sub-Skill 1: Analyze outcomes of compound events using tables, lists and tree diagrams</p> <p>Sub-Skill 2: Find the probability of up to three events occurring</p>	<p>State Standard</p> <p>Quiz</p> <p>Probability of multiple events</p>

Focus for Week 9: 2D Representation in 3D Shapes; Lines & Angles; Transformations

Sub-Skills: identify 3 and 2 dimensional representations, and match 3 dimensional objects and their 2 dimensional representations; define and identify vertical, adjacent, complimentary and supplementary angles & use their properties to solve problems; perform translations on a coordinate plane

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 (2D-3D) 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 mathematical problems</p> <p>Review Standard</p>	<p>State Standard (2D-3D) 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 mathematical problems</p> <p>Review Standard</p>	<p>State Standard (lines/angles) Identify angles as vertical, adjacent, complementary, or supplementary; provide descriptions of these terms; and use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle</p> <p>Review Standard</p>	<p>State Standard (lines/angles) Identify angles as vertical, adjacent, complementary, or supplementary; provide descriptions of these terms; and use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle</p> <p>Review Standard</p>	<p>State Standard (transformation) Determine if two shapes are congruent by motions or series of motions (e.g., translations, rotations, and reflections); predict the results of transformations on unmarked planes and draw the transformed figure (e.g., predict how tessellations transform under translation, reflection, and rotation)</p> <p>Review Standard</p>

Focus for Week 10: Select Appropriate Operations; Evaluate Expression Given Variables

Sub-Skills: write like terms together in simple linear expressions and evaluate expressions using specific values; write algebraic expressions & equations from word problems

Monday, April 2, Day #143	Tuesday, April 3, Day #144	Wednesday, April 4, Day #145	Thursday, April 5, Day #146	Friday, April 6
<p>State Standard (app. Oper) Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation; Apply the properties of operations to generate equivalent expressions;</p> <p>Review Standard</p>	<p>State Standard (app. Oper) Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation; Apply the properties of operations to generate equivalent expressions;</p> <p>Review Standard</p>	<p>State Standard (eval. Expr) Evaluate expressions at specific values for their variables. Include expressions that arise from formulas in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations); 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</p> <p>Review Standard</p>	<p>State Standard (eval. Expr) Evaluate expressions at specific values for their variables. Include expressions that arise from formulas in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations); 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</p> <p>Review Standard</p>	SPRING BREAK: NO SCHOOL
Focus for Week 11: <u>Review for IA#4</u>				
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 for IA#4	Review for IA #4	INTERIM #4 MATH	<p>State Standard (eval. Expr) Evaluate expressions at specific values for their variables. Include expressions that arise from formulas in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations); Identify</p>	<p>State Standard (eval. Expr) Evaluate expressions at specific values for their variables. Include expressions that arise from formulas in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations); Identify parts of an expression using</p>

			<p>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</p> <p><u>Review Standard</u></p>	<p>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</p> <p><u>Review Standard</u></p>
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(Post-Interims) Review; DCAS Testing Period

Teacher: Coleman/Patton

Subject: MATH

Grade: 6

<p>Focus for Week 1: <u>Select Appropriate Operations; Estimates</u></p> <p>Sub-Skills: select appropriate operation to solve problems involving adding, subtraction, multiplication, division, and positive integers; estimate sums, differences, products, and quotients of whole number, positive fractions, mixed numbers, decimals and percentages; explain front end estimation, rounding and regrouping</p>				
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
<p><u>State Standard (appr. Oper)</u> Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation; Apply the properties of operations to generate equivalent expressions;</p> <p><u>Review Standard</u></p>	<p><u>State Standard (appr. Oper)</u> Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation; Apply the properties of operations to generate equivalent expressions;</p> <p><u>Review Standard</u></p>	<p><u>State Standard (appr. Oper)</u> Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation; Apply the properties of operations to generate equivalent expressions;</p> <p><u>Review standard</u></p>	<p><u>State Standard (estimate)</u> Round whole numbers and decimals to any given place; Estimate results of computations with whole numbers and with positive fractions, mixed numbers, decimals, and percentages. Determine reasonableness of estimates.</p> <p><u>Review Standard</u></p>	<p><u>State Standard (estimate)</u> Round whole numbers and decimals to any given place; Estimate results of computations with whole numbers and with positive fractions, mixed numbers, decimals, and percentages. Determine reasonableness of estimates.</p> <p><u>Review Standard</u></p>
<p>Focus for Week 2: <u>Multiply & Divide Decimals; Add & Subtract Fractions; Multiply & Divide Fractions</u></p> <p>Sub-Skills: add and subtract whole numbers and decimals up to six digits using regrouping, multiply and divide whole numbers up to 4 digits by 3 digits with regrouping, multiply and divide positive decimals up to the thousands place with decimals or whole numbers; use prime factorization to add and subtract fractions with like and unlike denominators; multiply and divide proper fractions and mixed numbers</p>				
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
<p><u>State Standard (mult./divide decimals)</u></p>	<p><u>State Standard (add/subtract fractions)</u></p>	<p><u>State Standard</u></p>	<p><u>State Standard (mult./divide fractions)</u></p>	<p><u>State Standard (mult./divide fractions)</u></p>

<p>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</p> <p><u>Review Standard</u></p>	<p>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; 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</p> <p><u>Review Standard</u></p>	<p>Quiz</p> <p>Evaluate expressions, appropriate operations & estimates</p>	<p>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</p> <p><u>Review Standard</u></p>	<p>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</p> <p><u>Review Standard</u></p>
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Focus for Week 3: Evaluate Expressions Given Variables; Select Appropriate Operations

Sub-Skills: write algebraic expressions and equations from word problems, write like terms together in simple linear equations & evaluate expressions using specific values; select appropriate operation to solve problems involving adding, subtraction, multiplication, division, and positive integers

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><u>State Standard (eval. Expr)</u> Evaluate expressions at specific values for their variables. Include expressions that arise from formulas in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations); 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</p>	<p><u>State Standard (eval. Expr)</u> Evaluate expressions at specific values for their variables. Include expressions that arise from formulas in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations); 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</p>	<p><u>State Standard</u></p> <p>Quiz</p> <p>Add/Subtract/Multiply/Divide Fractions, Multiply/Divide decimals</p>	<p><u>State Standard (appr. Oper)</u> Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation; Apply the properties of operations to generate equivalent expressions;</p> <p><u>Review Standard</u></p>	<p><u>State Standard (appr. Oper)</u> Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation; Apply the properties of operations to generate equivalent expressions;</p> <p><u>Review Standard</u></p>

<u>Review Standard</u>	and a sum of two terms			
	<u>Review Standard</u>			

Focus for Week 4: Data & Central Tendency; Probability (single event)

Sub-Skills: calculate the mean, median, mode, maximum, minimum and range of a set of data; find the missing number if the mean is missing; find the probabilities of events from simple experiments with equally likely outcomes, and make predictions of future events based on the probabilities of events from simple experiments

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><u>State Standard (data)</u> 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; 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; 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><u>Review Standard</u></p>	<p><u>State Standard (data)</u> 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; 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; 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><u>Review Standard</u></p>	<p><u>State Standard</u></p> <p>Quiz</p> <p>Evaluate Expressions given variables</p>	<p><u>State Standard (prob.)</u> Compute probabilities of events from simple experiments with equally likely outcomes (e.g., tossing dice, flipping coins, spinning spinners) by listing all possibilities and finding the fraction that meets given conditions. Analyze the outcomes.</p> <p><u>Review Standard</u></p>	<p><u>State Standard (prob.)</u> Compute probabilities of events from simple experiments with equally likely outcomes (e.g., tossing dice, flipping coins, spinning spinners) by listing all possibilities and finding the fraction that meets given conditions. Analyze the outcomes.</p> <p><u>Review Standard</u></p>

Focus for Week 5: Lines & Angles; 2-D representations of 3-D representations

Sub-Skills: define and identify vertical, adjacent, complimentary & supplementary angles and use the properties of complimentary & supplementary angles to solve problems; identify and match 2 and 3 dimensional representations

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><u>State Standard (lines/angles)</u> Identify angles as vertical, adjacent, complementary, or supplementary; provide descriptions of these terms; and use the properties of complementary and supplementary angles and</p>	<p><u>State Standard (lines/angles)</u> Identify angles as vertical, adjacent, complementary, or supplementary; provide descriptions of these terms; and use the properties of</p>	<p><u>State Standard</u></p> <p>Quiz</p> <p>Data & Central Tendency, Probability (single event)</p>	<p><u>State Standard (2D-3D)</u> 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-</p>	<p><u>State Standard (2D-3D)</u> 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</p>

the sum of the angles of a triangle to solve problems involving an unknown angle Review Standard	complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle Review Standard		world and mathematical problems Review Standard	of solving real-world and mathematical problems Review Standard
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Focus for Week 6: 2-D representations of 3-D representations; Translation

Sub-Skills: identify and match 2 and 3 dimensional representations; Perform translations on a coordinate plane

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 (2D-3D) 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 mathematical problems Review Standard	State Standard Quiz 2D-3D representations, lines & angles	State Standard (Translation) Determine if two shapes are congruent by motions or series of motions (e.g., translations, rotations, and reflections); predict the results of transformations on unmarked planes and draw the transformed figure (e.g., predict how tessellations transform under translation, reflection, and rotation) Review Standard	State Standard (Translation) Determine if two shapes are congruent by motions or series of motions (e.g., translations, rotations, and reflections); predict the results of transformations on unmarked planes and draw the transformed figure (e.g., predict how tessellations transform under translation, reflection, and rotation) Review Standard

Focus for Week 7: Review for Final Exam

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 (Translation) Determine if two shapes are congruent by motions or series of motions (e.g., translations, rotations, and reflections); predict the results of transformations on unmarked planes and draw the transformed figure (e.g., predict how tessellations transform under translation, reflection, and rotation) Review Standard	Final Exam Review Geometry Sum of Angles in Polygons, Classify Angles, Distance between two points, graph points	Final Exam Review Geometry Area, Perimeter, Surface Area, Volume, Unit Conversion	Final Exam Review Linear representation Models/Tables/Graphs, Constant rate of change, properties of equality	Final Exam Review Linear representation Evaluate expressions given variables, solve linear equations

Focus for Week 8: Review for Final Exam

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
Final Exam Review	Final Exam Review	MATH FINALS	ELA FINALS	SCIENCE/SS FINALS

Data and Central Tendency Data plots/tables/graphs; mean, mode, median	Fractions & Decimals Add, multiply, subtract and divide fractions and decimals			
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A COLLEGE PREPARATORY CHARTER SCHOOL
FOR BOYS
WILMINGTON, DELAWARE
GIVING BOYS A REAL CHANCE FOR A REAL FUTURE

October 2, 2011

Education Associate for Charter School Program
Delaware Department of Education
401 Federal Street, Suite 2
Dover, DE 19901

6th Grade Science 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 Science Standards and Delaware Science Coalition Standards. The Delaware Science Initiative was founded to improve the instruction and learning of science so that all students would have the opportunity to meet the challenging performance expectations in the Delaware Science Content Standards. From the initiative, the Delaware Science Coalition began in 1995 as a collaborative of Delaware's school districts and science communities. Today, the Coalition supports science education in grades K-12 and is a collaborative effort between Delaware's school districts and charter school, and Delaware Department of Education (DDOE), higher education, business and industry, and community-based science organization. The Coalition continues to exist to support the highest quality science instruction for students and Delaware Schools.

While the Delaware State 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 State Science 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 6th Grade Science were chosen because they clearly illustrate Prestige Academy Charter School's commitment to rigorous, engaging, standards-based instruction. Furthermore, the units chosen, Scientific Method, Respiratory System, and Digestive System, encompass numerous standards that are heavily assessed on future Delaware Comprehensive Assessment System (DCAS). Some modifications to these units of study were made to accommodate our all-boys demographic including: more hands-on learning, collaborative partner work, and clearly communicated performance goals.

The following units of instruction reflect our commitment to science with each 6th Grade student receiving 100-120 minutes of science instruction per day. In closing, please note that our teachers are using a modified version of the Delaware Science Coalition recommended units for Science. The units we have submitted reflect a deep dive into the most essential skills and standards for our scholars.

Enclosures:

6th Grade Unit 1- Scientific Method

6th Grade Unit 2- Respiratory System

6th Grade Unit 3- Digestive System

7Interim Cycle 1

Teacher: SIMMS

Subject: SCIENCE

Grade: 6

Focus for Week 1: <i>Understanding and Abilities of Scientific Inquiry (My Body and Me)</i> Sub-Skills: Scientific Inquiry				
Monday, August 29, Day #6	Tuesday, August 30, Day #7	Wednesday, August 31, Day #8 DAY 1	Thursday, September 1, Day #9 DAY 2	Friday, September 2
RE-ORIENTATION: NO ACADEMIC CLASSES	RE-ORIENTATION: NO ACADEMIC CLASSES	<p>*Day to teach Prestige Standards*</p> <p><u>State Standard: 1.F.</u></p> <p>F. Understand that: Scientific habits of mind and other sources of knowledge and skills are essential to scientific inquiry. Habits of mind include tolerance of ambiguity, skepticism, openness to new ideas, and objectivity. Other knowledge and skills include mathematics, reading, writing, and technology.</p> <p><u>Sub-Skill 1:</u> *Identify features of Lab safety * Become familiar with Academic and Behavioral Goal Setting – two of each *Become familiar with Procedures – rise, passing out papers, lining up *Review Systems – Homework, Absentee Folders *Set up Binders - tabs</p> <p><u>Sub-Skill 2:</u> *Engage in an ice-breaker experiment to emphasize the “we mentality” that must exist at all times in class and the importance of communication</p>	<p>*Time to review standards*</p> <p><u>State Standard– 1.A.</u> Understand that Scientific investigations involve asking testable questions. Different kinds of questions suggest different scientific investigations. The current body of scientific knowledge guides the investigations.</p> <p><u>Sub-Skill 1:</u> *Identify and organize the steps of the scientific method.</p> <p><u>Sub-Skill 2:</u> *Distinguish between observation and an inference *Frame a question. *Compare and contrast their questions with scientific questions.</p>	LABOR DAY: NO SCHOOL
Focus for Week 2: <i>Understanding and Abilities of Scientific Inquiry (My Body and Me)</i> Sub-Skills: Scientific Inquiry				
Monday, September 5	Tuesday, September 6, Day #10 DAY 1	Wednesday, September 7, Day #11 DAY 2	Thursday, September 8, Day #12 DAY 3	Friday, September 9, Day #13
LABOR DAY: NO SCHOOL	<p><u>State Standard – 1.A.</u> Understand that Scientific investigations involve asking testable questions. Different kinds of questions suggest different scientific investigations. The current body of scientific knowledge guides the investigations.</p>	<p><u>State Standard-1.B.</u> Understand that: A valid investigation controls variables. Different experimental designs and strategies can be developed to answer the same question.</p> <p><u>Sub-Skill 1:</u> *Propose an experiment that</p>	<p><u>State Standard-1.B.</u> Understand that: A valid investigation controls variables. Different experimental designs and strategies can be developed to answer the same question.</p> <p><u>Sub-Skill 1:</u> *Identify and define</p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>

	<p>Sub-Skill 1: *Determine if a question is scientific. * Write and edit a question to make them scientific. *Explain that research the question to find out what knowledge currently exists about the topic.</p> <p>Sub-Skill 2: *Write a hypothesis. *Write a hypothesis using the If, then format.</p>	<p>could be done to solve a variety of scientific questions</p> <p>Sub-Skill 2: *List variables in a scientific experiment. (materials and methods) *Identify and define independent, dependent, and control variables.</p>	<p>independent, dependent, and control variables.</p> <p>(Pellegra, Drops on a penny)</p> <p>Sub-Skill 2: Distinguish between independent, dependent and control variables</p>	
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Focus for Week 3: Understanding and Abilities of Scientific Inquiry (My Body and Me)

Sub-Skills: Scientific Inquiry

Monday, September 12, Day #14	Tuesday, September 13, Day #15 DAY 1	Wednesday, September 14, Day #16 DAY 2	Thursday, September 15, Day #17 DAY 3	Friday, September 16, Day #18
<p>State Standard</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard – 1.C. C. Understand that: In a scientific investigation, data collection involves making precise measurements and keeping accurate records so that others can replicate the experiment.</p> <p>Sub-Skill 1: *Explain that in science, data is gathered using specific techniques to ensure precise measurements and accurate records. *Gather data during an experiment. *Accurately record data in lab notebook.</p> <p>Sub-Skill 2: * Identify the components of a complete graph *Construct related tables, diagrams and graphs, showing relationships between two variables, to display and facilitate analysis of data.</p>	<p>State Standard-1.C. C. Understand that: In a scientific investigation, data collection involves making precise measurements and keeping accurate records so that others can replicate the experiment.</p> <p>Sub-Skill 1: *Explain that in science, data is gathered using specific techniques to ensure precise measurements and accurate records. *Gather data during an experiment. *Accurately record data in lab notebook.</p> <p>Sub-Skill 2: *Identify the components of a complete graph. *Construct related tables, diagrams and graphs, showing relationships between two variables, to display and facilitate analysis of data.</p>	<p>State Standard Understand that: There is much experimental and observational evidence that supports a large body of knowledge. The scientific community supports known information until new experimental evidence arises that does not match existing explanations. This leads to the evolution of the scientific body of knowledge.</p> <p>Be able to: Form explanations based on accurate and logical analysis of evidence. Revise the explanation using alternative descriptions, predictions, models and knowledge from other sources as well as results of further investigation.</p> <p>Sub-Skill 1: *Compare and question results with and from other students. *Determine if data supports or does not support a hypothesis. *Form a conclusion.</p> <p>Sub-Skill 2: *Refine a conclusion based on new information.</p>	<p>State Standard</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>

Focus for Week 4: Structure/Function Relationship (Life Processes: Characteristics of Living Things)

Sub-Skills: Determine the characteristics of living and non-living organisms (macro vs. micro)

Monday, September 19, Day #19	Tuesday, September 20, Day #20 DAY 1	Wednesday, September 21, Day #21 DAY 2	Thursday, September 22, Day #22 DAY 3	Friday, September 23, Day #23
<p>State Standard</p>	<p>State Standard-6.A,B</p>	<p>State Standard-6.D,E</p>	<p>State Standard-6.D,E</p>	<p>State Standard</p>

<p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p>A. Living organisms share common characteristics that distinguish them from non-living, dead, and dormant things. They grow, consume nutrients, exchange gases, respond to stimuli, reproduce, need water, eliminate waste, and are composed of cell(s).</p> <p>B. Living systems in all kingdoms demonstrate the complementary nature of structure and function.</p> <p>Important levels of organization for structure and function include cells, tissues, organs, organ systems, and organisms.</p> <p><u>Sub-Skill 1:</u> List the common characteristics that are determine if something is alive, dead or dormant.</p> <p><u>Sub-Skill 2:</u> Explain and provide examples of the level of organization within an organism.</p>	<p>D. The cell is the fundamental unit of life. Cells have basic needs for survival. They use energy, consume materials, require water, eliminate waste, and reproduce.</p> <p>E. Most cells contain a set of observable structures called organelles which allow them to carry out life processes. Major organelles include vacuoles, cell membrane, nucleus, and mitochondria. Plant cells have a cell wall and chloroplasts.</p> <p><u>Sub-Skill 1:</u> Identify the cell as the fundamental unit of life.</p> <p><u>Sub-Skill 2:</u> List and explain the function of most important organelles.</p>	<p>D. The cell is the fundamental unit of life. Cells have basic needs for survival. They use energy, consume materials, require water, eliminate waste, and reproduce.</p> <p>E. Most cells contain a set of observable structures called organelles which allow them to carry out life processes. Major organelles include vacuoles, cell membrane, nucleus, and mitochondria. Plant cells have a cell wall and chloroplasts.</p> <p><u>Sub-Skill 1:</u> Compare and contrast the needs of cells and the needs of living organisms.</p> <p><u>Sub-Skill 2:</u></p>	<p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>
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Focus for Week 5: Structure/Function Relationship (Life Processes: Characteristics of Living Things)

Sub-Skills: Identify the fundamental unit of life (cells) and their processes

Monday, September 26, Day #24	Tuesday, September 27, Day #25 DAY 1	Wednesday, September 28, Day #26 DAY 2	Thursday, September 29, Day #27	Friday, September 30, Day #28 DAY 3
<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u></p> <p>A. All organisms require energy. A general distinction among organisms is that plants use solar energy to make their own food (sugar) and animals acquire energy directly or indirectly from plants.</p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u></p> <p>B. Plants use the energy from sunlight, carbon dioxide, and water to produce sugars (photosynthesis). Plants can use the food (sugar) immediately or store it for later use.</p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p>INTERIM #1 MATH</p>	<p><u>State Standard</u></p> <p>B. Plants use the energy from sunlight, carbon dioxide, and water to produce sugars (photosynthesis). Plants can use the food (sugar) immediately or store it for later use.</p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>

Interim Cycle 2
Teacher: SIMMS
Subject: SCIENCE
Grade: 6

Focus for Week 1: Structure/Function Relationship (My Body and Me)

Sub-Skills: Identify components, functions, and interactions of the circulatory system.

Monday, October 3, Day #29	Tuesday, October 4, Day #30 DAY 1	Wednesday, October 5, Day #31 DAY 2	Thursday, October 6, Day #32 DAY 3	Friday, October 7, Day #33 ½ Day – one hour block
State Standard Sub-Skill 1: Sub-Skill 2:	<u>State Standard-6.F</u> F. The human body has systems that perform functions necessary for life. Major systems of the human body include the digestive, respiratory, reproductive, and circulatory systems. <u>Sub-Skill 1:</u> *Explain that human body systems are comprised of organs (e.g., the heart, the stomach, and the lungs) that perform specific functions within one or more systems. <u>Sub-Skill 2:</u> *Identify and label the basic component of the circulatory system including the heart, arteries, veins and capillaries.	<u>State Standard-6.F</u> F. The human body has systems that perform functions necessary for life. Major systems of the human body include the digestive, respiratory, reproductive, and circulatory systems. <u>Sub-Skill 1:</u> *Determine (qualitatively) how much carbon dioxide is in their exhaled breath. (Activity #17) <u>Sub-Skill 2:</u> *Writing a lab report.	<u>State Standard-6.F</u> F. The human body has systems that perform functions necessary for life. Major systems of the human body include the digestive, respiratory, reproductive, and circulatory systems <u>Sub-Skill 1:</u> Determine (qualitatively) how much carbon dioxide is in their exhaled breath. (Activity #17) <u>Sub-Skill 2:</u> *Writing a lab report.	State Standard Sub-Skill 1: Sub-Skill 2:

Focus for Week 2: Structure/Function Relationship (*My Body and Me*)

Sub-Skills: Identify components, functions, and interactions of the circulatory system.

Monday, October 10, Day #34	Tuesday, October 11, Day #35 DAY 1	Wednesday, October 12, Day #36 DAY 2	Thursday, October 13, Day #37 DAY 3	Friday, October 14, Day #38
State Standard Sub-Skill 1: Sub-Skill 2:	<u>State Standard-6.F</u> F. The human body has systems that perform functions necessary for life. Major systems of the human body include the digestive, respiratory, reproductive, and circulatory systems. <u>Sub-Skill 1:</u> *Model the heart using two types of pumps. (Activity #21) <u>Sub-Skill 2:</u> *Evaluate the strength y of the heart using a pump. (Activity #22)	<u>State Standard-6.F</u> F. The human body has systems that perform functions necessary for life. Major systems of the human body include the digestive, respiratory, reproductive, and circulatory systems. <u>Sub-Skill 1:</u> *Identify and label the parts of the heart. <u>Sub-Skill 2:</u> *Indicate the direction and path of blood flow.	<u>State Standard-6.F</u> F. The human body has systems that perform functions necessary for life. Major systems of the human body include the digestive, respiratory, reproductive, and circulatory systems <u>Sub-Skill 1:</u> *Determine the impact of exercise on heart rate and pulse. <u>Sub-Skill 2:</u> *Determine the impact that cardiovascular disease has on the heart. (Activity #22)	State Standard Sub-Skill 1: Sub-Skill 2:

Focus for Week 3: Structure/Function Relationship (*My Body and Me*)

Sub-Skills: Identify components, functions, and interactions of the circulatory system.

Monday, October 17, Day #39	Tuesday, October 18, Day #40 DAY 1	Wednesday, October 19, Day#41 DAY 2	Thursday, October 20, Day #42 DAY 3	Friday, October 21, Day #43 ½ Day – one hour block
State Standard Sub-Skill 1: Sub-Skill 2:	<u>State Standard-6.F</u> F. The human body has systems that perform functions necessary for life. Major systems of the human body include the digestive, respiratory, reproductive, and	<u>State Standard-6.F</u> F. The human body has systems that perform functions necessary for life. Major systems of the human body include the digestive, respiratory, reproductive, and	<u>State Standard-6.F</u> F. The human body has systems that perform functions necessary for life. Major systems of the human body include the digestive, respiratory, reproductive, and	State Standard Sub-Skill 1: Sub-Skill 2:

	<p>circulatory systems.</p> <p>Sub-Skill 1: *Determine the impact of high blood pressure on the circulatory system. (Activity #27)</p> <p>Sub-Skill 2: *Evaluate risk of heart disease.(student survey)</p>	<p>circulatory systems.</p> <p>Sub-Skill 1: *Create a structure function chart focusing on the components of the circulatory system.</p> <p>Sub-Skill 2: *Indicate the direction and path of blood flow.</p>	<p>circulatory systems.</p> <p>Sub-Skill 1: *Make a model of the circulatory system.</p> <p>Sub-Skill 2:</p>	
<p>Focus for Week 4: Structure/Function Relationship (My Body and Me) Sub-Skills: Identify components, functions, and interactions of the digestive system.</p>				
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
<p>State Standard</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Sub-Skill 1: *Label and describe the functions of the basic parts of the digestive tract including the mouth, esophagus, stomach, small intestine, liver, large intestine (colon), rectum and anus.</p> <p>Sub-Skill 2: *Organize Sub-skill 1 information into a chart.</p>	<p>State Standard</p> <p>Sub-Skill 1: *Extract information from an article on the Digestive System. (Activity #15)</p> <p>Sub-Skill 2: *Identify the parts of the system. *Determine their approximate location on their own bodies.</p>	<p>State Standard</p> <p>Sub-Skill 1: *Distinguish between chemical and mechanical breakdown of food. *Determine the relationship between food size and breakdown time.</p> <p>Sub-Skill 2: *Model the process of mechanical and chemical breakdown of food. (Activity 14)</p>	<p>State Standard</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>
<p>Focus for Week 5: Structure/Function Relationship (My Body and Me) Sub-Skills: Identify components, functions, and interactions of the digestive system.</p>				
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
<p>State Standard</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Sub-Skill 1: *Identify the components of a "balanced diet"</p> <p>Sub-Skill 2: *Identify food basics</p>	<p>INTERIM #2 MATH</p>	<p>State Standard</p> <p>Sub-Skill 1: *Identify food basics</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Sub-Skill 1: *Make a model of the digestive system.</p> <p>Sub-Skill 2: *Write a letter to a friend from the food's perspective.</p>

Interim Cycle 3

Teacher:

Subject: SCIENCE

Grade: 6

Focus for Week 1: Structure/Function Relationship (<i>My Body and Me</i>) Sub-Skills: Identify components, functions, and interactions of the respiratory system.				
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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> Label and describe the functions of the basic parts of the respiratory system including the trachea, bronchi and lungs. <u>Sub-Skill 2:</u> *Identify the composition of air. *Compare and contrast inhaled air vs. what is exhaled.	<u>State Standard</u> <u>Sub-Skill 1:</u> Label and explain the Path air takes <u>Sub-Skill 2:</u> Describe what is happening internally during inhalation and exhalation	<u>State Standard</u> <u>Sub-Skill 1:</u> * <u>Sub-Skill 2:</u>	VETERANS DAY: NO SCHOOL
Focus for Week 2: Structure/Function Relationship (<i>My Body and Me</i>) Sub-Skills: Identify components, functions, and interactions of the respiratory system.				
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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> *Determine lung capacity using a Spirometer. <u>Sub-Skill 2:</u> Lab Report	<u>State Standard</u> <u>Sub-Skill 1:</u> *Know methods of respiratory disease prevention *Research respiratory disease <u>Sub-Skill 2:</u> *Compare and contrast bronchitis and pneumonia.	<u>State Standard</u> <u>Sub-Skill 1:</u> *Presentation on respiratory disease <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
Focus for Week 3: Structure/Function Relationship (<i>My Body and Me</i>) Sub-Skills: Analyze and interpret the ways in which the respiratory, circulatory, and digestive systems work together to sustain life				
Monday, November 21, Day #63	Tuesday, November 22, Day #64	Wednesday, November 23	Thursday, November 24	Friday, November 25
<u>State Standard</u> <u>Sub-Skill 1:</u> Express how the human circulatory, respiratory, and digestive systems work together to carry out life processes. Analyze which of the human body systems is used fulfill the list of criteria for	<u>State Standard</u> <u>Sub-Skill 1:</u> Trace how the circulatory, respiratory, and digestive systems interact to transport the food and oxygen required to provide energy for life processes.	THANKSGIVING BREAK: NO SCHOOL (PD DAY FOR TEACHERS)	THANKSGIVING BREAK: NO SCHOOL	THANKSGIVING BREAK: NO SCHOOL

sustaining life. Sub-Skill 2: Use knowledge of human body systems to synthesize research data and make informed decisions regarding personal and public health.	Sub-Skill 2: Research and report on how body systems are affected by lifestyle choices such as diet or exercise, for example lack of exercise leads to cardiovascular disease			
Focus for Week 4: Reproduction, Heredity and Development (Diversity and Continuity of Living Things: Reproduction)- 6 Sub-Skills: Identify components, functions, and interactions of the reproductive system.				
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 Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Label and describe the basic parts of the male and female reproductive systems. Sub-Skill 2: Identify the function of each of the parts of the reproductive system.	State Standard Sub-Skill 1: Identify the function of each of the parts of the reproductive system. Sub-Skill 2: Create a chart to summarize sub-skill 1.	State Standard Sub-Skill 1: *Describe the changes that occur in the male body at puberty. *Describe the path sperm takes to Exit the body. Sub-Skill 2: *Describe the structure function relationship of sperm.	State Standard Sub-Skill 1: Sub-Skill 2:
Focus for Week 5: Reproduction, Heredity and Development (Diversity and Continuity of Living Things: Reproduction)- 6 Sub-Skills: Identify components, functions, and interactions of the reproductive system.				
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
State Standard Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: *Describe the changes that occur in the female body at puberty. Sub-Skill 2: *State the path the egg takes.	State Standard Sub-Skill 1: *Explain the purpose of the menstrual cycle. Sub-Skill 2: *Explain the changes that happen once the egg meets the sperm.	State Standard Sub-Skill 1: *Describe occurrences during each of the three trimesters of pregnancy. Sub-Skill 2: Compare and contrast the male and female reproductive system.	State Standard Sub-Skill 1: Sub-Skill 2:
Focus for Week 6: Reproduction, Heredity and Development (Diversity and Continuity of Living Things: Mendelian Genetics Basics) - 7 Sub-Skills: Identify the method of genetic transmission from parent to offspring				
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 Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: *Explain the details of and significance of Gregor Mendel's pea plant experiments Sub-Skill 2: Describe how Mendel used	State Standard Sub-Skill 1: Identify dominant and recessive genes Sub-Skill 2: Compare and contrast phenotype and genotype	State Standard Sub-Skill 1: Perform simple Punnet Square crosses Sub-Skill 2: Determine the ratios that resulted from Mendel's experiment	State Standard Sub-Skill 1: Sub-Skill 2:

	the steps of the scientific method.			
Focus for Week 7: Reproduction, Heredity and Development (Diversity and Continuity of Living Things: Mendelian Genetics Basics) - 7				
Sub-Skills: Identify the method of genetic transmission from parent to offspring				
Monday, December 19, Day #80	Tuesday, December 20, Day #81	Wednesday, December 21, Day #82	Thursday, December 22, Day #83	Friday, December 23
<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	WINTER BREAK: NO SCHOOL (PD DAY FOR TEACHERS)
<u>Sub-Skill 1</u>	<u>Sub-Skill 1:</u> *Identify the base pairs of DNA and RNA	<u>Sub-Skill 1:</u> *Model the structure of DNA	<u>Sub-Skill 1:</u>	
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u> *Identify how the bases pair	<u>Sub-Skill 2:</u> *Relate DNA to Mendels' experiments	<u>Sub-Skill 2:</u>	
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
<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>
Focus for Week 10: : Reproduction, Heredity and Development (Diversity and Continuity of Living Things: Evolution Basics) - 7				
Sub-Skills: Population Ecology				
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	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>
	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>
	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>
Focus for Week 11: : Reproduction, Heredity and Development (Diversity and Continuity of Living Things: Evolution Basics) - 7				
Sub-Skills: Population Ecology				
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
<u>State Standard</u>	<u>State Standard</u>	Interim #3 Math	<u>State Standard</u>	<u>State Standard</u>
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>		<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>		<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>

Interim Cycle 4

Teacher:

Subject: SCIENCE

Grade: 6

Focus for Week 1: Properties and Structure of Materials – (Matter Unit: micro and macro properties) Sub-Skills: Identify building blocks of matter, Identify the physical properties of matter (mass, volume, density, ect.)				
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
<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard: 2-A</u> All matter consists of particles too small to be seen with the naked eye. The arrangement, motion, and interaction of these particles determine the three states of matter (solid, liquid and gas). Particles in all three states are in constant motion. In the solid state, tightly packed particles are loosely packed and move past each other. In the gaseous state, particles are free to move.</p> <p><u>Sub-Skill 1:</u> Define matter.</p> <p>Explain that all matter consists of particles too small to be seen with the naked eye.</p> <p><u>Sub-Skill 2:</u> Identify the states of matter that are commonly found on earth (solid, liquid, gas and plasma).</p>	<p><u>State Standard</u> All matter consists of particles too small to be seen with the naked eye. The arrangement, motion, and interaction of these particles determine the three states of matter (solid, liquid and gas). Particles in all three states are in constant motion. In the solid state, tightly packed particles are loosely packed and move past each other. In the gaseous state, particles are free to move.</p> <p><u>Sub-Skill 1:</u> Model the arrangement of matter in all states.</p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u> Some physical properties, such as mass and volume, depend upon the amount of material. Other physical properties such as density and melting point, are independent of quantity of material. Density and melting point are unique physical properties for a material. Tools such as microscopes, scales, beakers, graduated cylinders, Celsius thermometers, and metric rules are used to measure physical properties.</p> <p><u>Sub-Skill 1:</u> Explain the concepts of density and viscosity.</p> <p>Visually identify the density and viscosity of a liquid.</p> <p><u>Sub-Skill 2:</u> Determine the mass of a liquid.</p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>
Focus for Week 2: Properties and Structure of Materials – (Matter Unit: micro and macro properties) Sub-Skills: Identify building blocks of matter, Identify the physical properties of matter (mass, volume, density, ect.)				
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
<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u> Some physical properties, such as mass and volume, depend upon the amount of material. Other physical properties such as density and melting point, are independent of quantity of material. Density and melting point are unique physical properties for a material. Tools such as microscopes, scales, beakers, graduated cylinders, Celsius thermometers, and metric rules are used to measure physical properties.</p> <p><u>Sub-Skill 1:</u></p>	<p><u>State Standard</u> Some physical properties, such as mass and volume, depend upon the amount of material. Other physical properties such as density and melting point, are independent of quantity of material. Density and melting point are unique physical properties for a material. Tools such as microscopes, scales, beakers, graduated cylinders, Celsius thermometers, and metric rules are used to measure physical properties.</p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u> Use a ruler to measure length</p> <p><u>Sub-Skill 2:</u> SI system vs. American system</p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>

	Use a thermometer to measure temperature. Identify three commonly used temperature scales. Sub-Skill 2: Convert to Fahrenheit and Kelvin.	Sub-Skill 1: Use a thermometer to measure temperature. Identify three commonly used temperature scales. Sub-Skill 2: Convert to Fahrenheit and Kelvin.		
Focus for Week 3: Properties and Structure of Materials – (Matter Unit: micro and macro properties) Sub-Skills: Analyze and interpret phase change (identifying sources of change and their graphical representations)				
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 Sub-Skill 1: Create a phase change diagram Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:	NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 4: Properties and Structure of Materials – (Matter, Micro) Sub-Skills: Identifying mixtures and solutions (homogenous, heterogeneous)				
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 Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:
Focus for Week 5: Properties and Structure of Materials – (Matter, Micro) Sub-Skills: Identify the basic building blocks of matter				
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 Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:
Focus for Week 6: (Forces that Cause Motion) Sub-Skills: Define force and identify various sources				
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
State Standard Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:	State Standard Sub-Skill 1: Sub-Skill 2:

Focus for Week 7: (Forces that Cause Motion)				
Sub-Skills: Create force/motion diagrams				
Monday, March 12, Day #129	Tuesday, March 13, Day #130	Wednesday, March 14, Day #131	Thursday, March 15, Day #132	Friday, March 16
<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	NO SCHOOL (PD DAY FOR TEACHERS)
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	
Focus for Week 8: (Forces that Cause Motion)				
Sub-Skills: Create, interpret, and analyze motion/force graphs				
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
<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>
Focus for Week 9: (Forces that Cause Motion)				
Sub-Skills: Simple Machines – construct levels, pulleys				
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
<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>
Focus for Week 10: Forces (Circuits)				
Sub-Skills: Simple Machine				
Monday, April 2, Day #143	Tuesday, April 3, Day #144	Wednesday, April 4, Day #145	Thursday, April 5, Day #146	Friday, April 6
<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	SPRING BREAK: NO SCHOOL
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	
Focus for Week 11: Forces (Circuits)				
Sub-Skills: Identify different type of circuits				
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
<u>State Standard</u>	<u>State Standard</u>	INTERIM #4 MATH	<u>State Standard</u>	<u>State Standard</u>
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>		<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>

<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>		<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>
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(Post-Interims) Review; DCAS Testing Period

Teacher:

Subject: SCIENCE

Grade: 6

Focus for Week 1: Forces (Circuits) – (WILL NEED BREADBOARDS AND RESISTORS)				
Sub-Skills: Create open/closed circuits and series/parallel circuits				
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
<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>
Focus for Week 2: The Earth/Moon/Sun Systems (Solar Facts unit) - 4				
Sub-Skills: Define and explain the motion/position of the Earth and its impact on cyclical events				
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
<u>State Standard 4</u> The Sun is a star that gives off radiant energy that drives Earth systems and is essential for life. The amount of radiant energy Earth receives from the Sun throughout the year is nearly constant. <u>Sub-Skill 1:</u> Explain the ways in which the Sun supports life on Earth. <u>Sub-Skill 2:</u> Explain the relationship between the Sun and the Earth over the course of a year (in terms of radiant energy).	<u>State Standard 4</u> 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 causes 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. <u>Sub-Skill 1:</u> Explain the reason for a day, night, year, and seasons (in terms of the relationship between the sun and the Earth.) <u>Sub-Skill 2:</u> Be familiar with the variations that exist our solar system.	<u>State Standard 4</u> 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 causes 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. <u>Sub-Skill 1:</u> Explain the reason for a day, night, year, and seasons (in terms of the relationship between the sun and the Earth.) <u>Sub-Skill 2:</u> Be familiar with the variations that exist our solar system.:	<u>State Standard 4</u> 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. <u>Sub-Skill 1:</u> Identify the phases of the moon. <u>Sub-Skill 2:</u>	<u>State Standard 4</u> The Sun is by far the most massive object in the Solar System, therefore gravitationally dominating all other member of the solar system. <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
Focus for Week 3: The Earth/Moon/Sun Systems				
Sub-Skills: Define and explain the motion/position of the Earth and its impact on cyclical events				
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
<u>State Standard 4</u> The Solar System 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	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>

<p>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.</p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>				
<p>Focus for Week 4: Components of Earth (Earth's Dynamics Systems- Water Cycle)- Weather Basics</p> <p>Sub-Skills: Identify components that impact Earth's weather and cause change and the technology used to track weather</p>				
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><u>State Standard 5</u> Water exists on the Earth in reservoirs (on or within the Earth's surface and atmosphere). The total amount of water in these reservoirs does not change, however, the ratio of water in solid, liquid, or gaseous form varies over time and location.</p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u> The movement of water among the geosphere, hydrosphere and atmosphere affects such things as weather systems, ocean currents, and global climate.</p> <p><u>Sub-Skill 1:</u> Layers of the Earth</p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>
<p>Focus for Week 5: Components of Earth (Earth's Dynamics Systems- Weather Basics)- Climate Basics</p> <p>Sub-Skills: Identify the basic climates on Earth and the type of vegetation found in each climates (longitude and latitude)</p>				
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><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>
<p>Focus for Week 6: Components of Earth (Earth's Dynamics Systems) – Weather/Climate Basics</p> <p>Sub-Skills: Analyze and Interpret the impact of the weather on Earth</p>				
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	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>	<p><u>State Standard</u></p> <p><u>Sub-Skill 1:</u></p> <p><u>Sub-Skill 2:</u></p>
<p>Focus for Week 7:</p> <p>Sub-Skills: Final Exam Review</p>				
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

<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>	<u>State Standard</u>
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>
Focus for Week :				
Sub-Skills: Final Exam Review				
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
<u>State Standard</u>	<u>State Standard</u>	MATH FINALS	ELA FINALS	SCIENCE/SS FINALS
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u>			
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>			

Unit Title: Digestive System

Grade Level(s): 6th

Subject/Topic Area: Science

Key Vocabulary: Digestive System, Digestion, Nutrients, Digestion, Saliva, Enzyme, Esophagus, Large Intestine, Small Intestine, Stomach, Liver, Mouth, Abdomen, Rectum, Anus, Chyme, Mechanical Breakdown, Chemical Breakdown

Designed By: Delaware Science Coalition (Modified by: Yasha Simms)

Time Frame: 3 weeks

SUMMARY OF PURPOSE: Students learn about the major organ systems in the human body and their functions. Students examine the relationship between structure and function. Students critically evaluate information in order to make ethical and life style decisions.

Stage 1: Desired Results

Common Core/ Delaware Standards

Standard 6: Life Processes

Structure/Function Relationship

Students should know that:

1. Living systems in all kingdoms demonstrate the complementary nature of structure and function. Important levels of organization for structure and function include cells, tissues, organs, organ systems, and organisms.

Students should be able to:

- Explain that human body systems are comprised of organs (e.g., the heart, the stomach, and the lungs) that perform specific functions within one or more systems.

Students should know that:

6. The human body has systems that perform functions necessary for life. Major systems of the human body include the digestive, respiratory, reproductive, and circulatory systems.

Students should be able to:

- Label and describe the functions of the basic parts of the digestive tract including the mouth, esophagus, stomach, small intestine, liver, large intestine (colon), rectum and anus.
- Express how the human circulatory, respiratory, and digestive systems work together to carry out life processes.
- Trace how the circulatory, respiratory, and digestive systems interact to transport the food and oxygen required to provide energy for life processes.

Regulation and Behavior

Students should know that:

1. Regulation of an organism's internal environment involves sensing external changes in the environment and responding physiologically to keep conditions within the range required for survival (e.g. changes in environmental temperature leading to changes in color of fur).

Students should be able to:

- Conduct simple investigations (how the body reacts to exercise, changes in temperature, etc.) to determine how the systems in the human organism respond to various external stimuli to maintain stable internal conditions.

Life Processes and Technology Application

Students should know that:

1. Technological advances in medicine and improvements in hygiene have helped in the prevention and treatment of illness.

Students should be able to:

- Use knowledge of human body systems to synthesize research data and make informed decisions regarding personal and public health.
- Research and report on how body systems are affected by lifestyle choices such as diet or exercise, for example lack of exercise leads to cardiovascular disease.

Key Concepts/Big Ideas

Systems- the human body has interrelated systems that are composed of related organs and other components. Systems and organs are part of the way people organize living systems from cells, to tissues, organs, to organ systems to organisms. (Discuss further).

Models- Models are used to study body systems and understand how they function.

Structure and function- The structure of body systems and organs is related to the function in a complementary manner.

Enduring Understandings

Students will understand that...

1. Scientific inquiry of human body systems involves asking scientifically-oriented questions, collecting evidence, forming explanations, connecting explanations to prior scientific knowledge and theory, and communicating and justifying the explanation. There are many ways to problem solve in science, not just one scientific method.
2. Understanding past contributions is essential in building scientific knowledge.
3. Human body systems, from tissues to organ systems, demonstrate the complementary nature of structure and function.
4. Organisms respond to internal and external cues, which aids in their survival.
5. Life style decisions impact the health of the body.

Essential Questions

1. What is the purpose of the digestive system?
2. What are the functions of the major organs in the digestive system?
3. How does structure relate to function in human body organs and systems?

4. How do responses to internal and external cues aid in an organism's survival?
5. What can we do to benefit the health of humans and other organisms?

Real World Context

- Nutrition - How does what you eat affect your body?
- Medical Implications – What may happen if the digestive system (or portions of the digestive system) is not functioning properly?

Learning Targets/Goals

Students will know....

1. Major systems of the human body include the digestive, respiratory, excretory, circulatory, muscular, skeletal, reproductive, and nervous.
2. Body systems are composed of organs. Each organ has a specific structure that relates to its function.
3. The liver removes toxins, digests fats, and regulates sugar and cholesterol. The liver helps the body respond to toxic substance that have been ingested.
4. Mechanical and chemical processes help to break down food. The greater the surface area, the faster the chemical break down. Mechanical breakdown increases this surface area.
5. The digestive system is a group of organs that breaks food down into smaller particles and contributes to food absorption.
6. Food must be broken down in order to be absorbed. Nutrients are absorbed into the circulatory system which carries them throughout the body. Waste is eliminated.
7. Weight gain or loss results when the input of food and output of energy (exercise) are not in balance.
8. Foods differ in nutritional content. Reading and interpreting nutritional labels is necessary to make good dietary decisions.
9. The respiratory system brings in oxygen and releases carbon dioxide for use in the body. Lungs provide a surface area for oxygen to enter and carbon dioxide to leave the blood.
10. The liver, kidneys, and large intestine help remove waste. The stomach and small intestine help in absorbing nutrients.

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task

Over the course of this unit, students will build a model of the internal structures the digestive system. In doing so, students demonstrate that they understand the specific and relative location and approximate size of each organ. Students will present their work. They will be asked to explain their model in terms of the structure and function of each organ.

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1
Model	Accurate placement of organs	1-2 errors in organ placement	3 errors in organ placement	more than 3 errors in organ placement
Presentation	Clearly, coherently provides appropriate description of structure/function	Provides appropriate description of structure/function with minimal (1-2) and/or minor errors	Provides appropriate description of structure/function with many (3-5) errors	Does not provides appropriate description of structure/function (5 or more)

Formative Assessments

Quiz – Name and Function of each organ in the digestive system.

Lab Activities –

1. *Break Down* - Students model the processes of mechanical and chemical breakdown of food to learn the importance of chewing food in providing nutrients to the body. They plan an investigation using good experimental design techniques, identify the variables kept constant, and discuss how the digestive system functions to provide nutrients to the body.
2. *Living with Your Liver*. Students take on roles in a play about the function of the liver. Discussion of the function of the liver, disease of the liver (cirrhosis) and keeping the liver healthy are discussed.

Summative Assessments:

Students will be given a comprehensive exam on the digestive system.

Student Self-Assessment and Reflection

Pairs Communication Activity

Directions: Pairs of students will write a short story describing the journey of food through the digestive system. Students must include key vocabulary words and describe the processes of the digestive system: digestion, absorption, and elimination.

Reflection:

Describe how you and your partner decided what to write?
What is your favorite part of the story you created? Why?
What aspect of working with a partner did you enjoy most?

Instructional Resources

Delaware Science Coalition Wiki site
Various online resources including Brain Pop, Teacher Tube, and NBC Learn.

Differentiation

Implementation of modifications as outlines in student IEP

Enrichment

Students may compare the nutrition labels of two types of snacks. They will determine which snack is healthier and justify their reasoning.

Students may select a disorder related to the digestive system and write a short report on it.

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

General Topics Introduction to the digestive system.

1. Ask the students the question, “Does every human eat food? Discuss the purpose of the J- and G- tube and how they are used in the medical field. **W, H**
2. What is digestion? Record a list of student ideas. Pull out key vocabulary from the student idea list. **W, H**
3. Show students a PPT slide of the digestive system. Students will have a similar picture as a worksheet. They will match key vocabulary (names of organs) terms to the picture. (Students will revisit and revise this worksheet throughout the mini-unit.) **W, E1, R**
4. Students will read a short passage on the process of digestion (focusing on the idea that digestion starts in your mouth) and answer the corresponding questions. **E1**
5. A short mini-lab will help students explore the impact of rate of digestion on foods particles of various sizes. **E1**
 - a. *Break Down* - Students model the processes of mechanical and chemical breakdown of food to learn the importance of chewing food in providing nutrients to the body. They plan an investigation using good experimental design techniques, identify the variables kept constant, and discuss how the digestive system functions to provide nutrients to the body.
6. Exit Slip (Check for Understanding) – Where does digestion begin? Explain how chewing your food affects digestion. **R, E2**

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Unit Title: Respiratory System

Grade Level(s): 6th

Subject/Topic Area: Science

Key Vocabulary: Respiratory System, Respiration, Inhale, Exhale, Oxygen, Carbon Dioxide, Nose, Mouth, Throat, Larynx, Lung, Diaphragm, Trachea, Bronchiole, Alveoli

Designed By: Delaware Science Coalition (Modified by: Yasha Simms)

Time Frame: 3 weeks

SUMMARY OF PURPOSE: Students learn about the major organ systems in the human body and their functions. Students examine the relationship between structure and function. Students critically evaluate information in order to make ethical and life style decisions.

Stage 1: Desired Results

Common Core/ Delaware Standards

Standard 6: Life Processes

Structure/Function Relationship

Students should know that:

1. Living systems in all kingdoms demonstrate the complementary nature of structure and function. Important levels of organization for structure and function include cells, tissues, organs, organ systems, and organisms.

Students should be able to:

- Explain that human body systems are comprised of organs (e.g., the heart, the stomach, and the lungs) that perform specific functions within one or more systems.

Students should know that:

6. The human body has systems that perform functions necessary for life. Major systems of the human body include the digestive, respiratory, reproductive, and circulatory systems.

Students should be able to: .

- Label and describe the functions of the basic parts of the respiratory system including the trachea, bronchi and lungs.

Regulation and Behavior

Students should know that:

1. Regulation of an organism's internal environment involves sensing external changes in the environment and responding physiologically to keep conditions within the range required for survival (e.g. changes in environmental temperature leading to changes in color of fur).

Students should be able to:

- Conduct simple investigations (how the body reacts to exercise, changes in temperature, etc.) to determine how the systems in the human organism respond to various external stimuli to maintain stable internal conditions.

Life Processes and Technology Application

Students should know that:

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1. Technological advances in medicine and improvements in hygiene have helped in the prevention and treatment of illness.

Students should know that:

2. The functioning and health of organisms are influenced by many factors (i.e., heredity, diet, lifestyle, bacteria, viruses, parasites, and the environment). Certain body structures and systems function to protect against disease and injury.

Students should be able to:

- Use knowledge of human body systems to synthesize research data and make informed decisions regarding personal and public health.

Research and report on how body systems are affected by lifestyle choices such as diet or exercise, for example lack of exercise leads to cardiovascular disease.

Key Concepts/Big Ideas

Systems- the human body has interrelated systems that are composed of related organs and other components. Systems and organs are part of the way people organize living systems from cells, to tissues, organs, to organ systems to organisms. (Discuss further).

Structure and function- The structure of body systems and organs is related to the function in a complementary manner.

Enduring Understandings

Students will understand that...

1. Human body systems, from tissues to organ systems, demonstrate the complementary nature of structure and function.
2. Organisms respond to internal and external cues, which aids in their survival.
3. The life processes of organisms are affected by their interactions with other organisms and with their environment. They and may be altered by human manipulation. Life style decisions impact the health of the body.

Essential Questions

1. What is the respiratory system?
2. What are the organs in the respiratory system?
3. What is the function of each organ in the respiratory system?
4. How does structure relate to function in human body organs and systems?
5. How do responses to internal and external cues aid in an organism's survival?
6. What can we do to benefit the health of humans and other organisms?

Real World Context

- Exercise – How does exercise affect the respiratory system?
- Health – How does smoking affect our respiratory system?
- Health – What happens when parts of the respiratory system is not functioning properly?

Learning Targets/Goals

Students will know....

1. The respiratory system brings in oxygen and releases carbon dioxide for use in the body. Lungs provide a surface area for oxygen to enter and carbon dioxide to leave the blood.
2. Blood is part of the circulatory system. Blood transports gases, nutrients, and wastes.
3. Cells in organs use the oxygen and nutrients carried by the blood, and produce carbon dioxide as a waste.
4. The liver, kidneys, and large intestine help remove waste. The stomach and small intestine help in absorbing nutrients.

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Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task: Students will use a homemade spirometer. Students will test their lung capacity by blowing into the tubing. They will conduct several trials. The class will pool all data to create a data table and graph.

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1
Graph	Graph contains all essential information (title, axis labels, data) and graph is correct.	Missing 1 piece of essential information (title, axis labels, data) and/or graph contains 1-2 errors.	Missing 2 pieces of essential information (title, axis labels, data) and graph contains 3 errors.	Missing more than 2 pieces of essential information (title, axis labels, data) and graph contains 3 errors
Chart	Data chart is complete and accurate.	Data chart is incomplete (1-2) omissions and/or uses the wrong format.	Data chart is incomplete (2-3) omissions and/or uses the wrong format.	Data chart is incomplete (3 or more) omissions and/or uses the wrong format.

Formative Assessments:

Quiz

Summative Assessments:

Comprehensive exam on respiratory organ structure and function

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Student Self-Assessment and Reflection

Pairs Communication Activity

Directions: *Lung Problems*. Students read about issues that arise due to smoking. Students must create a poster to discourage students from smoking.

Reflection:

1. Which part of this activity was easy? Which part was difficult?
2. How did you and your partner decide on what to include in your poster?
3. What is your favorite part of working with your partner?

Instructional Resources

Delaware Science Coalition Wiki site
Various online resources including Brain Pop, Teacher Tube, and NBC Learn.

Differentiation

Modifications implemented as per individual IEP

Enrichment

Great Aunt Lily's Will. Students role play "Great Aunt Lily's Will" and decide on the best use of limited funds to fight lung disease and promote public health.

Students can create a visual representation of the dangers of smoking.

Students can research the impact that air quality (especially in the inner city) has on our lungs.

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?

- **Calculator exploration of transformations using GeoMaster.**
- **Graphing transformations (single and composite) by hand on a Cartesian plane.**
- **Pairs Communication Activity.**

Group exploration using TI Navigator and Interwrite board.

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

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

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

Lesson 1

General Topics Introduction to the digestive system.

1. Ask the students the question, “How long can the average human hold their breath? Why is it important to breathe?” **W, H**
2. What is breathing? What is respiration? Record a list of student ideas. Pull out key vocabulary from the student idea list. **W, H**
3. Show students a PPT slide of the respiratory system. Students will label a diagram of the respiratory system. **W, E1, R**
4. Students will read a short passage on the process of respiration (focusing on how it is different than breathing) and answer the corresponding questions. **E1**
5. A short mini-lab will help students explore the sounds of respiration. **E1**
 - a. *Lung Sounds* - Students will investigate the sounds of respiration by listening to their own breathing using a stethoscope.
6. Exit Slip (Check for Understanding) – What is breathing? How is it different than respiration? **R, E2**

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Unit Title: Scientific Method

Grade Level(s): 6th

Subject/Topic Area: Science

Key Vocabulary: Problem, Observation, Inference, Hypothesis, Experiment, Independent Variable, Dependent Variable, Control, Variable, Data, Quantitative, Qualitative, Conclusion, Cycle

Designed By: Delaware Science Coalition (Modified by: Yasha Simms)

Time Frame: 3 weeks

SUMMARY OF PURPOSE: Students learn the important steps of scientific inquiry. Students are exposed to inquiry through hands-on experiences in which they collect and graph their own data.

Stage 1: Desired Results

Common Core/ Delaware Standards

Standard 6: Life Processes

Standard 1: Nature and Application of Science and Technology

Understandings and Abilities of Scientific Inquiry

Students will know and be able to:

1. Understand that: Scientific investigations involve asking testable questions. Different kinds of questions suggest different scientific investigations. The current body of scientific knowledge guides the investigation.
 - Be able to: Frame and refine questions that can be investigated scientifically, and generate testable hypotheses.
2. Understand that: A valid investigation controls variables. Different experimental designs and strategies can be developed to answer the same question.
 - Be able to: Design and conduct investigations with controlled variables to test hypotheses.
3. Understand that: In a scientific investigation, data collection involves making precise measurements and keeping accurate records so that others can replicate the experiment.
 - Be able to: Accurately collect data through the selection and use of tools and techniques appropriate to the investigation. Construct tables, diagrams and graphs, showing relationships between two variables, and display and facilitate analysis of data. Compare and question results with and from other students.
4. Understand that: There is much experimental and observational evidence that supports a large body of knowledge. The scientific community supports known information until new experimental evidence arises that does not match existing explanations. This leads to the evolution of the scientific body of knowledge.
 - Be able to: Form explanations based on accurate and logical analysis of evidence. Revise the explanation using alternative descriptions, predictions, models and knowledge from other sources as well as results of further investigation.
5. Understand that: Evaluating the explanations proposed by others involves examining and comparing evidence, identifying faulty reasoning, pointing out statements that go beyond

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the evidence, and suggesting alternative explanations for the same observations. Conflicting data or conflicting interpretations of the same data suggest the need for further investigation. Continued investigation can lead to greater understanding and resolution of the conflict.

- Be able to: Communicate scientific procedures, data, and explanations to enable the replication of results. Use computer technology to assist in communicating these results. Critical review is important in the analysis of these results.
6. Understand that: Scientific habits of mind and other sources of knowledge and skills are essential to scientific inquiry. Habits of mind include tolerance of ambiguity, skepticism, openness to new ideas, and objectivity. Other knowledge and skills include mathematics, reading, writing, and technology.
- Be able to: Use mathematics, reading, writing, and technology when conducting scientific inquiries.

Key Concepts/Big Ideas

Investigations – There are multiple methods of solving problems in science. There are trade-offs associated with various methods of collecting data.

Evidence- People use observations and data to support scientific explanations.

Enduring Understandings

Students will understand that...

1. Scientific inquiry of human body systems involves asking scientifically-oriented questions, collecting evidence, forming explanations, connecting explanations to prior scientific knowledge and theory, and communicating and justifying the explanation. There are many ways to problem solve in science, not just one scientific method.
2. Science and technology drive each other forward.
3. Understanding past contributions is essential in building scientific knowledge.

Essential Questions

1. What makes a question scientific?
2. What constitutes evidence?
3. When do you know you have enough evidence?
4. Why is it necessary to justify and communicate an explanation?
5. What ethical issues arise when studying people scientifically?

Real World Context

- Medical Advances – Students will explore that way in which the scientific method was used to develop a cure for many diseases

Learning Targets/Goals

Students will know....

1. The traditional scientific method involves asking a question, generating a testable hypothesis, collecting evidence, analyzing data, and drawing conclusions. Scientific problem solving, however, is a varied process.
2. Good experimental design involves an accurately described procedure, variables and constants, the use of a control, appropriate use of qualitative or quantitative data, and a large sample size.

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This structure allows other scientists to then replicate the experiment.

3. Scientists use research and experimentation to prove or disprove some hypothesis.
4. When making a decision involving a complex issue, there are trade offs.
5. Historically, people have contributed to the development of scientific ideas.
6. Scientific ethics must be considered when discussing whether investigations should be conducted.
7. In medicine, clinical trials are used to test the effectiveness of medicines. Clinical trials involve a placebo group and use a large sample size.
8. Graphed data often reveals patterns that are not apparent otherwise.
9. A variable is a factor that may affect the result of an investigation if it is not held constant. Good experimental design involves controlling variables.
10. Data can be either qualitative or quantitative. Both are important when studying people scientifically.

Stage 2: Evidence of Student Achievement

Transfer Task

Performance Task: Students read about how qualitative and quantitative data are used to study people and how this data is important in providing a complete description of an experiment and its results. Students will analyze data to decide how funds should be appropriated. Students will be asked to justify their decisions using data.

Rubrics for Transfer Tasks

Performance Task

	4	3	2	1
	Student makes logic decisions based on the data. Student justifies each decision using data.	Missing 1 piece of essential information (title, axis labels, data) and/or graph contains 1-2 errors.	Missing 2 pieces of essential information (title, axis labels, data) and graph contains 3 errors.	Missing more than 2 pieces of essential information (title, axis labels, data) and graph contains 3 errors
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Formative Assessments:

Quiz

1. Lab Exercises –

- a. Activity 1- Collection of data on student worksheets provides formative evidence of student understanding of scientific data collection and graphing.
- b. Activity 2-Testing Medicines Scientifically- Students read about placebo-controlled testing and make decisions about complex issues often involving trade-offs (giving up one thing in favor of another)
- c. Activity 3-Can You Feel the Difference?-Students are introduced to variables while conducting an exploratory investigation into human sensitivity to touch. This concept is expanded in Activity
- d. Activity 4-Data Toss reinforces the idea of collecting both quantitative and qualitative data using an activity testing student’s ability to catch a ball with one vs. two hands.

Summative Assessments:

Comprehensive exam on the process of scientific inquiry

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Student Self-Assessment and Reflection

Pairs Communication Activity

Directions: *Pellagra* – Students work in pairs to analyze a video. Students must describe how the scientific method was used to develop a cure for Pellagra.

Reflection:

1. Which part of this activity was easy? Which part was difficult?
2. How did you and your partner decide which part of the video coincided with the steps of the scientific method?
3. What is your favorite part of working with your partner?

Instructional Resources

Delaware Science Coalition Wiki site
Various online resources including Brain Pop, Teacher Tube, and NBC Learn.

Differentiation

Modifications implemented as per individual IEP

Enrichment

Students read about placebo-controlled testing and make decisions about complex issues often involving trade-offs (giving up one thing in favor of another)

Students can research the issues involved in testing medicines on humans. They will decide if they are for or against human testing.

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?

- **Calculator exploration of transformations using GeoMaster.**
- **Graphing transformations (single and composite) by hand on a Cartesian plane.**
- **Pairs Communication Activity.**

Group exploration using TI Navigator and Interwrite board.

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Lesson 1

1. Ask the students the question, “How do humans solve problems? How do scientists solve problems?” **W, H**
2. A mini-lab will help students explore the ways that problems can be solved: Students work in groups to investigate scientific problem solving through saving Fred (a gummy worm) from drowning and discuss the variations among problem solving techniques. **W, H**
3. Students are asked to imagine a scientist and to draw what they see. Show students a PPT slide of the famous scientist (of various ethnicities) and describe their work. Let students know that anyone can be a scientist if they use scientific thinking. **W, E1, R**
4. Students will read a short passage on the process of scientific thinking and answer the corresponding questions. **E1**
5. Exit Slip (Check for Understanding) – What does a scientist look like? How do scientists solve problems? **R, E2**

Interim Cycle 1

Teacher: Matthew Fingerman

Subject: History

Grade: 6

Focus for Week 1: Introduction to History Sub-Skills: Procedures and Expectations Anchor Text(s): N/A				
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	<u>State Standard</u> N/A <u>Sub-Skill 1:</u> SWBAT understand syllabus and class expectations and procedures <u>Sub-Skill 2:</u>	<u>State Standard</u> Geography <u>Sub-Skill 1:</u> SWBAT effectively use and navigate an Atlas <u>Sub-Skill 2:</u>	LABOR DAY: NO SCHOOL
Focus for Week 2: World Geography – Introduction Sub-Skills: Students will examine parts of a map and begin working on coordinates and longitude and latitude. Anchor Text(s): World Geography text book, various handouts from Daily Geography practice				
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	<u>State Standard</u> Geography <u>Sub-Skill 1:</u> SWBAT understand and identify a map key. Students will understand the difference between cardinal and intermediate directions. <u>Sub-Skill 2:</u> SWBAT understand, identify and draw scale on a map.	<u>State Standard</u> Geography <u>Sub-Skill 1:</u> SWBAT define longitude and latitude. <u>Sub-Skill 2:</u> SWBAT understand why longitude and latitude are important in identifying locations.	<u>State Standard</u> Geography <u>Sub-Skill 1:</u> SWBAT will be able to track their own coordinates and identify locations based on longitude and latitude. <u>Sub-Skill 2:</u> Students will be able to explain the difference between absolute and relative location.	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
Focus for Week 3: World Geography – Beginning Students will identify how regions and geography determine cultures and societies. Students will also learn about Absolute and relative location. Different features of geography such as lakes, river, oceans, mountains, dikes, hills ect will be covered. Students will be able to understand important keys on a map, compass rose. Students will be able to analyze the difference between climate and weather and how climate affects geography and landscapes. Anchor Text(s): World Geography text book, various handouts, images of local landmarks will be used to show the difference between absolute and relative location, Daily Geography practice workbook.				
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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> Geography <u>Sub-Skill 1:</u> SWBAT describe how climate affects human populations and their movement. <u>Sub-Skill 2:</u>	<u>State Standard</u> Geography <u>Sub-Skill 1:</u> SWBAT identify and define key vocabulary relating to physical geographic features. <u>Sub-Skill 2:</u>	<u>State Standard</u> Geography <u>Sub-Skill 1:</u> Review and Assessment <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
Focus for Week 4: Early/Ancient Man and civilizations Sub-Skills: Students will understand the lifestyles and social structure of Paleolithic man and the advancements that led to the Neolithic era. Students will also understand the meaning and importance of theory. Students will learn about the cave paintings in France and their discovery by four boys.				

Anchor Text(s): Journey across Time, Human Evolution textbook				
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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> Evolution/Early Man <u>Sub-Skill 1:</u> SWBAT describe the basic theory of evolution. <u>Sub-Skill 2:</u> SWBAT describe the meaning of theory.	<u>State Standard</u> Evolution/Early Man <u>Sub-Skill 1:</u> SWBAT list key features relating to the lifestyles and social structures of Paleolithic man. <u>Sub-Skill 2:</u>	<u>State Standard</u> Evolution/Early Man <u>Sub-Skill 1:</u> SWBAT list key features relating to the lifestyles and social structures of Neolithic man. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>

Focus for Week 5: Early/Ancient Man and civilizations
Sub-Skills: Students will examine how early man developed into the Neolithic era and the new stone age. Advances in farming and domestication will be examined. Students will learn about Otzi the Iceman and will examine the origins of civilization in the middle east.
Anchor Text(s): Various handouts on Otzi and Hart’s World History –Prehistoric to the Present textbook
Anchor Text(s): Holt World History textbook, Journey across time and Human evolution textbook

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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> Evolution/Early Man <u>Sub-Skill 1:</u> SWBAT describe the importance and theories relating to Otzi the iceman. <u>Sub-Skill 2:</u>	<u>State Standard</u> Evolution/Early Man <u>Sub-Skill 1:</u> SWBAT list and describe the various advancements of the Stone and Bronze Age. <u>Sub-Skill 2:</u>	INTERIM #1 Geography	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>

Interim Cycle 2
 Teacher: Matthew Fingerman
 Subject: History
 Grade: 6

Focus for Week 1: Early/Ancient Man and civilizations				
Sub-Skills: Students will learn about the rise of civilizations in the middle east and the government and social structures of Mesopotamia.				
Anchor Text(s): Workbook of Mesopotamia and Holt’s Exploring World History textbook, What the history books never told you book, Journey across time, holt’s world history.				
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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> History/Early Civilizations <u>Sub-Skill 1:</u> SWBAT understand the geographic reasons for the rise of civilizations in the fertile crescent. <u>Sub-Skill 2:</u>	<u>State Standard</u> History/Early Civilizations <u>Sub-Skill 1:</u> SWBAT identify the reasons and rise of Mesopotamia. <u>Sub-Skill 2:</u>	<u>State Standard</u> History/Early Civilizations/Economics <u>Sub-Skill 1:</u> SWBAT understand the social and economic structures of Mesopotamia. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
Focus for Week 2: Focus for Week 5: Early/Ancient Man and civilizations				
Sub-Skills: Students will learn about the various empires of Sumer, Assyria and Babylon.				

Anchor Text(s): workbook on Mesopotamia and Holt’s Exploring World History textbook, what the history books never told you book, journey across time, Holt’s World History.				
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
<u>State Standard</u>	<u>State Standard</u> History/Early Civilizations	<u>State Standard</u> History/Early Civilizations	<u>State Standard</u> History/Early Civilizations	<u>State Standard</u>
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u> SWBAT identify the key features and events of the Kingdom of Sumer.	<u>Sub-Skill 1:</u> SWBAT identify the key features and events of the Kingdom of Assyria.	<u>Sub-Skill 1:</u> SWBAT identify the key features and events of the Kingdom of Babylon.	<u>Sub-Skill 1:</u>
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>
Focus for Week 3: Ancient Egypt				
Sub-Skills: Students will learn how the formations of ancient Egypt came about and the social and economic structures that made it powerful.				
Anchor Text(s): Workbook on Ancient Egypt, journey across time, Holt’s World History.				
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
<u>State Standard</u>	<u>State Standard</u> History/Ancient Egypt	<u>State Standard</u> History/Ancient Egypt	<u>State Standard</u> History/Ancient Egypt	<u>State Standard</u>
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u> SWBAT identify key geological features of Egypt and how it led to the kingdoms rise.	<u>Sub-Skill 1:</u> SWBAT understand why the Nile was essential to the growth of ancient Egypt. v	<u>Sub-Skill 1:</u> SWBAT summarize the main events leading to the rise of Ancient Egypt, including its founding leaders.	<u>Sub-Skill 1:</u>
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>
Focus for Week 4: Ancient Egypt				
Sub-Skills: Students will learn about social structure and burial practices of ancient Egyptians.				
Anchor Text(s): Primary source examination and various handouts/worksheets, journey across time, Holt’s World History.				
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
<u>State Standard</u>	<u>State Standard</u> History/Ancient Egypt	<u>State Standard</u> History/Ancient Egypt	<u>State Standard</u> History/Ancient Egypt	<u>State Standard</u>
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u> SWBAT reproduce and summarize the social structure of ancient Egypt.	<u>Sub-Skill 1:</u> SWBAT analyze preconceived notions relating to mummies in contemporary society.	<u>Sub-Skill 1:</u> SWBAT describe the significance and importance of the Valley of the Kings and Pyramids of Giza.	<u>Sub-Skill 1:</u>
<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u> SWBAT describe the various burial customs of ancient Egypt.	<u>Sub-Skill 2:</u>	<u>Sub-Skill 2:</u>
Focus for Week 5 Ancient Egypt				
Sub-Skills: Students will examine the life of King Tut, the Rosetta Stone and examine the reasons for the fall of the Egyptian empire.				
Anchor Text(s): handouts on Egyptian religion, World History – Prehistoric to the Present, journey across time, Holt’s World History.				
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
<u>State Standard</u> History/Ancient Egypt	<u>State Standard</u> History/Ancient Egypt	INTERIM #2 MATH	<u>State Standard</u> History/Ancient Egypt	<u>State Standard</u>
<u>Sub-Skill 1:</u>	<u>Sub-Skill 1:</u> SWBAT identify and		<u>Sub-Skill 1:</u> SWBAT describe and identify the	<u>Sub-Skill 1:</u>

SWBAT understand how hieroglyphics contributed to Egyptian society. Sub-Skill 2: SWBAT identify how the discovery of the Rosetta stone changed the study of Egypt in contemporary society.	summarize the discoveries relating to the tomb of King Tut. Sub-Skill 2 SWBAT identify how popular reaction to the discovery of King Tut changed the study of Egypt in contemporary society.		key reasons for the decline and fall of ancient Egypt. Sub-Skill 2:	Sub-Skill 2:
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Interim Cycle #3

Teacher: Matthew Fingerman

Subject: History

Grade: 6

Focus for Week 1: Ancient Hebrew Sub-Skills: Students will learn about the social and economic structures of ancient Canaan. Anchor Text(s): Exploring World History Textbook and World History prehistoric to the present textbook, Golden’s Ancient Caanan textbook, Journey Across Time, Holt’s World History.				
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
<u>State Standard</u> History/Ancient Canaan <u>Sub-Skill 1:</u> SWBAT identify the key reasons and factors relating to the rise of ancient Canaan. <u>Sub-Skill 2:</u>	<u>State Standard</u> History/Ancient Canaan/Economics <u>Sub-Skill 1:</u> SWBAT identify key social and economic structures relating to ancient Canaan. <u>Sub-Skill 2:</u>	<u>State Standard</u> History/Ancient Canaan <u>Sub-Skill 1:</u> SWBAT summarize the main reasons for the fall of ancient Canaan. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	VETERANS DAY: NO SCHOOL
Focus for Week 2: Ancient Hebrew/History of Modern Middle East Sub-Skills: Students will the core believes of Islam and Judaism, such as founders, texts and beliefs. Anchor Text(s): Introduction to Judaism, history of the modern middle east textbook. Exploring our world: people, places and cultures				
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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> History/Civics <u>Sub-Skill 1:</u> SWBAT describe the basics beliefs of Judaism, including its leaders and texts. <u>Sub-Skill 2:</u>	<u>State Standard</u> History/Civics <u>Sub-Skill 1:</u> SWBAT describe the basic beliefs of Christianity, including its leaders and texts. <u>Sub-Skill 2:</u>	<u>State Standard</u> History/Civics <u>Sub-Skill 1:</u> SWBAT describe the basic beliefs of Islam, including its leaders and texts. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
Focus for Week 3: Modern Middle East Sub-Skills: Students will continue to learn about the rise and spread of Islam and its cultural interactions with European nations. Anchor Text(s): Exploring World History Textbook and World History prehistoric to the present textbook.				
Monday, November 21, Day #63	Tuesday, November 22, Day #64	Wednesday, November 23	Thursday, November 24	Friday, November 25
<u>State Standard</u>	<u>State Standard</u> History/Spread of Islam	THANKSGIVING BREAK: NO SCHOOL (PD DAY FOR	THANKSGIVING BREAK: NO SCHOOL	THANKSGIVING BREAK: NO SCHOOL

<p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>Sub-Skill 1: SWBAT describe the basic government structure of the Ottoman Empire.</p> <p>Sub-Skill 2: SWBAT summarize how the Ottoman Empire contributed to the spread of Islam.</p>	<p>TEACHERS)</p>		
<p>Focus for Week 4: Sub-Skills: Students will learn about how the ancient civilizations of the Middle East play a direct role in the conflicts in the Middle East that exist today. Ideas of democracy, terrorism, civics and economics of the region will be explored.</p> <p>Anchor Text(s): Current event newspapers and primary news articles</p>				
<p>Monday, November 28, Day #65</p>	<p>Tuesday, November 29, Day #66</p>	<p>Wednesday, November 30, Day #67</p>	<p>Thursday, December 1, Day #68</p>	<p>Friday, December 2, Day #69</p>
<p>State Standard</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard Civics/History</p> <p>Sub-Skill 1: SWBAT familiarize themselves with the geography of the modern middle East.</p> <p>Sub-Skill 2:</p>	<p>State Standard Civics/History</p> <p>Sub-Skill 1: SWBAT familiarize themselves with the political structures of the modern Middle East.</p> <p>Sub-Skill 2:</p>	<p>State Standard Civics/History/Economics</p> <p>Sub-Skill 1: SWBAT identify and summarize various economic structures of the modern Middle East.</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>
<p>Focus for Week 5: Modern Middle East</p> <p>Sub-Skills: Students will learn about the current Arab-Israeli Conflict. Students will be able to understand the conflict as a tragedy in misunderstanding and imperial circumstances (British/Ottoman control of the region). Students will be able to identify key people related to the peace process.</p> <p>Anchor Text(s): Current event newspapers and primary news articles and declarations including various passages from respective religious texts.</p>				
<p>Monday, December 5, Day #70</p>	<p>Tuesday, December 6, Day #71</p>	<p>Wednesday, December 7, Day #72</p>	<p>Thursday, December 8, Day #73</p>	<p>Friday, December 9, Day #74 ½ Day – one hour block</p>
<p>State Standard</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard Civics/History</p> <p>Sub-Skill 1: SWBAT describe the key events leading to the rise of the State of Israel.</p> <p>Sub-Skill 2:</p>	<p>State Standard Civics/History</p> <p>Sub-Skill 1: SWBAT describe various issues and conflicts relating to the State of Israel.</p> <p>Sub-Skill 2:</p>	<p>State Standard Civics/History</p> <p>Sub-Skill 1: SWBAT describe the current efforts relating to the peace process in the Middle East.</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>
<p>Focus for Week 6: Economics</p> <p>Sub-Skills: Students will be able to identify and explain key terms and vocabulary relating to economics, what is money and why the value of money changes. Students will be able to explain the theory of supply and demand and how resources affect economic output. Students will be able to understand the three basic types of economies (traditional, command, market).</p> <p>Anchor Text(s): News article on rise in gas prices, Middle School Economics - National Council on Economic Education</p>				
<p>Monday, December 12, Day #75</p>	<p>Tuesday, December 13, Day #76</p>	<p>Wednesday, December 14, Day #77</p>	<p>Thursday, December 15, Day #78</p>	<p>Friday, December 16, Day #79</p>
<p>State Standard</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>	<p>State Standard Economics/Supply and Demand</p> <p>Sub-Skill 1: SWBAT describe the key theories and components of Supply and Demand.</p> <p>Sub-Skill 2:</p>	<p>State Standard Economics/Market Economy</p> <p>Sub-Skill 1: SWBAT describe the differences between a traditional, command and market economy.</p> <p>Sub-Skill 2:</p>	<p>State Standard Economics/Banks and Financial Institutions</p> <p>Sub-Skill 1: SWBAT how banks and financial institutions shape economic policy and affect the general population.</p> <p>Sub-Skill 2:</p>	<p>State Standard</p> <p>Sub-Skill 1:</p> <p>Sub-Skill 2:</p>

Focus for Week 7: Economics Sub-Skills: Students will be able to explain how various governments interact with economic markets (cultural influences on the economy) such as tariffs and incentives. Students will be able to explain how technology affects the means of production, distribution, and exchange in different economic systems (Amish vs. NYC). Anchor Text: Middle School Economics – National Council on Economic Education.				
Monday, December 19, Day #80	Tuesday, December 20, Day #81	Wednesday, December 21, Day #82	Thursday, December 22, Day #83	Friday, December 23
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> Economics/Government Regulation <u>Sub-Skill 1:</u> SWBAT how government regulation affects economic incentives for citizens. <u>Sub-Skill 2:</u>	<u>State Standard</u> Economics/GDP and Currency <u>Sub-Skill 1:</u> SWBAT define Gross Domestic Product. <u>Sub-Skill 2:</u> SWBAT describe the importance of currency in the international marketplace.	<u>State Standard</u> Review and Assessment <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	WINTER BREAK: NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 8: Culture reset Sub-Skills: n/a Anchor Text(s): n/a				
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: Mayan Civilization Sub-Skill: Students will be able to describe the rise, fall, economy and social structures of Mayan Civilizations. Anchor Text(s): The Ancient Maya by Lilia Perl				
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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> Geography/History/Mayan <u>Sub-Skill 1:</u> SWBAT familiarize themselves with the geography of Latin America. <u>Sub-Skill 2:</u>	<u>State Standard</u> Geography/Civics <u>Sub-Skill 1:</u> SWBAT identify key threats and reasons for deforestation in Latin America. <u>Sub-Skill 2:</u>	<u>State Standard</u> History/Mayan <u>Sub-Skill 1:</u> SWBAT describe the reasons for the rise of Mayan civilizations and its social structure. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
Focus for Week 10: Inca Civilization Sub-Skill: Students will be able to describe the rise, fall, economy and social structures of Inca society. Anchor Text(s): The Ancient Inca by Patricia Calvert				
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	<u>State Standard</u> History/Mayan <u>Sub-Skill 1:</u> SWBAT define the class, economic and social structures of Mayan civilization. <u>Sub-Skill 2:</u>	<u>State Standard</u> History/Inca <u>Sub-Skill 1:</u> SWBAT summarize the rise of the Inca Empire. <u>Sub-Skill 2:</u> SWBAT describe key events in Inca history.	<u>State Standard</u> History/Inca <u>Sub-Skill 1:</u> SWBAT describe the fall of the Inca Empire and the outcome of the Inca's encounter with Europeans. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>

Focus for Week 11: Aztec Civilization Sub-Skill: Students will be able to describe the rise, fall, economy and social structures of Aztec society. Anchor Text(s): The Ancient Aztecs by Liz Sonneborn				
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
<u>State Standard History/Aztec</u> <u>Sub-Skill 1:</u> SWBAT describe the rise of Aztec society and identify key social structures. <u>Sub-Skill 2:</u>	<u>State Standard History/Aztec</u> <u>Sub-Skill 1:</u> SWBAT summarize the events leading to the fall of the Aztecs, including the encounter with Europeans. <u>Sub-Skill 2:</u>	Interim #3 Math	<u>State Standard Review and Assessment</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>

Interim Cycle 4

Teacher: Matthew Fingerman

Subject: History

Grade: 6

Focus for Week 1: Ancient Greece Sub-Skills: Students will learn about the formation of the ancient Greek state including essential economic and sociological factors. Anchor Text(s): Workbooks on Ancient Greece, World History textbook, Journey Across Time, Holt's World History				
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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard History/Greece/Geography</u> <u>Sub-Skill 1:</u> SWBAT familiarize themselves with the geography of ancient and modern Greece. <u>Sub-Skill 2:</u>	<u>State Standard History/Greece</u> <u>Sub-Skill 1:</u> SWBAT describe the political system of ancient Greece. <u>Sub-Skill 2:</u>	<u>State Standard History/Greece</u> <u>Sub-Skill 1:</u> SWBAT describe the social structures of Ancient Greece. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
Focus for Week 2: Ancient Greece Sub-Skills: Students will learn about the diversity of Greek culture and understand the basics of Greek religion. Anchor Text(s): Book of Greek Myths, movie Hercules and other Greek tragedies, Journey Across Time, Holt's World History				
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
<u>State Standard History/Greece</u> <u>Sub-Skill 1:</u> SWBAT describe how trade influenced Greek culture. <u>Sub-Skill 2:</u>	<u>State Standard History/Greece</u> <u>Sub-Skill 1:</u> SWBAT describe the main components of Greek religion. <u>Sub-Skill 2:</u>	<u>State Standard History/Greece</u> <u>Sub-Skill 1:</u> SWBAT describe the importance of religion in society and modern misconceptions relating to Greek religion. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 4: Ancient Greece Sub-Skills: Students will examine the differences between Athens and Sparta and will trace the rise of Alexander The Great. . Anchor Text(s): Book of Greek Myths				

Monday, February 13, Day #111	Tuesday, February 14, Day #112	Wednesday, February 15, Day #113	Thursday, February 16, Day #114	Friday, February 17
PRESIDENT'S DAY: NO SCHOOL	<u>State Standard History/Greece</u> <u>Sub-Skill 1:</u> SWBAT describe the causes and outcomes of the Persian wars. <u>Sub-Skill 2:</u>	<u>State Standard History/Greece</u> <u>Sub-Skill 1:</u> SWBAT compare and contrast life in Sparta and life in Athens. <u>Sub-Skill 2:</u>	<u>State Standard History/Greece</u> <u>Sub-Skill 1:</u> SWBAT trace the rise of Alexander the Great and the spread of culture to Egypt. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>

Focus for Week 4: Ancient Greece

Sub-Skills: Students will examine the philosophies of Socrates, Aristotle and Plato and how it shaped modern society.

Anchor Text(s): Differentiated primary text sources, secondary source examination and Greek Workbook handouts Journey Across Time, Holt's World History

Monday, February 20	Tuesday, February 21, Day #115	Wednesday, February 22, Day #116	Thursday, February 23, Day #117	Friday, February 24, Day #118
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard History/Greece</u> <u>Sub-Skill 1:</u> SWBAT describe the contributions of Greek philosophers in ancient and modern societies. <u>Sub-Skill 2:</u>	<u>State Standard History/Greece</u> <u>Sub-Skill 1:</u> SWBAT identify the various departments in higher education that examine ancient Greek culture. <u>Sub-Skill 2:</u>	<u>State Standard Review/Assessment</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>

Focus for Week 5: Beginnings of Ancient Rome

Sub-Skills: Students will understand myths relating to the beginnings of Rome and the economic and social structures of Ancient Rome and what led to its rise in power.

Anchor Text(s): World History Prehistoric times to the Present and workbooks on ancient Rome, Journey Across Time, Holt's World History

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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard History/Rome</u> <u>Sub-Skill 1:</u> SWBAT describe the geography and geographic features of ancient and modern Rome. <u>Sub-Skill 2:</u>	<u>State Standard History/Rome</u> <u>Sub-Skill 1:</u> SWBAT summarize and explain the origins of Rome and the story of Romulus and Remus. <u>Sub-Skill 2:</u>	<u>State Standard History/Rome</u> <u>Sub-Skill 1:</u> SWBAT describe the government of the Roman Empire and its significance in modern society. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>

Focus for Week 6: Ancient Rome

Sub-Skills: Students will examine the early Roman Republic, the Punic Wars and Hannibal.

Anchor Text(s): Handouts from workbook and World History Prehistoric times to the present textbook, Roman City School Kit movies and teacher's guide pbs video.

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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard History/Rome</u> <u>Sub-Skill 1:</u> SWBAT identify and elaborate on the social structures that existed in Ancient Rome. <u>Sub-Skill 2:</u>	<u>State Standard History/Rome</u> <u>Sub-Skill 1:</u> SWBAT describe the origins, events and outcomes of the Punic Wars. <u>Sub-Skill 2:</u>	<u>State Standard History/Rome</u> <u>Sub-Skill 1:</u> SWBAT identify and list key contributions of Roman philosophers such as Hannibal. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>

			<u>Sub-Skill 2:</u>	
Focus for Week 7: Ancient Rome Sub-Skills: Students will examine the Roman wars in Jerusalem, contributions of Rome on Christianity and the slave rebellion of Spartacus. Anchor Text(s): handouts from workbook and World History prehistoric times to the present textbook, local library will provide supplement reading, <i>Journey Across Time, Holt's World History</i>				
Monday, March 12, Day #129	Tuesday, March 13, Day #130	Wednesday, March 14, Day #131	Thursday, March 15, Day #132	Friday, March 16
<u>State Standard History/Rome</u> <u>Sub-Skill 1:</u> SWBAT describe the origins, events and outcome of the Roman conflicts in Jerusalem. <u>Sub-Skill 2:</u>	<u>State Standard History/Rome</u> <u>Sub-Skill 1:</u> SWBAT identify the contributions of the Roman Empire in the founding of Christianity. <u>Sub-Skill 2:</u>	<u>State Standard History/Rome</u> <u>Sub-Skill 1:</u> SWBAT express the causes and outcomes of the slave rebellion of Spartacus. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	NO SCHOOL (PD DAY FOR TEACHERS)
Focus for Week 8: Ancient Rome Sub-Skills: Students will examine the various theories/reasons for the fall of the Roman Empire. Students will begin to summarize what they have learned about the roman empire and will prepare for the assessment. Anchor Text(s): World History textbook and various handouts from workbook, primary sources from the period examining fractures in roman society will also be examined. Uncovering the documents will also be examined regarding Pompeii.				
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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard History/Rome</u> <u>Sub-Skill 1:</u> SWBAT identify key factors relating to life and rise of Julius Caesar. <u>Sub-Skill 2:</u>	<u>State Standard History/Rome</u> <u>Sub-Skill 1:</u> SWBAT describe the causes and events that led to the fall of the Roman Empire. <u>Sub-Skill 2:</u>	<u>State Standard Review and Assessment</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
Focus for Week 9: Ancient India Sub-Skills: Students will examine the various political, economic and social structures of the ancient India. Anchor Text(s): World History textbook, various workbooks, <i>Journey Across Time, Holt's World History</i>				
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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard History/Ancient India</u> <u>Sub-Skill 1:</u> SWBAT locate and describe the major river systems and discuss the physical settings of Ancient India. <u>Sub-Skill 2:</u>	<u>State Standard History/Ancient India</u> <u>Sub-Skill 1:</u> SWBAT describe the political and social structures of Ancient India. <u>Sub-Skill 2:</u> SWBAT identify the significance and origins of the Caste System.	<u>State Standard History/Ancient India</u> <u>Sub-Skill 1:</u> SWBAT identify the causes and lasting outcomes of the Aryan invasions. <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
Focus for Week 10: Ancient India Sub-Skills: Students will examine the spread and influence of Buddhism and Hinduism. If there is time left over students will examine the influences of Gandhi and Indian independence. Anchor Text(s): Ancient India web quest, journey to the Ganges, sources on Gandhi. <i>Exploring our world; people, places and Cultures</i>				
Monday, April 2, Day #143	Tuesday, April 3, Day #144	Wednesday, April 4, Day #145	Thursday, April 5, Day #146	Friday, April 6
<u>State Standard History/Ancient India</u>	<u>State Standard History/Ancient India</u>	<u>State Standard History/Ancient India</u>	<u>State Standard</u>	SPRING BREAK: NO SCHOOL

Sub-Skill 1: SWBAT explain the life and teachings of Buddha.	Sub-Skill 1: SWBAT explain the spread of Buddhism in India, Ceylon and Central Asia.	Sub-Skill 1: SWBAT describe the growth of Maurya Empire and the achievements of Emperor Asoka.	Sub-Skill 1:	
Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	
Focus for Week 11:				
Sub-Skills: Students will examine contemporary issues relating to India, Pakistan and the region. Students will identify key influences in the region that are based on ancient history, such as land and religious disputes.				
Anchor Text(s): Students will read contemporary news articles and declassified government documents.				
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
State Standard History/Ancient India/Civics	State Standard History/Ancient India	INTERIM #4 MATH	State Standard Review/Assessment	State Standard
Sub-Skill 1: SWBAT illustrate the key events leading to modern Indian society.	Sub-Skill 1: SWBAT describe contemporary issues relating to India.		Sub-Skill 1:	Sub-Skill 1:
Sub-Skill 2:	Sub-Skill 2: SWBAT identify major causes that have led to conflict with Pakistan.		Sub-Skill 2:	Sub-Skill 2:

(Post-Interims) Review; DCAS Testing Period

Teacher:

Subject: ELA

Grade: 7

Focus for Week 1: Ancient China				
Sub-Skills: Students will learn of the beginnings of Ancient Chinese civilization and the warring states period.				
Anchor Text(s): Journey Across Time, Holt's World History				
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	State Standard History/Ancient China	State Standard History/Ancient China	State Standard History/Ancient China	State Standard
Sub-Skill 1:	Sub-Skill 1: SWBAT describe key geological features and develop a mental map of ancient and modern China.	Sub-Skill 1: SWBAT describe the origins of civilization in the Huang He Valley during the Shang Dynasty.	Sub-Skill 1: SWBAT describe how geographic settings isolated China from other civilizations.	Sub-Skill 1:
Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2:	Sub-Skill 2: SWBAT identify the international significance of the Silk Road in ancient societies.	Sub-Skill 2:
Focus for Week 2: Ancient China				
Sub-Skills: Students will examine the Qin, Han and Tang Dynasties and be able to describe the key events that took place in each respective dynasty.				
Anchor Text(s): Various secondary sources examining the respective dynasties, handouts on ancient China from grade specific workbook.				
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	State Standard History/Ancient China	State Standard History/Ancient China	State Standard History/Ancient China	State Standard

<u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>Sub-Skill 1:</u> SWBAT describe the life and importance of Confucius in ancient and modern Chinese society. <u>Sub-Skill 2:</u>	<u>Sub-Skill 1:</u> SWBAT identify the developments during the Han Dynasty, including the outcomes of their interaction with the Roman Empire. <u>Sub-Skill 2:</u>	<u>Sub-Skill 1:</u> SWBAT describe the developments during the Qin Dynasty, including the policies and achievements of Emperor Shi Huangdi. <u>Sub-Skill 2:</u>	<u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
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Focus for Week 3: Ancient China

Sub-Skills: Students will examine the self-sufficient policies of the Ming Dynasty including the building of Great Wall, and examine the fall of the Chinese Empire.

Anchor Text(s): Secondary sources on the Ming Dynasty, World History text book and handouts from workbook.

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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> History/Ancient China <u>Sub-Skill 1:</u> SWBAT analyze how the Mongol threat contributed to the self-sufficient policies of the Ming Dynasty, including the building of the Great Wall. <u>Sub-Skill 2:</u>	<u>State Standard</u> History/Ancient China <u>Sub-Skill 1:</u> SWBAT identify the roles that imperialism played on the fall of Ancient China. <u>Sub-Skill 2:</u>	<u>State Standard</u> Review/Assessment <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>

Focus for Week 4: Civics and Economics

Sub-Skills: Students will be able to describe the various branches of government that exist in American society.

Anchor Text(s): Civics workbook, Constitution of the United States.

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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> Civics/Division of Power <u>Sub-Skill 1:</u> SWBAT describe the role and contributions of the United States legislative branch. <u>Sub-Skill 2:</u> SWBAT identify that the United States legislature is Bicameral and elected by the people.	<u>State Standard</u> Civics/Division of Power <u>Sub-Skill 1:</u> SWBAT describe the role and contributions of the United States executive branch. <u>Sub-Skill 2:</u> SWBAT explain how the President of the United States is elected by the electoral college and not directly by the people.	<u>State Standard</u> Civics/Division of Power <u>Sub-Skill 1:</u> SWBAT describe the role and contributions of the United States judiciary branch. <u>Sub-Skill 2:</u> SWBAT explain how the Supreme Court justices are chosen.	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>

Focus for Week 5: Civics and Economics

Sub-Skills: Students will be able to describe the differences between local, state and federal government, including elections, responsibilities and powers.

Anchor Text(s): Civics workbook, various bills that affect different areas (local legislation vs. federal legislation)

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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> Civics/Division of Power <u>Sub-Skill 1:</u> SWBAT identify responsibilities and issues relating to local governments. <u>Sub-Skill 2:</u> SWBAT describe the organizational structure of local governments.	<u>State Standard</u> Civics/Division of Power <u>Sub-Skill 1:</u> SWBAT identify responsibilities and issues relating to state governments. <u>Sub-Skill 2:</u> SWBAT describe the organizational structure of state governments.	<u>State Standard</u> Civics/Division of Power <u>Sub-Skill 1:</u> SWBAT identify responsibilities and issues relating to the federal government. <u>Sub-Skill 2:</u> SWBAT describe the organizational structure of the federal government.	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>

Focus for Week 6: Civics and Economics

Sub-Skills: Students will examine the meanings of liberal, conservative and the main domestic debates that are affecting our nation today.				
Anchor Text(s): Current event articles, and speech excerpts from elected officials.				
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	<u>State Standard</u> Civics/Political Thought <u>Sub-Skill 1:</u> SWBAT identify liberal/progressive points of view and issues in American society. <u>Sub-Skill 2:</u>	<u>State Standard</u> Civics/Political Thought <u>Sub-Skill 1:</u> SWBAT identify conservative points of view and issues in American society. <u>Sub-Skill 2:</u>	<u>State Standard</u> Review/Assessment <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
Focus for Week 7: Civics and Economics				
Sub-Skills: Students will examine and understand current events and debates that are taking place at the local level, both at the state and city level. Students will examine how they can use their influence as citizens to shape policy. (Civics project)				
Anchor Text(s): local newspaper and community organization publications				
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
<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>	<u>State Standard</u> Civics/Participation <u>Sub-Skill 1:</u> End of Year Project <u>Sub-Skill 2:</u>	<u>State Standard</u> Civics/Participation <u>Sub-Skill 1:</u> End of Year Project <u>Sub-Skill 2:</u>	<u>State Standard</u> Civics/Participation <u>Sub-Skill 1:</u> End of Year Project <u>Sub-Skill 2:</u>	<u>State Standard</u> <u>Sub-Skill 1:</u> <u>Sub-Skill 2:</u>
Focus for Week 8: Summation of year				
Sub-Skills: Review of ancient civilizations, and civics and economics (geography will be continued throughout the year).				
Anchor Text(s): N/A				
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
<u>State Standard</u> Civics/Participation <u>Sub-Skill 1:</u> Presentation of Projects <u>Sub-Skill 2:</u>	<u>State Standard</u> Civics/Participation <u>Sub-Skill 1:</u> Presentation of Projects <u>Sub-Skill 2:</u>	MATH FINALS	ELA FINALS	SCIENCE/SS FINALS

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Unit Title: Culture and Civilization **Grade Level(s):** 6th Grade

Subject/Topic Area: Cultural Hearths and Ancient Civilizations

Key Vocabulary: North China Plain (Chinese); Indus and Ganges (Indian/Hindu); Mesopotamia (Egyptian, Indo-European); Greece, Rome, Saudi Arabia (Islam), Inland West Africa; Highland/Lowland Guatemala (Mayan); Valley of Mexico (Aztec); and Peru (Inca).

Designed By: Matthew Fingerman

Time Frame: 12 to 15 hours

Date: September 2011

SUMMARY OF PURPOSE: Students will study the places where civilization began, how civilization started in those places, and how unique patterns of culture are formed in those places. Places across the world differ in large part because of their exposure to different cultures. The major ancient world's cultures occupied distinct locations called **cultural hearths**: North China Plain (Chinese); Indus and Ganges (Indian/Hindu); Mesopotamia (Egyptian, Indo-European); Greece, Rome, Saudi Arabia (Islam), Inland West Africa; Highland/Lowland Guatemala (Mayan); Valley of Mexico (Aztec); and Peru (Inca). From these cultural hearths, distinctive languages and religions spread out at different times to encompass communities at various distances away from the center.

Stage 1: Desired Results

Common Core/ Delaware Standards

Geography Standard Three 6-8: **Students will identify and explain the major cultural patterns of human activity in the world's sub-regions.**

Key Concepts/Big Ideas

Big Idea(s)

- Transferable core concepts, principles, theories, and processes from the Content Standards.

- Place
- Culture
- Civilization

Unit Enduring Understandings (K-12)

- Full-sentence, important statements or generalizations that specify what students should understand from the Big Ideas(s) and/or Content Standards and that are transferable to new situations.
- Places are unique associations of natural environments and human cultural modifications.
- Concepts of site and situation can explain the uniqueness of places. As site or situation change, so also does the character of a place.

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Enduring Understandings

Unit Essential Questions

- Open-ended questions designed to guide student inquiry and learning.

What makes a place culturally unique?

- What is culture? Why is it important to understand culture?
- What makes ancient civilizations culturally unique?

Under what conditions do cultures spread?

- To what extent did ancient civilizations influence the culture of other places?

Real World Context

Knowledge and Skills

- Needed to meet Content Standards addressed in Stage 3 and assessed in Stage 2.

Students will know...

- Culture
- Place
- Cultural hearths
- Site
- Situation

Learning Targets/Goals

Students will be able to...

- Analyze, access, evaluate, and create information in a variety of forms and media
- Understand, manage, and create effective communication
- Exercise sound reasoning in understanding and making complex choices
- Work productively with others
- Locate appropriate resources

Stage 2: Evidence of Student Achievement

Transfer Task

Suggested Performance/Transfer Tasks

- Performance/transfer tasks as evidence of student proficiency.

An effective assessment for ALL students should be designed to include:

- Complex, real-world, authentic applications
- Assessment(s) for student understanding of the Stage 1 elements (Enduring Understandings, Essential Questions, Big Ideas) found in the Content Standards
- Demonstration of high-level thinking with one or more facets of understanding (e.g., explain, interpret, apply, empathize, have perspective, self-knowledge)

This summative assessment is a transfer task that requires students to use knowledge and understandings to perform a task in a new setting or context.

The assessment and scoring guide should be reviewed with students prior to any instruction. Students should do the assessment after the lessons conclude.

Essential Question Measured by the Transfer Task

- What makes a place culturally unique?

Prior Knowledge	Now that you have examined the places where civilization began, how civilization got started, and how unique patterns of culture are formed, you are ready to explain the cultural patterns of other places.
Problem/Role	A major American corporation is about to send employees overseas for the first time. These employees will be responsible for opening a new foreign headquarters of the corporation and will have to hire new workers locally. The American corporation wants to ensure that its new headquarters gets off to a good start. Its employees must be careful not to offend the people of the country where its new headquarters will be located.
Perspective	You are a college Geography professor. You are hired by the American corporation to prepare a training session for the employees that have been chosen to start the new headquarters of the company overseas.
Product	The recommendations you give during the training session should focus on what employees should expect while living in a new culture and country. Include advice on cultural attributes such as language, religion, clothing, diet, local laws, and government structure. You should also compare the place with other places that might be familiar to an American employee.

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Criteria for an Exemplary Response	<p>Be sure to include in your briefing:</p> <ul style="list-style-type: none"> • Recommendations about what employees should expect while living in a new culture and country; • Advice on such cultural attributes as language, religion, clothing, diet, local laws, and government structure; and • A comparison of the place with other places that might be familiar to an American.
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Rubrics

- Scoring guide to evaluate performance/transfer tasks used as evidence of student proficiency.

An effective scoring guide should:

- Measure what is appropriate for the Content Standard that is assessed.
- Provide opportunities for differentiation of the performance/transfer tasks used as evidence of student proficiency.

Scoring Category The training session...	Score Point 3	Score Point 2	Score Point 1
makes recommendations which describe and predict what employees should expect while living in a new culture and country.	The recommendations both describe and predict what employees should expect while living in a new culture and country exhibit deep understanding	The recommendations both describe and predict what employees should expect while living in a new culture and country exhibit some understanding	The recommendations describe and/or predict what employees should expect while living in a new culture and country exhibit minimal understanding
provides advice on cultural attributes including information about language, religion, clothing, diet, local laws, and government structure.	The training session provides effective advice on all six cultural attributes	The training session provides effective advice on five cultural attributes	The training session provides effective advice on four or fewer cultural attributes
provides a comparison between places that might be familiar to an American employee.	The comparison is thoroughly developed	The comparison is partially developed	The comparison is minimally developed
describes what makes this place unique.	The description is clear and accurate	The description is somewhat clear and/or somewhat accurate	The description is not clear and/or not accurate

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uses content-appropriate vocabulary in order to demonstrate understanding.	Content-appropriate vocabulary is well developed and evident	Some evidence of content-appropriate vocabulary	Minimal evidence of content-appropriate vocabulary
<p style="text-align: right;">Total Score: _____</p> <p style="text-align: right;">Above the Standard: 13 to 15 Meets the Standard: 8 to 12 Below the Standard: 5 to 7</p> <p>Other Evidence</p> <ul style="list-style-type: none"> ▪ Varied evidence that checks for understanding (e.g., tests, quizzes, prompts, student work samples, observations and supplements the evidence provided by the task). <p>Formative Assessment is embedded into the lessons through the Checks for Understanding.</p>			
<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

Student Self-Assessment and Reflection

- Opportunities for self-monitoring learning (e.g., reflection journals, learning logs, pre- and post-tests, self-editing—based on ongoing formative assessments).

When students are required to think about their own learning, to articulate what they understand and what they still need to learn, achievement improves.

– Black and William, 1998; Sternberg, 1996; Young, 2000.

How a teacher uses the information from assessments determines whether that assessment is formative or summative. Formative assessments should be used to direct learning and instruction and are not intended to be graded.

The Checks for Understanding at the end of each instructional strategy should be used as formative assessment and may be used as writing prompts or as small-group or whole-class discussion. Students should respond to feedback and be given opportunities to improve their work. The rubrics will help teachers frame that feedback. An interactive notebook or writing log could be used to organize student work and exhibit student growth and reflection.

Instructional Resources

Differentiation

Enrichment

Ask and provide q provide research and reflection
Make real world connections
Use technology reading writing and other tools to enhance learning
Debate
Higher order thinking (synthesze)

Stage 3: Learning Plan

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Key learning tasks needed to achieve unit goals

Learning Activities: What learning experiences and instruction will enable students to achieve the desired results?

- **How geography affects cultures**
- **How ancient civilizations formed government and social structures**
- **How ancient civilizations communicated and established religion**

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

Essential Questions

- What is culture?
- Why is it important to understand culture?

Background

Culture is the learned behavior of people, which includes their belief systems, and languages, their social relationships, their institutions and organizations, and their material goods—food, clothing, buildings, tools, and machines.

Ancient Egyptian Hieroglyphics

An anthropologist and a geographer discussing culture might use the same word but not with the same meaning. The anthropologist would be interested in belief sets, social interactions and hierarchies, customs, language, etc. Geographers are interested in the observable differences these things make in places. Even little geographers can be asked to keep their eyes peeled for different types of dress, architecture, and ways of doing and speaking. They are asked to note how groups of people in the same physical region may build quite different settlements or neighborhoods because of their culture. These observable differences in the landscape are mapped and then can become the basis for establishing regions. The other aspect of culture that geographers look at is this: culture affects the way we perceive a place. Perception is very important because people act on what they think they know.

Instructional Strategies

Strategy 1 – Gathering Information: Think-Pair-Share and Graphic Organizers

Conversational descriptions, explanations, and examples are very useful to students when first learning a term.

An effective approach to beginning instruction in academic terms is **for the teacher to start a conversation** about it, explain it, and give examples of it.

Culture is what you learn as you grow up. Culture includes what you know about how to speak and act toward others. Your culture celebrates certain holidays and not others, teaches you certain things and not others. For example, you might celebrate the 4th of July, but in other places it is just another day in the month. Parts of a culture include what you eat, wear, what kind of place you live—the houses and neighborhoods.

Have students think independently: *What comes to mind when you hear the word **culture**?* Have them make a simple web graphic organizer with culture in the center of the web.

Check for Understanding

- Did you add, delete, or modify from your own graphic organizer after hearing what others said? Explain why or why not.

Rubric

1 – This response gives a valid explanation.

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0 – This response gives an invalid or no explanation.

- How would you describe *culture* now? Explain your answer.

Rubric

2 – This response gives a valid description with an accurate and relevant explanation.

1 – This response gives a valid description with an inaccurate, irrelevant, or no explanation.

For administration of formative assessment see [Student Self-Assessment and Reflection](#).

Strategy 2 – Extending and Refining: Cubing

Use cubing to lead students to think critically about the topic under study. A teacher can use the strategy with the whole class, as small group work, and/or on a one-on-one basis. Cubing requires students to think about a concept in new ways.

This strategy allows students to explore a concept from six different points of view. The name "cubing" comes from the fact that cubes have six sides, and students explore a topic from the following six perspectives:

Describe it: How would you describe culture? Describe key characteristics or attributes like size, shape, and colors.

Compare it: What is culture similar to? Different from?

Associate it: What does culture make you think of? How does culture connect to other topics/issues/subjects?

Analyze it: How is culture made or of what is it composed? How would you break culture down into smaller parts?

Apply it: How does understanding culture help you understand other people's point of view?

Argue for it: Take a stand and list reasons for why understanding culture is important.

- It is not important because

Differentiation Tip:

- Some of the understandings above are more difficult than others.
- Ask students to draw or otherwise graphically represent culture.

Check for Understanding

- How would you describe your culture to someone who might not know anything about it? Explain your answer.

Rubric

2 – This response gives a valid description with an accurate and relevant explanation.

1 – This response gives a valid description with an inaccurate, irrelevant, or no explanation.

For administration of formative assessment see [Student Self-Assessment and Reflection](#).

Teaching Tip: The teacher should look for characteristics such as organized sports, public school, Boy or Girl Scouts, types of food or clothing, size and shape of buildings.

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Strategy 3 – Extending and Refining: Reciprocal Teaching

The goal of reciprocal teaching is to summarize, question, clarify, and predict while reading content material—alternating between active guidance of the teacher and the students. In some ways the teacher and students take turns becoming the “teacher.” For instance, after reading a passage quietly, one student is asked to summarize. Then other students may add to the discussion with the teacher providing guidance and input. As discussion takes place, students are expected to begin questioning, predicting, and clarifying when a student leader calls for it.

Thinking out loud is an important part of this reading strategy because it allows students to receive immediate feedback from the teacher and other students. It is important for students to understand the expectations of summarizing, questioning, clarifying, and predicting. Teachers may want to post a list of prompts addressing each of the four. Questions or prompts may include:

- One word I did not understand was ... (Clarifying)
- One question someone may ask after reading this passage is ... (Questioning)
- What do I think will happen in the next chapter? (Predicting)
- The main idea of this chapter is ... (Summarizing)

A variation of reciprocal teaching includes breaking the students down into groups of four and assigning each student one of the four categories. As they read each page or chapter, the students will participate in their role and then have a group discussion. After the discussion, the students switch roles and then begin the process again with the next page or chapter.

Lesson 2

Essential Questions

- What makes ancient civilizations culturally unique?
- To what extent did ancient civilizations influence the culture of other places?

Background

Modern humans appeared about 40,000 years ago. They lived successfully in small nomadic hunting and gathering bands until around 10,000 years ago when agriculture began to gradually replace hunting and gathering as the dominant way of life.



The rise of agriculture allowed for the development of more complex societies
The transition to agriculture was a critical trigger for the development of more complex societies since it

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allowed people to establish permanent settlements and live together in far greater numbers than ever before. The shift toward agriculture happened gradually over a long period of time, independently on all continents, except Australia. For the vast majority of history, humans lived as hunters and gatherers. The emergence of farming resulted in a whole new way of living. By producing food more systematically, humans were able to live together in greater numbers and greater density than ever before. But such growth in population also required new ways of social organization.

As cities grew and influenced human settlements near and far, what developed has come to be known as civilization.

Instructional Strategies

Strategy 1 - Gathering Information: Graphic Organizers

Use a KWL Chart like the one below to record what you already know about how civilizations form.

Start a **Word Wall** of concepts important to this unit. Tell the students that they will be adding to the Word Wall as they learn more. Some examples as instruction progresses through the lessons are:

- Trade
- Archaeology
- Civilization
- Complex society
- Culture
- Place
- Site
- Situation

These terms and others that come out of the discussion should be used by students as they continue their learning.

- Brainstorm as a class elements of a civilization or complex society using the vocabulary of the passage and the Word Wall. Add to the Word Wall as necessary.
 1. Have students participate in this interactive feature from Guns, Germs, and Steel available at: http://www.pbs.org/gunsgermsteel/world/pup/world_intro.html to develop an understanding of **why location is important in the development of a civilization.**
 2. Have students read this description of Episode One available at: <http://www.pbs.org/gunsgermsteel/show/episode1.html> from Guns, Germs, and Steel that **discusses the importance of the Agricultural Revolution.**
 3. Have students complete a graphic organizer like the one below to organize their thinking about civilizations.

Why cities grow	Evidence of culture in the cities

Check for Understanding

- Complete the 3rd column in the K-W-L chart.
- What is *civilization*?
- Create a diagram (a web, for example) that models what makes a civilization.

Rubric

2 – This response gives a valid description with an accurate and relevant diagram.

1 – This response gives a valid description with an inaccurate, irrelevant, or no diagram.

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For administration of formative assessment see [Student Self-Assessment and Reflection](#).

Strategy 2 – Gathering Information: Graphic Organizers

Hand out to each group the map available at: http://www.eduplace.com/ss/maps/pdf/world_clim.pdf and ask them to make predictions about areas of the world favorable to the emergence of early civilizations. Put these predictions on the board or overhead.

Geographer Jared Diamond's *Guns, Germs and Steel* available at: <http://www.pbs.org/gunsgermssteel/> tells the story of apparently commonplace things, such as wheat, cattle, and writing. Diamond believes the uneven global distribution of these simple elements helped to shape the course of human history.

Diamond also focuses on physical geography. For instance, geographic barriers such as mountain ranges or bodies of water created isolated civilizations. Continents that were easily traveled, such as Europe, encouraged trade among different people and stimulated development.

Have students explore the variables which Diamond believes account for why human development proceeded at different rates on different continents. Information can be found at:

<http://www.pbs.org/gunsgermssteel/variables/index.html>

Have students compile information from the website and create a world map showing the relative locations of the appearance of agricultural communities and “civilization.”

Students should note the relative location of the emergence of civilizations in Mesopotamia, Egypt, the Indus Valley, China, South America, and Africa.

Check for Understanding

- Why did human civilizations appear on different continents at different times? Explain your answer.

Rubric

2 – This response gives a valid reason with an accurate and relevant explanation.

1 – This response gives a valid reason with an inaccurate, irrelevant, or no explanation.

- Go back to the diagram you constructed in Lesson 2, Strategy 1. How is the diagram different from or similar to what you now think about what makes a "civilization?" Explain your answer with specific examples.

Rubric

2 – This response gives a valid description with an accurate and relevant example.

1 – This response gives a valid description with an inaccurate, irrelevant, or no example.

For administration of formative assessment see [Student Self-Assessment and Reflection](#).

Strategy 3 – Extending and Refining: Historical Research and Graphic Organizers

Have students work in small groups to research and examine pictures, artifacts, and related text that illustrate the cultures of an early complex society.

Some of the ancient civilizations that students might research include: North China Plain (Chinese); Indus and Ganges (Indian/Hindu); Mesopotamia (Egyptian, Indo-European); Greece, Rome, Saudi Arabia (Islam), Inland West Africa; Highland/Lowland Guatemala (Mayan); Valley of Mexico (Aztec); and Peru (Inca). Each student should individually complete a graphic organizer (sample below) based on his/her own research. Although students should accept responsibility for their own research, the following websites might be a good starting point. Teachers may choose to supply other curricular resources, e.g., textbooks, for students to use.

- Ancient Indus Civilization: <http://www.harappa.com/har/har0.html>
- The Ancient Greek World: http://www.museum.upenn.edu/Greek_World/index2.html
- The Greeks: Crucible of Civilization: <http://www.pbs.org/empires/thegreeks/htmlver/index.html>
- A New Look at an Ancient Culture:
http://www.museum.upenn.edu/new/exhibits/online_exhibits/egypt/egyptintro.shtml
- Pharaoh's Obelisk: <http://www.pbs.org/wgbh/nova/lostempire/obelisk/>
- Secrets of the Pharaohs: <http://www.pbs.org/wnet/pharaohs/maps.html>
- Pyramids – The Inside Story: <http://www.pbs.org/wgbh/nova/pyramid/>
- Egypt's Golden Empire: <http://www.pbs.org/empires/egypt/>
- Ancient History: Egyptians: <http://www.bbc.co.uk/history/ancient/egyptians/>

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- Explore Ancient Egypt: http://www.mfa.org/egypt/explore_ancient_egypt/index.html
- Ancient Egypt: <http://www.ancientegypt.co.uk/menu.html>
- The Roman Empire in the First Century: <http://www.pbs.org/empires/romans/>
- Modern Mongolia: Reclaiming Genghis Khan: <http://www.museum.upenn.edu/Mongolia/index.shtml>
- Treasures from the Royal Tombs of Ur: <http://www.museum.upenn.edu/new/exhibits/ur/index.shtml>
- Global Connections: The Middle East: <http://www.pbs.org/wgbh/globalconnections/mideast/themes/geography/>
- Islam: Empire of Faith: <http://www.pbs.org/empires/islam/index.html>
- Mesopotamia: <http://www.mesopotamia.co.uk/menu.html>
- Traditional Navigation in the Western Pacific: <http://www.museum.upenn.edu/Navigation/Intro.html>
- Unmasking the Maya: <http://www.mnh.si.edu/anthro/maya/pastpage1.html>
- Lost King of the Maya: <http://www.pbs.org/wgbh/nova/maya/>
- Wonders of the African World – Cultural Closeups: http://www.pbs.org/wonders/fr_cc.htm

Students should use a graphic organizer to help take notes on their research. Tell students that the research will be used for a presentation and to compare the civilizations. Teachers should select an appropriate organizer for their students or use the organizer below.

Check for Understanding

- Have students complete the graphic organizer below in order to compare two civilizations.

Strategy 4 – Extending and Refining: Discussion Web

Students will participate in a discussion web in which they will relate the unique features of the culture they studied.

How to conduct a discussion web:

- A student draws on information from the texts, from previous classroom discussions, and from personal experiences as he/she thinks about the questions and discusses with a partner.
- The partners must come up with evidence that supports a response. Opinions are fine as long as they are supported by information from the text or by personal experience.
- Then the partners are paired with another set of partners to form a discussion group. The members of the group share their responses. Together, they reach a consensus on a point of view. Then student groups have the opportunity to share their point of view with the entire class.
- As a follow-up, students might be asked to debate the question, to support and write their individual opinions, or to discuss as a class the similarities among all the unique places that have been studied.

The questions for the discussion web are:

- What makes ancient civilizations culturally unique?
- To what extent did ancient civilizations influence the culture of other places?

After the student groups initially participate in the discussion web, the teacher should ask students to find similarities within the unique cultures. Ask **which characteristics of a complex society might have allowed the culture to influence other places?** Answers might include trade, writing, government conquest in war. Students will refer back to their chart during teacher led discussions.

Check for Understanding

- How could an ancient civilization influence the culture of other places? Support your answer with a historical example.

Rubric

2 – This response gives a valid influence with an accurate and relevant historical example.

1 – This response gives a valid influence with an inaccurate, irrelevant, or no historical example.

For administration of formative assessment see [Student Self-Assessment and Reflection](#).

Strategy 5 - Application: Cooperative Learning

Have students work cooperatively in groups of 2–3 in order to respond to this question:

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- How did the spread of Islam influence other cultures?

Direct students to the text below, linked to a Smithsonian Institution webpage at the National Museum of Natural History.

The art of Arabic writing, available at http://www.mnh.si.edu/epigraphy/e_islamic/islamic.htm, has long been associated with Islamic art and calligraphy. There were special schools that taught Arabic calligraphy. Arabic calligraphy is unique in the world due to its complexity and beauty, allowing for a great range of artistic creativity.

Archeologists and historians depend heavily on the study of writings found on rocks, inscribed building stones or markers, and on the rock faces of hillsides. Such inscriptions provide valuable insight into the history, culture, and social values of the early Islamic period.

Check for Understanding

- Have students go to the Smithsonian Institution website on the development of writing in Ancient Saudi Arabia. http://www.mnh.si.edu/epigraphy/e_pre-islamic/preislamic.htm
- How does the information on this webpage show the result of exchanges between Ancient Saudi Arabia and its neighbors? Support your answer with an example.

Rubric

2 – This response gives a valid description with an accurate and relevant example.

1 – This response gives a valid description with an inaccurate, irrelevant, or no example.

For administration of formative assessment see [Student Self-Assessment and Reflection](#).

Lesson 3

Essential Questions

- What makes a place culturally unique?
- What makes ancient civilizations culturally unique?

Background

Now that students understand culture and how certain cultural hearths have spread over time, they are ready to think about how a culture affects perception of places. Place is a geographic concept that may be defined as locations with character.

Machu-Picchu - an Ancient Inca City in Peru

A place occupies a given location on the Earth's surface, called its *site*. That site contains a unique combination of physical environmental conditions: climate, landforms, soils, and vegetation. It also contains people with distinct cultural attributes who modify the environment to create a distinctive place.

Places, however, reflect one additional attribute—their location relative to all other places or their *situation*.

Places close together can expect to have more interaction—trade, information flow, human migration—than

places farther apart and thus are more apt to change over time. Isolated places change little. Evaluating a location's site and situation allows identification of those distinctive characteristics that make it a unique place.

Instructional Strategies

Strategy 1 – Gathering Information: Think-Pair-Share and Graphic Organizer

Ask students this question: What does the word **place** mean to a geographer?

Places may be defined as locations with character.

A place occupies a given location on the earth's surface—what may be called its site. That site contains a unique combination of physical environmental conditions: climate, landforms, soils, and vegetation. It also contains people with distinct cultural attributes who modify that environment to create a distinctive place.

Places, however, reflect one additional attribute, their location relative to all other places, or their situation.

Places close together can expect to have more interaction—trade, information flow, human migration—than places farther apart and thus be more subject to change over time. Isolated places change little. Evaluating a location's site and situation allows identification of those distinctive characteristics that make it a unique place.

After individually thinking about place, have students next share their understanding with a partner and follow that by sharing with the class.

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Have students create a Venn diagram to help organize the meaning of **place**. Model the following: write **Place** where the circles overlap, then write **Site** on one side and **Situation** on the other side.

Give a copy of the following maps to each pair of students:

Site of New York City

<http://www.doe.k12.de.us/programs/sscd/files/upload/site%20of%20New%20York%20City.pdf>

Situation of New York City

<http://www.doe.k12.de.us/programs/sscd/files/upload/situation%20of%20New%20York%20City.pdf>

Have them use the Venn diagram to help differentiate between site and situation.

New York City, originally located on Manhattan Island, has a poor **site**, bounded by the Hudson and East Rivers. Many tunnels and bridges had to be built to connect it to the rest of the nation. But its **situation** is superior, located at the confluence of the Atlantic Ocean and the Hudson River. When the Erie Canal was built, New York City had the ability to reach growing 19th century western settlements. With a much better situation than other large cities of the 1800s (such as Philadelphia, Boston, and Baltimore), in the 1800s it became the country's largest city, a title it has never given up.

Check for Understanding

- What is the relationship between a place (New York City) and its site and situation? Diagram or draw the relationship.

Rubric

2 – This response gives a valid relationship with an accurate and relevant diagram or drawing.

1 – This response gives a valid relationship with an inaccurate, irrelevant, or no diagram or drawing.

- Given New York City's site and situation, would you expect its culture to be diverse? Explain your answer.

Rubric

2 – This response gives a valid expectation with an accurate and relevant explanation.

1 – This response gives a valid expectation with an inaccurate, irrelevant, or no explanation.

For administration of formative assessment see **Student Self-Assessment and Reflection**.

Strategy 2 – Extending and Refining: Historical Research

Students will research the archaeological record for the oldest known community. The Neolithic site of Çatalhöyük was first discovered in the late 1950s and excavated by James Mellaart between 1961 and 1965. The site rapidly became famous internationally due to the large size and dense occupation of the settlement as well as the spectacular wall paintings and other art that was uncovered inside the houses.

Ask students to individually write a question they might ask to help guide the research. Then have students share/brainstorm in pairs to create guiding questions. Finally, the class as a whole should identify guiding questions for research.

Sample questions might include:

- How can I understand what everyday life was like in Çatalhöyük? Architecture, religion, diet, etc.?
- How did life change after agriculture was introduced?
- What was the *site* and *situation* of Çatalhöyük? Why is the site and situation important? Do I have to use a map to help me answer these questions?
- What evidence is there for the extent of trade?

Have students use the following websites and links to images to research the Çatalhöyük archaeological site and respond with a class presentation to the guiding questions that were created.

- Mysteries of Çatalhöyük <http://www.smm.org/catal/>
- Çatalhöyük <http://www.focusmm.com/civcty/cathyk00.htm>
- Çatalhöyük Excavations <http://www.catalhoyuk.com/>
- Preservation of Çatalhöyük <http://www.globalheritagefund.org/where/catalhoyuk.html>
- Visitor Center video at Çatalhöyük (7:42 minutes)
http://www.archaeologychannel.org/content/video/catalhoyuk_700kW.html
- Images:

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- [Artist interpretation of everyday life](#)
- [Bear stamp seal design](#)
- [Building interior](#)
- [CG pottery wood vessels](#)
- [CG storage building](#)
- [Face pot](#)
- [Home design](#)
- [Home interior](#)
- [Home interior 2](#)
- [Panorama](#)
- [Plaster skull burial](#)
- [Site of Çatalhöyük](#)
- [Situation](#)
- [Situation in Turkey](#)
- [Sketch binding a skeleton](#)

Strategy 3 – Application: Discussion Web

Students use information and resources from previous strategies to conduct a discussion web in which they respond to a question(s).

These questions should be used for the discussion web:

- Is Çatalhöyük a civilization?
- How can I describe Çatalhöyük's culture?

How to conduct a discussion web:

- A student draws on research conducted in the previous strategy, from previous classroom discussions, and from personal experiences as he/she thinks about the question and discusses with a partner.
- The partners must come up with evidence that supports a response. Opinions are fine as long as they are supported by information from the text or by personal experience.
- Then the partners are paired with another set of partners to form a discussion group. The members of the group share their responses. Together, they reach a consensus on a point of view. Then student groups have the opportunity to share their point of view with the entire class.

Check for Understanding

- If the site and situation of Çatalhöyük changed at some point in history, would this have caused the settlement to fail? Explain your answer.

Rubric

2 – This response gives a valid decision with an accurate and relevant explanation.

1 – This response gives a valid decision with an inaccurate, irrelevant, or no explanation.

For administration of formative assessment see [Student Self-Assessment and Reflection](#).

Lesson 4

OBJECTIVE: SWBAT explain the influence of geography on the Inca Civilization.

PROCEDURE

Students will answer the following question, “If you have to create a civilization, what are the first things (basic necessities) you need to acquire to ensure sustainability for your civilization? (sustainable – to keep going) List as many as possible!

Students will share answers as a class and/or write them on the board/projector. Teacher will

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facilitate a discussion with the students about the things they shared and why they are important to survival as a civilization. Teacher will pose the essential question, “How does geography influence civilization?” (**Group Collaboration**)

Using a PowerPoint presentation, teacher will explain the influence of geography on the Inca civilization. Students will fill out a graphic organizer that describes the location, farming system, transportation, resources, and how these parts of civilization were influenced by the geography. (**Guided Instruction**)

Using the graphic organizer, students will work with a partner to write identical summaries of how the Inca civilizations were influenced by the geography around them. (**Peer-to-Peer Collaboration**)

Students will create an illustration that shows how each of the aspects of Inca civilization were influenced by geography. (**Reinforced learning and evaluation**)

Evaluations will be conducted by reviewing homework, closing activity (Summary)

Assessment tools include group collaboration, student participation in discussion, completion of graphic organizer, choral response, call and response

Resources include PowerPoint, graphic organizer handout, projector, chalkboard

Delaware Department of Education Content Standards

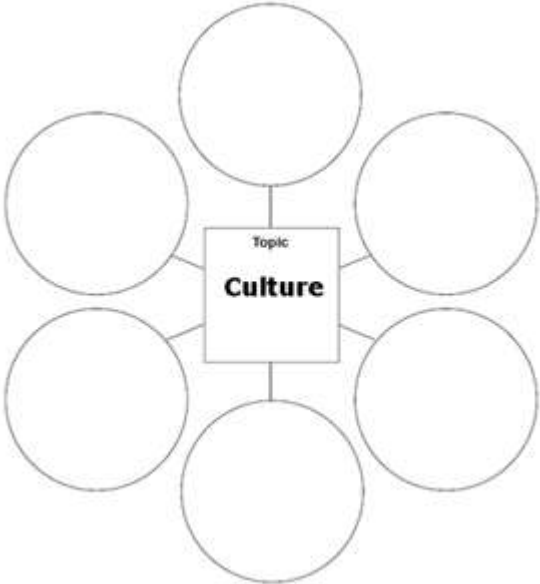
Geography Standard Two: Students will develop a knowledge of the ways humans modify and respond to the natural environment [ENVIRONMENT].

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.

Appendix A

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Sample Resources

Lesson 1



Students should complete the web organizer and then pair with another student to share responses. Have students add, modify, or delete from their graphic organizer after discussion with a partner. Then this pair should group with another pair to agree upon a generalization about culture, a common description for which the group can agree.

Give students this description of culture and have them compare it to the generalization from each group. Have students compile the similarities and differences in a T-chart.

Definition of Culture: *Culture is the learned behavior of people, which includes their belief systems, and languages, their social relationships, their institutions and organizations, and their material goods—food, clothing, buildings, tools, and machines.*

Similarities	Differences

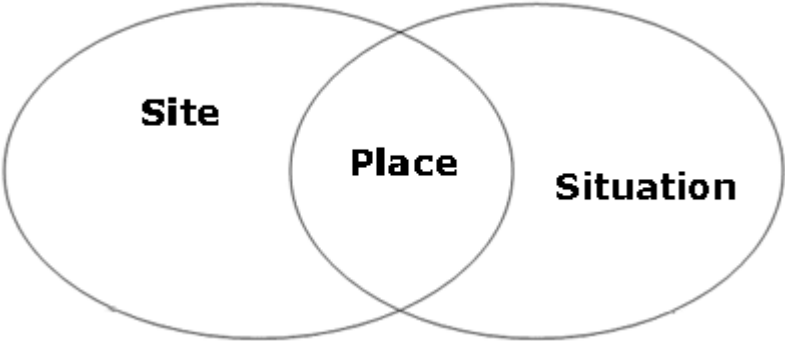
Lesson 2

Name or Geographic Area of Civilization	Development of Cities	Social Classes	Religion	Organized Government	Trade	Writing	Labor

KWL Chart

What I know	What I want to know	What I learned

Lesson 3
Venn Diagram



Lesson 4

	<u><i>INCA</i></u>	<u><i>Illustration for memory</i></u>
<p><u>Location</u></p> <p>What type of geographic environment did they live in?</p>		
<p><u>Farming System</u></p> <p>How did they adapt to farming in the given environment?</p>		
<p><u>Transportation</u></p> <p>How did geography make it difficult for them to travel? How did they overcome the obstacle?</p>		
<p><u>Resources</u></p> <p>How did the resources in their</p>		

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area lead to the collapse of their civilization?		
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A COLLEGE PREPARATORY CHARTER SCHOOL
FOR BOYS
WILMINGTON, DELAWARE
GIVING BOYS A REAL CHANCE FOR A REAL FUTURE

October 2, 2011

Education Associate for Charter School Program
Delaware Department of Education
401 Federal Street, Suite 2
Dover, DE 19901

6th Grade Social Studies

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 6th Grade Social Studies were chosen because they clearly illustrate Prestige Academy Charter School's commitment to rigorous, engaging, standards-based instruction. Furthermore, the units chosen, Ancient Civilization, Economics, and Mapping, encompass numerous standards that are heavily assessed on the Delaware Comprehensive Assessment System (DCAS) for Social Studies in Grade 7. Some modifications to these units of study were made to accommodate our all-boys

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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.

demographic including: more hands-on learning, collaborative partner work, auditory learning activities, and clearly communicated performance goals.

The following units of instruction reflect our commitment to social studies, with each 6th grade student receiving 330-360 minutes of social studies instruction per week.

In closing, please note that our teachers are using a modified version of State of Delaware Model Units for Social Studies. The units we have submitted reflect a deep dive into the most essential skills and standards for our scholars.

Enclosures:

"Ancient Civilization" Unit Plan by Matthew Fingerman

"Economics" Unit Plan by Matthew Fingerman

"Mapping" Unit Plan by Matthew Fingerman

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