Syllabus for 7th Grade 2015-2016

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Please leave a message at the office and I will return phone calls at the end of the day.

Welcome to the 2015 – 2016 school year! My name is Jennifer Warren and I am really looking forward to this year. In this class you will have the opportunity to enhance your problem solving skills, expand your mathematical knowledge, and apply each standard to the next to build a successful Math 7 year. I believe you are all scholars, who learn in different ways, so never settle for giving less than your best and always ask questions when you do not understand!

Course Objectives :

Math 7 objectives are based on the Standards of Learning from the State of Virginia. They will include the following strands.

- Number and Number Sense
- Geometry
- Computation and Estimation
- Probability and Statistics
- Measurement
- Patterns, Functions, and Algebra

Textbook: Glencoe McGraw-Hill Math Connects Course 2

We will also develop your course content through the use of your interactive notebook. It is very important to keep this notebook/binder very organized and up to date. The notebook's organization and completion will be part of the grade for this course.

What's Expected of You:

- Complete assigned work **on time**
- Be respectful to your teacher and classmates
- Contribute to a productive learning environment in our classroom
- Come to class prepared with the proper supplies
- If confusion sets in, be sure to ask plenty of questions

How to calculate your "A" average:

Tests - 30%
Class Work/Lab days - 30%
Quizzes - 30%
Homework - 10%

Southampton County Grading Scale:

A 93 – 100%
B 85 – 92%
C 77 – 84%
D 70 – 76%
F 0 – 69%

Class Rules:

- The student will conduct himself/ herself in a respectful manner by showing kindness, being recognized before speaking, and keeping his/her work area and materials neat and clean.
- The student must be seated and ready to work at the beginning of class. **Note: The policy at SMS states that, if you are not seated when the period begins, it is mandatory that we mark you as tardy. Three tardies equal one absence.**
- In order to be dismissed from class, homework must be written down.
- **All assignments are due on time**. When turning in assignments, please remember the following:
    1. All assignments should be written in your interactive notebook unless told otherwise
    2. You must write in pencil only
    3. Use the school-wide heading in the upper right hand corner of any loose-leaf paper that you turn in:
        Name:
        Course:
        Date:
- **Homework** will be assigned daily Monday - Thursday (not always written homework), quizzes will be given weekly, and tests will be given at the end of each SOL covered (about every week and a half to two weeks).
- Cell phones, chewing gum, eating, and drinking in class are *not* permissible.
- Cheating will result in no credit. Contributing to cheating will also result in no credit. Cheating is defined as giving or receiving any help on any assignment unless assistance is specifically allowed.

Attendance and Make-Up Work Policy:

- If absent, it is your responsibility to collect your missed work and return the completed assignment within five days. Please understand that many of the topics that we cover build upon one another and since we are on a block schedule missing one school day is like missing two days worth of work. As a result, it is imperative that if you do miss a day you should try to make up the assignments as quickly as possible so that you do not fall behind. You are also responsible for turning in any assignments that we graded while you were out.

Consequences:

- First offense: a verbal warning
- Second offense: a note home or in extreme cases a phone call home
- Third offense: a written referral
    - Please keep in mind that I cannot broaden your mind if you are sitting in the office. However, I cannot allow you to disrupt your classmates' opportunities to broaden their minds either.
- Keep in mind there are some offenses that warrant an immediate referral.

The Supply list (AKA – Everything You Need to Be a Successful Student)

- 1 ½" binder
- One pack of five divider tabs
- One pack of page protectors
- One pack of loose leaf paper
- Pencils, glue sticks, scissors
- Highlighters
- TI30Xa calculator (it is black and about $10 at Walmart – <u>do not get the blue scientific one</u>)
  ****This is a MUST that is required everyday of this course. These are also available at school for $10. Please let your teacher know asap in order to place the order.
- 1 Pkg. Colored Copy Paper
- Kleenex, and Hand Sanitizer

Grade Seven

The seventh-grade standards continue to emphasize the foundations of algebra. Students who successfully complete the seventh-grade standards should be prepared to study Algebra I in grade eight. Topics in grade seven include proportional reasoning, integer computation, solving two-step linear equations, and recognizing different representations for relationships. Students will apply the properties of real numbers in solving equations, solve inequalities, and use data analysis techniques to make inferences, conjectures, and predictions.

While learning mathematics, students will be actively engaged, using concrete materials and appropriate technology such as calculators, computers, and spreadsheets. However, facility in the use of technology shall not be regarded as a substitute for a student's understanding of quantitative concepts and relationships or for proficiency in basic computations. Students will also identify real-life applications of the mathematical principles they are learning and apply these to science and other disciplines they are studying.

Mathematics has its own language, and the acquisition of specialized vocabulary and language patterns is crucial to a student's understanding and appreciation of the subject. Students should be encouraged to use correctly the concepts, skills, symbols, and vocabulary identified in the following set of standards.

Problem solving has been integrated throughout the six content strands. The development of problem-solving skills should be a major goal of the mathematics program at every grade level. Instruction in the process of problem solving will need to be integrated early and continuously into each student's mathematics education. Students must be helped to develop a wide range of skills and strategies for solving a variety of problem types.

Number and Number Sense

Focus: Proportional Reasoning

7.1 The student will
- a) investigate and describe the concept of negative exponents for powers of ten;
- b) determine scientific notation for numbers greater than zero;
- c) compare and order fractions, decimals, percents, and numbers written in scientific notation;
- d) determine square roots; and
- e) identify and describe absolute value for rational numbers.

7.2 The student will describe and represent arithmetic and geometric sequences, using variable expressions.

Computation and Estimation

Focus: Integer Operations and Proportional Reasoning

7.3 The student will
- a) model addition, subtraction, multiplication, and division of integers; and
- b) add, subtract, multiply, and divide integers.

7.4 The student will solve single-step and multistep practical problems, using proportional reasoning.

Measurement

Focus: Proportional Reasoning

7.5 The student will
- a) describe volume and surface area of cylinders;
- b) solve practical problems involving the volume and surface area of rectangular prisms and cylinders; and
- c) describe how changing one measured attribute of a rectangular prism affects its volume and surface area.

7.6 The student will determine whether plane figures—quadrilaterals and triangles—are similar and write proportions to express the relationships between corresponding sides of similar figures.

Geometry

Focus: Relationships between Figures

7.7 The student will compare and contrast the following quadrilaterals based on properties: parallelogram, rectangle, square, rhombus, and trapezoid.

7.8 The student, given a polygon in the coordinate plane, will represent transformations (reflections, dilations, rotations, and translations) by graphing in the coordinate plane.

Probability and Statistics

Focus: Applications of Statistics and Probability

7.9 The student will investigate and describe the difference between the experimental probability and theoretical probability of an event.

7.10 The student will determine the probability of compound events, using the Fundamental (Basic) Counting Principle.

7.11 The student, given data for a practical situation, will
a) construct and analyze histograms; and
b) compare and contrast histograms with other types of graphs presenting information from the same data set.

Patterns, Functions, and Algebra

Focus: Linear Equations

7.12 The student will represent relationships with tables, graphs, rules, and words.

7.13 The student will
a) write verbal expressions as algebraic expressions and sentences as equations and vice versa; and
b) evaluate algebraic expressions for given replacement values of the variables.

7.14 The student will
a) solve one- and two-step linear equations in one variable; and
b) solve practical problems requiring the solution of one- and two-step linear equations.

7.15 The student will
a) solve one-step inequalities in one variable; and
b) graph solutions to inequalities on the number line.

7.16 The student will apply the following properties of operations with real numbers:
a) the commutative and associative properties for addition and multiplication;
b) the distributive property;
c) the additive and multiplicative identity properties;
d) the additive and multiplicative inverse properties; and
e) the multiplicative property of zero.

Southampton Middle School
Math 7 Pacing Guide (Year Long)

Time	SOL with Essential Knowledge and Skill	Textbook
Days 1-10	**7.1 The student will** **c)** compare and order fractions, decimals, percents and numbers written in ***scientific notation***; The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to • Compare and determine equivalent relationships between numbers larger than 0 written in scientific notation. • Represent a number in fraction, decimal, and percent forms. • Compare, order, and determine equivalent relationships among fractions, decimals, and percents. Decimals are limited to the thousandths place, and percents are limited to the tenths place. Ordering is limited to no more than 4 numbers. • Order no more than 3 numbers greater than 0 written in scientific notation. **a)** investigate and describe the concept of ***negative exponents for powers of ten***; • Recognize powers of 10 with negative exponents by examining patterns. • Write a power of 10 with a negative exponent in fraction and decimal form.	***Number and Number Se*** Student Edition Pages 133-138 Chapter Resource Masters: Ratio Pages 62-71 Student Edition Pages 181-189 Pages 827-828
Days 11-20	**7.1** The student will **d)** determine ***square roots***; The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to • Determine the square root of a perfect square less than or equal to 400. **b)** determine scientific notation for numbers greater than zero; • Write a number greater than 0 in scientific notation. • Recognize a number greater than 0 in scientific notation. • Compare and determine equivalent relationships between numbers larger than 0 written in scientific notation.	***Number and Number Se*** Student Edition Pages 52-61 Chapter Resource Masters: Ratio Pages 47-50 Student Edition Pages 185-189
Days 21-30	**7.1** The student will **e)** identify and describe absolute value for rational numbers. The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to • Demonstrate absolute value using a number line. • Determine the absolute value of a rational number. • Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle to solve practical problems.† **7.2** The student will describe and represent arithmetic and geometric sequences using variable expressions. The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to • Analyze arithmetic and geometric sequences to discover a variety of patterns. • Identify the common difference in an arithmetic sequence. • Identify the common ratio in a geometric sequence. • Given an arithmetic or geometric sequence, write a variable expression to describe the relationship between two consecutive terms in the sequence.	***Number and Number Se*** Student Edition Pages 76-80 Chapter Resource Masters: I Pages 13-16 Student Edition Pages 44-50 Pages 821-822 Chapter Resource Masters: Expressio Pages 36-44
Days 31-40	**7.3** The student will **a)** model addition, subtraction, multiplication and division of integers;	***Number and Number Se*** Student Edition Pages 86-98

	The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to • Model addition, subtraction, multiplication and division of integers using pictorial representations of concrete manipulatives.	Pages 102-113 Chapter Resource Masters: I Pages 26-37

Days 111-120	**7.15** The student will **a)** solve one-step ***inequalities*** in one variable; and **b)** graph solutions to ***inequalities*** on the number line. The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to • Represent and demonstrate steps in solving inequalities in one variable, using concrete materials, pictorial representations, and algebraic sentences. • Graph solutions to inequalities on the number line. • Identify a numerical value that satisfies the inequality.	***Patterns, Functions and Alg*** Student Edition Pages 242-253 Chapter Resource Masters: Equations a Pages 50-60
Days 121-130	**7.5** The student will **a)** describe volume and surface area of ***cylinders***; **b)** solve practical problems involving the volume and surface area of ***rectangular prisms and cylinders***; and **c)** describe how changing one measured attribute of a ***rectangular prism*** affects its volume and surface area. The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to • Determine if a practical problem involving a rectangular prism or cylinder represents the application of volume or surface area. • Find the surface area of a rectangular prism. • Solve practical problems that require finding the surface area of a rectangular prism. • Find the surface area of a cylinder. • Solve practical problems that require finding the surface area of a cylinder. • Find the volume of a rectangular prism. • Solve practical problems that require finding the volume of a rectangular prism. • Find the volume of a cylinder. • Solve practical problems that require finding the volume of a cylinder. • Describe how the volume of a rectangular prism is affected when one measured attribute is multiplied by a scale factor. Problems will be limited to changing attributes by scale factors only. • Describe how the surface area of a rectangular prism is affected when one measured attribute is multiplied by a scale factor. Problems will be limited to changing attributes by scale factors only. **7.6** The student will determine whether ***plane figures*** – ***quadrilaterals and triangles*** – are similar and write proportions to express the relationships between corresponding sides of similar figures. The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to • Identify corresponding sides and corresponding and congruent angles of similar figures using the traditional notation of curved lines for the angles. • Write proportions to express the relationships between the lengths of corresponding sides of similar figures. • Determine if quadrilaterals or triangles are similar by examining congruence of corresponding angles and proportionality of corresponding sides. • Given two similar figures, write similarity statements using symbols such as , *A* corresponds to *D*, and corresponds to .$\sim ABCDEF \Delta\Delta \angle\angle ABDE$	***Measurement*** Student Edition Pages 564-568 Pages 580-581 Pages 588-593 Pages 604-610 Chapter Resource Masters: Volume an Pages 12-52 Student Edition Pages 293-298 Page 303 Chapter Resource Masters: Proportions Pages 18-49

e	**SOL with Essential Knowledge and Skill**	**Textbook**
s 131-140	**7.7** The student will compare and contrast the following ***quadrilaterals*** based on properties: ***parallelogram, rectangle, square, rhombus, and trapezoid***. The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to • Compare and contrast attributes of the following quadrilaterals: parallelogram, rectangle, square, rhombus, and trapezoid. • Identify the classification(s) to which a quadrilateral belongs, using deductive reasoning and inference. **7.8** The student, given a polygon in the coordinate plane, will represent ***transformations*** (reflections, dilations, rotations, and translations) by graphing in the coordinate plane. The student will use problem solving, mathematical communication, mathematical reasoning, connections, and representations to Identify the coordinates of the image of a right triangle or rectangle that has been translated either vertically, horizontally, or a combination of a vertical and horizontal translation. Identify the coordinates of the image of a right triangle or rectangle that has been rotated 90° or 180° about the origin.	***Geometry*** Student Edition Pages 687-692 Pages 829-830 Chapter Resource Masters: Polygons and Trans Pages 23-27

	Identify the coordinates of the image of a right triangle or a rectangle that has been reflected over the x- or y-axis. Identify the coordinates of a right triangle or rectangle that has been dilated. The center of the dilation will be the origin. Sketch the image of a right triangle or rectangle translated vertically or horizontally. Sketch the image of a right triangle or rectangle that has been rotated 90° or 180° about the origin. Sketch the image of a right triangle or rectangle that has been reflected over the x- or y-axis. Sketch the image of a dilation of a right triangle or rectangle limited to a scale factor of, ¼, ½ , 2, 3 or 4.	Student Edition Pages 700-705 Pages 711-716 Pages 719-733 Chapter Resource Masters: Polygons and Trans Pages 34-59
180	**REVIEW for SOL Testing**	

Math 7
Verification Sheet

By signing below, I am verifying that I have read and reviewed the following materials for the 7th grade math course taken during the 2014-2015 school year:

Course Syllabus
State SOLs
Course Pacing Guide
Supply List

Students should keep these materials in their notebooks for future reference.

Print Student's Name _____ Date _____
Student's Signature _____

Parent or Guardian's Information:

Print Parent's Name _____ Date _____
Parent's Signature _____

If your child does a super job or could use an extra reminder to complete their assignments, how would you like me to contact you? Please fill in any means that you would like me to use and number them in order of which means would reach you the quickest or be the most convenient for you:

_____ I have reliable internet at my house and would not mind if my child was assigned homework on the computer.
_____ I do not live in an area with reliable internet and homework on the computer would be a hardship.

	Means of Communication You would Prefer that I Use:	**Please number them in order of which means would reach you the quickest or be the most convenient for you.**
Home Phone Number:		
Cell Phone Number:		
If cell, do you prefer a call or a text?		
Work Phone Number:		
E-mail Address:		

I give permission for my child to be photographed. These photographs will only be used for educational records and data. _____

Please return this form to Mrs. Warren by Friday September 5, 2014.