



## Curriculum Map- Scope and Sequence: Grade 7 Math

### Saddlebrook Preparatory School

Purpose of Planning	Unit One Quarter 1/Weeks 1-8	Unit Two Quarter 1-2/Weeks 9-11	Unit Three Quarter 2/Weeks 12-15	Unit Four Quarter 2/Weeks 16-18	Unit Five Quarter 3/Weeks 19-21
<b>Unit Topic and Overview:</b>	<b>Review and Reinforcement of Skills and Concepts from previous grade:</b> Four Step Problem Solving Method; Multiply and Divide Decimals; Perimeter; Venn Diagrams *Expressions and Patterns *Integers	<b>Rational Numbers</b>	<b>Equations and Inequalities</b>	<b>Proportions and Similarity Percent</b>	<b>Linear Functions</b>
<b>Prerequisite Student Knowledge</b> *What should students have previously mastered prior to this unit?	Students should be familiar with powers and exponents, as well as numerical expressions and absolute value	Students should be able to compare and order rational numbers.	Students should be familiar with the Commutative, Associative, and Distributive Properties.	Students should be able to interpret and compare ratios and rates.	Students should be familiar with equations and functions; functions and graphs, and graphing relationships.



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<p style="text-align: center;"><b>Essential Knowledge &amp; Student Expectations</b></p> <p>*What are the anticipated learning outcomes for students?</p>	<p>*Algebraic Expressions *Factor Linear Expressions *Properties *Sequences *Add and Subtract Integers *Distance on the Number Line *Multiply and Divide Integers</p> <p>Essential Concepts and Questions:</p> <ol style="list-style-type: none"> <li>1. Evaluate numerical expressions involving powers and exponents.</li> <li>2. Use properties to evaluate expressions.</li> <li>3. Describe and extend sequences.</li> <li>4. Find and estimate square roots.</li> </ol>	<p>*The Number Line *Terminating and Repeating Decimals *Add and Subtract Like Fractions *Add and Subtract Unlike Fractions *Add and Subtract Mixed Numbers *Multiply Fractions *Divide Fractions</p> <p>Essential Questions and Concepts:</p> <ol style="list-style-type: none"> <li>1. Express rational numbers as terminating or repeating decimals.</li> <li>2. Compare and order fractions, decimals, and percent.</li> <li>3. Add, subtract, multiply, and divide rational numbers.</li> <li>4. Multiply and divide monomials.</li> <li>5. Express very large and small numbers in scientific notation.</li> </ol>	<p>*Methods for Solving Equations *Solve One-Step Addition and Subtraction Equations *Solve One-Step Multiplication and Division Equations *Solve Equations with Rational Coefficients *Solve Two-Step Equations *Solve Equations with Variables on Each Side *Solve Inequalities *Solve Two-Step Inequalities</p> <p>Essential Questions and Concepts:</p> <ol style="list-style-type: none"> <li>1. Write and solve linear equations and inequalities with rational numbers.</li> <li>2. Solve equations with variables on each side.</li> <li>3. Use properties of equality to show that two equations are equivalent.</li> </ol>	<p>*Unit Rates *Complex Fractions and Unit Rates *Proportional and Non-proportional Relationships *Scale Drawings *Similar Figures *Perimeter and Area of Similar Figures *The Golden Triangle *Percent of a Number *Percent and Estimation *The Percent Proportion *The Percent Equation *Percent of Change *Sales Tax and Tips *Discount *Financial Literacy: Simple Interest</p> <p>Essential Questions and Concepts:</p> <ol style="list-style-type: none"> <li>1. Distinguish between situations that are proportional or not proportional.</li> <li>2. Use proportions to solve problems.</li> </ol>	<p>Use a Graph Proportional and Non-proportional Relationships *Direct Variation</p> <p>Essential Questions and Concepts:</p> <ol style="list-style-type: none"> <li>1. Identify the unit rate as the slope of the related linear function.</li> <li>2. Construct and analyze tables, graphs, and equations to describe linear functions and other simple relations using both common language and algebraic notation.</li> <li>3. Distinguish direct variation from other relationships, including inverse variation.</li> </ol>
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<b>Anchor Text and Supplemental Texts</b> *Illustrate texts used, and how students' knowledge builds across units.	Glencoe McGraw-Hill <i>Math Connects Course 2</i>	Glencoe McGraw-Hill <i>Math Connects Course 2</i>	Glencoe McGraw-Hill <i>Math Connects Course 2</i>	Glencoe McGraw-Hill <i>Math Connects Course 2</i>	Glencoe McGraw-Hill <i>Math Connects Course 2</i>
<b>Multi-Media Links:</b> *Videos, presentations, any and all supplemental online material.	<a href="http://www.connected.mcgraw-hill.com">www.connected.mcgraw-hill.com</a> <a href="http://www.ixl.com">www.ixl.com</a> <a href="http://www.khanacademy.org">www.khanacademy.org</a>	<a href="http://www.connected.mcgraw-hill.com">www.connected.mcgraw-hill.com</a> <a href="http://www.ixl.com">www.ixl.com</a> <a href="http://www.khanacademy.org">www.khanacademy.org</a>  <a href="http://www.greatscott.com/hiero/index.html">http://www.greatscott.com/hiero/index.html</a>	<a href="http://www.connected.mcgraw-hill.com">www.connected.mcgraw-hill.com</a> <a href="http://www.ixl.com">www.ixl.com</a> <a href="http://www.khanacademy.org">www.khanacademy.org</a>	<a href="http://www.connected.mcgraw-hill.com">www.connected.mcgraw-hill.com</a> <a href="http://www.ixl.com">www.ixl.com</a> <a href="http://www.khanacademy.org">www.khanacademy.org</a>  <a href="http://artsedge.kennedy-center.org/educators/lessons/grade-9-12/Fibonacci_Visual_Art.aspx#Standards">http://artsedge.kennedy-center.org/educators/lessons/grade-9-12/Fibonacci_Visual_Art.aspx#Standards</a>	<a href="http://www.connected.mcgraw-hill.com">www.connected.mcgraw-hill.com</a> <a href="http://www.ixl.com">www.ixl.com</a> <a href="http://www.khanacademy.org">www.khanacademy.org</a>  <a href="http://www.k12science.org/curriculum/drainproj/">http://www.k12science.org/curriculum/drainproj/</a>
<b>Instructional Practices:</b> * Various Instructional Modalities, including Technology used	*Bellwork: Introduction to a new lesson or review of previous lesson *Discussion/Questions about homework *Present new lesson *Students practice in large group, small group, and independently *Assignment of homework reinforcement	*Bellwork: Introduction to a new lesson or review of previous lesson *Discussion/Questions about homework *Present new lesson *Students practice in large group, small group, and independently *Assignment of homework reinforcement	*Bellwork: Introduction to a new lesson or review of previous lesson *Discussion/Questions about homework *Present new lesson *Students practice in large group, small group, and independently *Assignment of homework reinforcement	*Bellwork: Introduction to a new lesson or review of previous lesson *Discussion/Questions about homework *Present new lesson *Students practice in large group, small group, and independently *Assignment of homework reinforcement	*Bellwork: Introduction to a new lesson or review of previous lesson *Discussion/Questions about homework *Present new lesson *Students practice in large group, small group, and independently *Assignment of homework reinforcement



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<b>Assessments:</b> *Types and Measurements of Mastery	Informal: Class discussion, homework questions, sample problems Formal: Homework assignments, section quizzes, chapter tests  *80% of the students will score 80% or higher on the chapter tests	Informal: Class discussion, homework questions, sample problems Formal: Homework assignments, section quizzes, chapter tests  *80% of the students will score 80% or higher on the chapter tests	Informal: Class discussion, homework questions, sample problems Formal: Homework assignments, section quizzes, chapter tests  *80% of the students will score 80% or higher on the chapter tests	Informal: Class discussion, homework questions, sample problems Formal: Homework assignments, section quizzes, chapter tests Mid-Term exam  *80% of the students will score 80% or higher on the chapter tests	Informal: Class discussion, homework questions, sample problems Formal: Homework assignments, section quizzes, chapter tests  *80% of the students will score 80% or higher on the chapter tests
<b>Interdisciplinary Lessons &amp; Projects:</b> *State additional content areas and title all lesson(s) and project(s)	Math/Language Arts Create a lesson based on the Latin word root meaning for integer.	Math/History Using Egyptian Hieroglyphics <a href="http://www.greatscott.com/hiero/index.html">http://www.greatscott.com/hiero/index.html</a>	Math/Language Arts Students take written sentences and turn them into algebraic equations.	Math/Arts/Science Patterns Across Cultures <a href="http://artsedge.kennedy-center.org/educators/lessons/grade-9-12/Fibonacci_Visual_Art.aspx#Standards">http://artsedge.kennedy-center.org/educators/lessons/grade-9-12/Fibonacci_Visual_Art.aspx#Standards</a>	Math/Science Down the Drain: A project designed to discover how much water people use. <a href="http://www.k12science.org/curriculum/drainproj/">http://www.k12science.org/curriculum/drainproj/</a>
<b>Honors Course Differentiation(s):</b>	N/A	N/A	N/A	N/A	N/A



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<b>Integrated Common Core or NGSSS Standards (List):</b> *See Below for Links	CCSS-Mathematics. 7.EE1 CCSS-Mathematics. 7.EE2 CCSS-Mathematics. 7.EE4 CCSS-Mathematics. 7.NS.1 CCSS-Mathematics. 7.NS.1a CCSS- Mathematics. 7. NS. CCSS- Mathematics. 7.NS.1b 1c CCSS- Mathematics. 7.NS.1d CCSS- Mathematics. 7.NS.2a-c CCSS- Mathematics. 7.NS.3 CCSS-Mathematics.7.EE.3	CCSS-Mathematics. 7.NS.1 CCSS- Mathematics. 7.NS.1b CCSS- Mathematics. 7.NS.1c CCSS- Mathematics. 7.NS.2 CCSS- Mathematics. 7.NS2a CCSS- Mathematics. 7.NS.2C CCSS-Mathematics. 7NS.2d CCSS- Mathematics. 7.NS.3 CCSS- Mathematics. 7.EE.3	CCSS-Mathematics.7.EE.4 CCSS-Mathematics.7.EE.4a CCSS-Mathematics.7.EE.4b	CCSS-Mathematics.7.RP.1 CCSS-Mathematics.7.RP.2 CCSS-Mathematics.7.RP.2a CCSS-Mathematics.7.RP.2b CCSS-Mathematics.7.RP2c CCSS-Mathematics.7.RP.2d CCSS-Mathematics.7.RP.3 CCSS- Mathematics. 7.NS.3 CCSS- Mathematics. 7.G.1 CCSS- Mathematics. 7.EE.3	CCSS-Mathematics.7.RP.2 CCSS-Mathematics.7.RP.2a CCSS-Mathematics.7.RP.2b CCSS-Mathematics.7.RP2c CCSS-
<b>Integrated CCSS Writing Standards (List):</b> *See Below for Links	N/A	N/A	N/A	N/A	N/A
<b>Links to CCSS/NGSSS Curriculum Standards:</b>	The following links will be used to incorporate the CCSS and other applicable standards: <ul style="list-style-type: none"> <li>• The <a href="#">Common Core State Standard</a> expectations in <b>grade 7</b>,</li> <li>• The <a href="#">K-12 English LA and Content Area Writing Standards</a></li> <li>• The <a href="#">K-12 Reading Standards</a></li> <li>• The <a href="#">K-12 Mathematics Standards</a></li> <li>• The <a href="#">K-12 NGSSS Science &amp; Social Studies Standards</a></li> </ul>				



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Purpose of Planning	Unit Six Quarter 3 /Weeks 22-24	Unit Seven Quarter 3/Weeks 25-27	Unit Eight Quarter 3-4/Weeks 28-30	Unit Nine Quarter 4/Weeks 31-32	Unit Ten Quarter 4/Weeks 33-36
<b>Unit Topic and Overview:</b>	Probability and Predictions	Statistical Displays	Volume and Surface Area	Measurement and Proportional Reasoning	Polygons and Transformations
<b>Prerequisite Student Knowledge</b> *What should students have previously mastered prior to this unit?	Students should have experience with using probability to make predictions.	Students should be familiar with the measures of central tendency	Students should be able to find the perimeters and areas of composite two-dimensional figures.	Students should be able to interpret and compare ratios and rates.	Students should be able to identify and plot pairs on the coordinate plane.



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<p style="text-align: center;"><b>Essential Knowledge &amp; Student Expectations</b></p> <p>*What are the anticipated learning outcomes for students?</p>	<p>*Probability and Simple Events *Sample Spaces *Count Outcomes *Permutations *Independent and Dependent Events *Probability Experiments *Simulations *Fair and Unfair Games *Use Data to Predict *Multiple Samples of Data *Unbiased and Biased Samples Essential Concepts and Questions:</p> <ol style="list-style-type: none"> <li>1. Determine the outcomes of an experiment, predict whether events are likely or unlikely, and if the experiment is fair or unfair.</li> <li>2. Make predictions based on experimental or theoretical probability.</li> </ol>	<p>*Visual Overlap of Data Distributions *Populations  Essential Questions:</p> <ol style="list-style-type: none"> <li>1. Determine and describe how changes in data values impact measures of central tendency.</li> <li>2. Select, organize and construct box-and-whisker plots, circle graphs, histograms, stem-and-leaf plots, scatter plots, and lines of best fit, to convey information.</li> <li>3. Make conjectures about possible relationships in the data.</li> </ol>	<p>*Cross Sections *Meaning of Volume *Volume of Prisms *Circumference and Area of Circles *Volume of Cylinders *Volume of Pyramids and Cones *Nets of Three-Dimensional Figures *Surface Area of Prisms *Surface Area of Cylinders *Surface Area of Pyramids *Net of a Cone *Building Composite Shapes *Volume and Surface Area of Composite Figures  Essential Questions:</p> <ol style="list-style-type: none"> <li>1. Justify and apply formulas for surface area and volume of pyramids, prisms, cylinders, and cones.</li> <li>2. Use formulas to find surface areas and volume of three-dimensional composite shapes.</li> </ol>	<p>*Changes in Scale *Changes in Dimension  Essential Questions:</p> <ol style="list-style-type: none"> <li>1. Convert units of measure between the same measurement system, different measurement systems, dimensions, and derived units.</li> <li>2. Determine how changes in dimensions affect surface area and volume.</li> </ol>	<p>*Angle Relationships *Draw Triangles *Triangles *Quadrilaterals *Polygons and Angles  Essential Questions:</p> <ol style="list-style-type: none"> <li>1. Classify and determine the measure of angles.</li> <li>2. Demonstrate that the sum of the angles in a triangle is 180 degrees.</li> <li>3. Find unknown measures and the sum of angles in polygons.</li> <li>4. Predict the results of transformations and draw transformed figures, with and without the coordinate plane.</li> </ol>
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<b>Multi-Media Links:</b> *Videos, presentations, any and all supplemental online material.	<a href="http://www.connected.mcgraw-hill.com">www.connected.mcgraw-hill.com</a> <a href="http://www.ixl.com">www.ixl.com</a> <a href="http://www.khanacademy.org">www.khanacademy.org</a>	<a href="http://www.connected.mcgraw-hill.com">www.connected.mcgraw-hill.com</a> <a href="http://www.ixl.com">www.ixl.com</a> <a href="http://www.khanacademy.org">www.khanacademy.org</a>  <a href="http://teachers.net/lessons/posts/1211.html">http://teachers.net/lessons/posts/1211.html</a>  <a href="http://www.100people.org/statistics_detailed_statistics.php?section=statistics">http://www.100people.org/statistics_detailed_statistics.php?section=statistics</a>	<a href="http://www.connected.mcgraw-hill.com">www.connected.mcgraw-hill.com</a> <a href="http://www.ixl.com">www.ixl.com</a> <a href="http://www.khanacademy.org">www.khanacademy.org</a>	<a href="http://www.connected.mcgraw-hill.com">www.connected.mcgraw-hill.com</a> <a href="http://www.ixl.com">www.ixl.com</a> <a href="http://www.khanacademy.org">www.khanacademy.org</a>	<a href="http://www.connected.mcgraw-hill.com">www.connected.mcgraw-hill.com</a> <a href="http://www.ixl.com">www.ixl.com</a> <a href="http://www.khanacademy.org">www.khanacademy.org</a>
<b>Instructional Practices:</b> * Various Instructional Modalities, including Technology used	*Bellwork: Introduction to a new lesson or review of previous lesson *Discussion/Questions about homework *Present new lesson *Students practice in large group, small group, and independently *Assignment of homework reinforcement	*Bellwork: Introduction to a new lesson or review of previous lesson *Discussion/Questions about homework *Present new lesson *Students practice in large group, small group, and independently *Assignment of homework reinforcement	*Bellwork: Introduction to a new lesson or review of previous lesson *Discussion/Questions about homework *Present new lesson *Students practice in large group, small group, and independently *Assignment of homework reinforcement	*Bellwork: Introduction to a new lesson or review of previous lesson *Discussion/Questions about homework *Present new lesson *Students practice in large group, small group, and independently *Assignment of homework reinforcement	*Bellwork: Introduction to a new lesson or review of previous lesson *Discussion/Questions about homework *Present new lesson *Students practice in large group, small group, and independently *Assignment of homework reinforcement





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<b>Interdisciplinary Lessons &amp; Projects:</b> *State additional content areas and title all lesson(s) and project(s)	Math/Science Math Genes: Students will research genetics and Punnett Squares.	Math/Language Arts Who's The Greatest? Students research sports statistics and write persuasive pieces based on that information. <a href="http://teachers.net/lessons/posts/1211.html">http://teachers.net/lessons/posts/1211.html</a>  <a href="http://www.100people.org/statistics_detailed_statistics.php?section=statistics">http://www.100people.org/statistics_detailed_statistics.php?section=statistics</a>	Math/Science Turn Over a New Leaf: In this project students will research characteristics of leaves, including surface area and volume.	Math/Language Arts/History Science Pi Day Activities	Math/Science Looking for Transformations in nature
<b>Honors Course Differentiation(s):</b>	N/A	N/A	N/A	N/A	N/A
<b>Integrated Common Core or NGSSS Standards (List):</b> *See Below for Links	CCSS-Mathematics7.SP.1 CCSS-Mathematics7.SP.2 CCSS-Mathematics7.SP.5 CCSS-Mathematics7.SP.6 CCSS-Mathematics7.SP.7 CCSS-Mathematics7.SP.7a CCSS-Mathematics7.SP.7b CCSS-Mathematics7.SP.8 CCSS-Mathematics7.SP.8a CCSS-Mathematics7.SP.8b CCSS-Mathematics7.SP.8c	CCSS-Mathematics7.SP.3 CCSS-Mathematics7.SP.4	CCSS-Mathematics7.G.3 CCSS-Mathematics7.G.4 CCSS-Mathematics7.G.6	CCSS-Mathematics7.G.6 CCSS-Mathematics7.G.6	CCSS-Mathematics7.G.2 CCSS-Mathematics7.G.5



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<b>Integrated CCSS Writing Standards (List):</b> *See Below for Links	N/A	N/A	N/A	N/A	N/A
<b>Links to CCSS/NGSSS Curriculum Standards:</b>	The following links will be used to incorporate the CCSS and other applicable standards: <ul style="list-style-type: none"> <li>The <a href="#">Common Core State Standard</a> expectations in <b>grade _7_</b>,</li> <li>The <a href="#">K-12 English LA and Content Area Writing Standards</a></li> <li>The <a href="#">K-12 Reading Standards</a></li> <li>The <a href="#">K-12 Mathematics Standards</a></li> <li>The <a href="#">K-12 NGSSS Science &amp; Social Studies Standards</a></li> </ul>				

