

# Huntsville City Schools

## Pacing Guide 2017 - 2018

### Honors Math Grade 7

Standards for Mathematical Practice	Online Resources
<p>The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important “processes and proficiencies” with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council’s report <i>Adding It Up</i>: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy).</p> <ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning</li> </ol>	<p>Dan Meyer’s Ted Talk about teaching math:  <a href="https://youtu.be/qocAoN4jNwc">https://youtu.be/qocAoN4jNwc</a></p> <p>Links to his 3-act math activities, sorted by standard:  <a href="http://blog.mrmeyer.com/category/3acts">http://blog.mrmeyer.com/category/3acts</a>  <a href="https://docs.google.com/spreadsheet/ccc?key=0AjlqyKM9d7ZYdEhtR3BJMmdBWnM2YWxWYVM1UWowTEE#gid=0">https://docs.google.com/spreadsheet/ccc?key=0AjlqyKM9d7ZYdEhtR3BJMmdBWnM2YWxWYVM1UWowTEE#gid=0</a></p> <p>Granite City Math Vocabulary:  <a href="http://www.graniteschools.org/mathvocabulary/">http://www.graniteschools.org/mathvocabulary/</a></p>
<p><b>For more:</b></p>	<p><b>Other online resources</b></p>
<p>Elaboration on each practice from the Common Core website:  <a href="http://www.corestandards.org/Math/Practice/">www.corestandards.org/Math/Practice/</a></p>	<p><a href="http://www.opencurriculum.org">www.opencurriculum.org</a> is a website that curates activities from all over the web, sorted by standard.</p>
<p>Kid-friendly language:  <a href="http://www.buncombe.k12.nc.us/Page/37507">www.buncombe.k12.nc.us/Page/37507</a></p>	<p><a href="http://map.mathshell.org/lessons.php">http://map.mathshell.org/lessons.php</a> (MARS) has great formative assessments and group activities, also searchable by standard.</p>

# Huntsville City Schools

## Pacing Guide 2017 - 2018

### Course Honors Math Grade 7

### First Nine Weeks

Extra days have been built into each 9-weeks for LTF, AMSTI, Re-teaching, & Remediation

Holiday: Sept. 4 Half student day: Sept. 22 (Aug. 2 – Sept. 29)

	Accelerated Digits Topic 4 8 <sup>th</sup> Grade Digits Topic 1		Accelerated Digits Topic 5 8 <sup>th</sup> Grade Digits Topic 3		Accelerated Digits Topic 6 8 <sup>th</sup> Grade Digits Topic 4		Accelerated Digits Topic 12 8 <sup>th</sup> Grade Digits Topic 2	
<b>Vocabulary</b>	Irrational numbers Perfect square Real numbers Repeating decimal Square root Terminating decimal		Cube root Negative Exponent Property Perfect Cube Zero Exponent Property		Base Exponent Power Scientific notation Standard form		Commutative Property Distributive Property Infinitely many solutions No solutions	
<b>Standards</b>	<b>AL CCRS:</b>	<b>Standards:</b>	<b>AL CCRS:</b>	<b>Standards:</b>	<b>AL CCRS:</b>	<b>Standards:</b>	<b>AL CCRS:</b>	<b>Standards:</b>
	#1	8.NS.1 (1.1,1.2,1.5)	#3	8.EE.1 (3.3-3.7)	#5	8.EE.3 (4.1-4.5)	#9	8.EE.7 (2.1-2.5)
	#2	8.NS.2 (1.3-1.5)	#4	8.EE.2 (3.1-3.2)	#6	8.EE.4 (4.1,4.4,4.5)		

Standard	Resources	Approximate Pacing Number of Days
<b>UNIT I - RATIONAL NUMBERS AND EXPONENTS: RATIONAL AND IRRATIONAL NUMBERS</b>		
<p>ALCOS #1 (8-NS1): Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.</p>	<p>Accelerated Digits: 4-1 &amp; 4-2 8<sup>th</sup> Grade Digits: 1-1 &amp; 1-2</p> <p>IXL: 8.D.4, 8.D.5</p> <p>MARS: <a href="#">Translating Between Repeating Decimals and Fractions</a></p> <p>SMALLab: Gear Ratio Game Fraction Lab Fraction Action</p> <p>AMSTI: Looking for Pythagoras</p>	3
<p>ALCOS #2 (8-NS2): Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions.</p>	<p>Accelerated Digits: 4-3 to 4-5 8<sup>th</sup> Grade Digits: 1-3 &amp; 1-4 <b>(1-5 Optional)</b></p> <p>IXL: 8.F.16, 8.F.21</p> <p>MARS: <a href="#">Classifying Rational and Irrational Numbers</a></p> <p>AMSTI: Looking for Pythagoras</p>	5-6
<b>UNIT I - RATIONAL NUMBERS AND EXPONENTS: INTEGER EXPONENTS</b>		
<p>ALCOS 3 (8-EE1) Know and apply the properties of integer exponents to generate equivalent numerical expressions.</p>	<p>Accelerated Digits: 5-1 &amp; 5-2 8<sup>th</sup> Grade Digits: 3-1 &amp; 3-2</p> <p>IXL: 8.F.1, 8.F.2, 8.F.3, 8.F.4, 8.F.5, 8.F.6, 8.F.7, 8.F.8, 8.F.9, 8.F.10, 8.F.11, 8.F.12, 8.F.13, 8.BB.6, 8.BB.7, 8.BB.8, 8.BB.9</p> <p>SMALLab:</p>	4

	<p>Gear Ratio Game Constant Velocity</p> <p>MARS: <a href="#">Applying Properties of Exponents</a></p> <p>AMSTI: Growing, Growing, Growing Inv. 5 Looking for Pythagoras inv. 2-4</p> <p>LTF: Module 9 – Positive and Negative Exponents</p>	
<p>ALCOS 4 (8-EE2) Use square root and cube root symbols to represent solutions to equations of the form <math>x^2 = p</math> and <math>x^3 = p</math>, where <math>p</math> is a positive rational number. Evaluate square roots of perfect squares and cube roots of small perfect cubes. Know that the square root of 2 is irrational.</p>	<p>Accelerated Digits: 5-3 to 5-6 8<sup>th</sup> Grade Digits: 3-3 to 3-6 <b>(3-7 Optional)</b></p> <p>IXL: 8.D.5, 8.V.7</p> <p>AMSTI: Growing, Growing, Growing Inv. 5 Looking for Pythagoras inv. 2-4</p> <p>LTF: Module 9 – Positive and Negative Exponents</p>	6-7
<b>UNIT I - RATIONAL NUMBERS AND EXPONENTS: SCIENTIFIC NOTATION</b>		
<p>ALCOS 5 (8-EE3) Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.</p>	<p>Accelerated Digits: 6-1 to 6-3 8<sup>th</sup> Grade Digits: 4-1 to 4-3</p> <p>IXL: 8.G.1, 8.G.2</p> <p>AMSTI: Growing, Growing, Growing Inv 1-2, 4-5</p> <p>LTF: Model 9 – Negative Exponents</p>	4-5
<p>ALCOS 6 (8-EE4) Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notations are used. Use scientific notation and choose units of appropriate size for measurements of very large or very</p>	<p>Accelerated Digits: 6-4 to 6-5 8<sup>th</sup> Grade Digits: 4-4 to 4-5</p> <p>IXL: Grade 8.G.1, 8.G.3, 8.G.4</p>	4

<p>small quantities. Interpret scientific notation that has been generated by technology.</p>	<p><b>MARS:</b>  <a href="#">Estimating Length Using Scientific Notation</a></p> <p><b>AMSTI:</b>          Growing, Growing, Growing Inv 1-2, 4-5</p> <p><b>LTF:</b>          Model 9 – Negative Exponents</p>	
<p><b>UNIT II - PROPORTIONALITY AND LINEAR RELATIONSHIPS: EQUATIONS</b></p>		
<p><b>ALCOS 9 (8-EE7, 8-EE7a, 8-EE7b):</b> Solve linear equations in one variable. (a) Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equations into simpler forms until an equivalent equation of the form <math>x = a</math>, <math>a = a</math>, or <math>a = b</math> results (where <math>a</math> and <math>b</math> are different numbers). (b) Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions, using the distributive property and collecting like terms.</p>	<p><b>Accelerated Digits:</b> 12-1 to 12-4  <b>8<sup>th</sup> Grade Digits:</b> 2-1 to 2-4(2-5 Optional)</p> <p><b>IXL:</b> 8.W.14, 8.W.15, 8.F.18, 8.W.3, 8.W.4, 8.W.6, 8.W.7, 8.W.8, 8.W.9, 8.W.10, 8.W.11, 8.W.12, 8.W.13</p> <p><b>MARS:</b>  <a href="#">Solving Linear Equations in One Variable</a>  <a href="#">Building and Solving Linear Equations</a></p> <p><b>AMSTI:</b>          Variables and Patterns Inv 3-4          Moving Straight Ahead Inv 1-4          Thinking with Mathematical Models Inv 1-3          Say It with Symbols Inv 1-5          The Shapes of Algebra Inv 3 - 4</p> <p><b>LTF:</b>          Module 2 – Working with Formulas</p> <p><b>Dan Meyer’s Three-Act Math Tasks:</b>  <a href="#">Ditch Diggers</a></p>	<p><b>10-11</b></p>

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### Course Honors Math Grade 7

### Second Nine Weeks

Extra days have been built into each 9-weeks for LTF, AMSTI, Re-teaching, & Remediation

Fall break Oct 2-6; Half day: Oct 25; Holidays: Nov. 10 & Nov. 20-24 (Oct. 9 – Sept. 29)

	Accelerated Digits Topic 14 8 <sup>th</sup> Grade Digits Topic 5		Accelerated Digits Topic 19 7 <sup>th</sup> Grade Digits Topic 10		Accelerated Digits Topic 21 7 <sup>th</sup> Grade Digits Topic 12		Accelerated Digits Topic 25 8 <sup>th</sup> Grade Digits Topic 11		Not Available in Digits Area Review	
<b>Vocabulary</b>	Linear equation Slope Y-intercept Rate Unit rate Constant of proportionality		Acute angle Adjacent angles Complementary angles Obtuse angle Right angle Straight angle Supplementary angle Vertical angles		Parallelogram Quadrilateral Triangle Plane Three-dimensional figure Pyramid Prism Cross section		Alternate interior angles Corresponding angles Deductive reasoning Exterior angle of a triangle Remote interior angles Transversal		Triangle Rectangle Parallelogram Trapezoid Square	
<b>Standards</b>	<b>AL CCRS:</b>	<b>Standards:</b>	<b>AL CCRS:</b>	<b>Standards:</b>	<b>AL CCRS:</b>	<b>Standards:</b>	<b>AL CCRS:</b>	<b>Standards:</b>	<b>AL CCRS:</b>	<b>Standards:</b>
	#7	8.EE.5 (5.1,5.3,5.4,5.7)	#12	7.G.2(10.1-10.5)	#12	7.G.2 (12.1 – 12.3, 12.6)	#20	8.G.5 (11.1 – 11.6)	#16	7.G.6
	#8	8.EE.6 (5.5,5.7) 8.F.4 (5.6)	#15 #10	7.G.5 (10.2-10.6) 7.EE.4 (10.1)	#13 #16	7.G.3 (12.4-12.6) 7.G.6(12.6)				

Standard	Resources	Approximate Pacing Number of Days
<b>UNIT II - PROPORTIONALITY AND LINEAR RELATIONSHIPS: Graphing Linear Equations</b>		
<p>ALCOS 7 (8-EE5) Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships in different ways.</p> <p>ALCOS 8 (8-EE6) Use similar triangles to explain why the slope <math>m</math> is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation <math>y = mx</math> for a line through the origin and the equation <math>y = mx + b</math> for a line intercepting the vertical axis at <math>b</math>.</p>	<p>Accelerated Digits: 14-1 to 14-6 8<sup>th</sup> Grade Digits: 5-1 to 5-6 (5-7 Optional)</p> <p>IXL: 8.I.7, 8.Y.1, 8.Y.2, 8.Y.4, 8.Y.5, 8.Y.6, 8.Y.8</p> <p>MARS: <a href="#">Comparing Lines and Linear Equations</a> <a href="#">Defining Lines by Points, Slopes and Equations</a></p> <p>SMALLab: Lifting Gears Game Gear Ratio Game Constant Velocity Constant Acceleration</p> <p>AMSTI: Moving Straight Ahead Inv 4 Thinking with Mathematical Models Inv 2</p> <p>LTF: Module 9 – Goodyear Walks Using the Rule of Four Module 3 – Average Rate of Change Introduction to Related Rates Using Area/Right Triangles Module 7 - Ant and the Sugar Walk the Line</p>	10
<b>UNIT IV –GEOMETRIC CONCEPTS</b>		
<p>ALCOS # 15 (7-G5) Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.</p>	<p>Accelerated Digits: 19-1 – 19-6 7<sup>th</sup> Grade Digits: 10-1 – 10-6</p> <p>IXL: 8.W.12, 8.W.13</p>	8

	<p><b>MARS:</b>  <a href="#">Applying Angle Theorems</a></p> <p><b>AMSTI:</b>  Variables and Patterns Inv. 1-3  Moving Straight Ahead Inv. 1-4  Say It with Symbols Inv. 1-5  Thinking with Mathematical Models Inv. 1-3  Shapes and Designs Inv. 4  Filling and Wrapping Inv. 1-4  Stretching and Shrinking Inv. 3</p> <p><b>LTF:</b>  Angles of a Regular Polygon</p>	
<p><b>ALCOS # 12 (7-G2)</b> Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</p>	<p>Accelerated Digits: 21-2 &amp; 21-3  7<sup>th</sup> Grade Digits: 12-2 &amp; 12-3</p> <p><b>Supplement with lessons on classifying triangles and quadrilaterals</b></p> <p><b>Triangle Inequality Theorem</b></p> <p><b>AMSTI:</b>  Shapes and Designs Inv. 4  Filling and Wrapping Inv. 1-4</p> <p><b>Open Middle:</b>  <a href="#">Triangle Inequality</a></p> <p><b>LTF:</b>  Fill it Up- Part I  Shoeprint, Trapezoids and Area  Approximating Areas of Irregular Shapes Using Trapezoids  Maximizing Area  Triangle Area Activity</p>	<p><b>3</b></p>
<p><b>ALCOS 20 (8-G5)</b> Understand informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.</p>	<p>Accelerated Digits: 25-1 to 25-5  8<sup>th</sup> Grade Digits: 11-1 to 11-5</p> <p><b>IXL: 8.O.6, 8.O.8, 8.O.9, 8.O.10, 8.O.11, 8.O.12</b></p>	<p><b>9</b></p>



	<p>MARS: <a href="#">Identifying Similar Triangles</a></p> <p>AMSTI: Shapes and Designs Inv 3</p> <p>LTF: Module 8 – Angles of a Regular Polygon</p>	
<b>UNIT IV - CREATING, COMPARING, AND ANALYZING GEOMETRIC FIGURES: TWO AND THREE DIMENSIONAL SHAPES</b>		
<p>ALCOS # 13 (7-G3) Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.</p>	<p>Khan Academy</p> <p>IXL: 7.Z.1, 7.Z.3</p> <p><b>Suggest Identify 3-D figures</b></p> <p><b>Vocabulary: vertices, edges, faces, base</b></p> <p>Youtube videos: PBS shows slice master</p> <p>engage<sup>NY</sup> Unit: <a href="https://www.engageny.org/resource/grade-7-mathematics">https://www.engageny.org/resource/grade-7-mathematics</a></p> <p>Dan Meyer’s Three-Act Math Tasks: <a href="#">Holes</a></p>	<p>2</p>
<b>GEOMETRIC APPLICATIONS</b>		
<p>ALCOS # 16 (7-G6) Solve real world and mathematical problems involving <b>area</b>, volume and surface area of <b>two</b>-and three-<b>dimensional</b> objects composed of <b>triangles</b>, <b>quadrilaterals</b>, polygons, cubes, and right prisms.</p>	<p>Digits Student Companion Book Formula Reference Sheet</p> <p>IXL: 7.Z.2, 7.AA.2, 7.AA.3, 7.AA.4, 7.AA.7, 7.AA.8 7.AA.12, 7.AA.13</p> <p>MARS: <a href="#">Designing a 3D Product in 2D: A Sports Bag</a> <a href="#">Drawing to Scale: A Garden</a></p> <p>AMSTI: Shapes and Designs Inv. 4 Filling and Wrapping Inv. 1-4</p> <p>LTF:</p>	<p>9</p>

	<p><b>Fill it Up- Part I</b> <b>Shoeprint, Trapezoids and Area</b> <b>Approximating Areas of Irregular Shapes Using Trapezoids</b> <b>Maximizing Area</b> <b>Triangle Area Activity</b></p> <p><b>Dan Meyer's Three-Act Math Tasks:</b> <a href="#"><u>Coffee Traveler</u></a> <a href="#"><u>Popcorn Picker</u></a> <a href="#"><u>Ticket to Ride</u></a> <a href="#"><u>Holes</u></a></p>	
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## Pacing Guide 2017 - 2018

### Course Honors Math Grade 7

### Third Nine Weeks

Extra days have been built into each 9-weeks for LTF, AMSTI, Re-teaching, & Remediation

Holiday: Jan. 15; Half student days: Feb. 7 & Mar.2; Possible snow days: Feb. 16 & Feb 19 (Jan. 3 – Mar. 2)

	8 <sup>th</sup> Grade Digits Topic 12		Accelerated Digits Topic 22 7 <sup>th</sup> Grade Digits Topic 13		Accelerated Digits Topic 26 8 <sup>th</sup> Grade Digits Topic 13		Accelerated Digits Topic 23 8 <sup>th</sup> Grade Digits Topic 9		Accelerated Digits Topic 24 8 <sup>th</sup> Grade Digits Topic 10	
<b>Vocabulary</b>	Pythagorean Theorem Hypotenuse Leg of a right triangle		Base area Height of a prism Height of a pyramid Lateral area Lateral face Prism Pyramid Surface area Volume		Cone Cylinder Lateral area Sphere Surface area Volume		Congruent figures Image Reflection Rigid motion Rotation Transformation Translation		Dilation Scale factor Similar figures	
<b>Standards</b>	<b>AL CCRS:</b>	<b>Standards:</b>	<b>AL CCRS:</b>	<b>Standards:</b>	<b>AL CCRS:</b>	<b>Standards:</b>	<b>AL CCRS:</b>	<b>Standards:</b>	<b>AL CCRS:</b>	<b>Standards:</b>
	#21 #22 #23	8.G.6 (12.1,12.2,12.4) 8.G.7(12.2,12.3,12.6) 8.G.8 (12.5,12.6)	#16	7.G.6 (13.1-13.5)	#24	8.G.9 (13.1 – 13.7)	#16 #17 #18	8.G.1 (9.1-9.3) 8.G.2 (9.4-9.5) 8.G.3 (9.1-9.3)	#18 #19	8.G.3 (10.1-10.4) 8.G.4 (10.2-10.4)

Standard	Resources	Approximate Pacing Number of Days
<b>GEOMETRY: PYTHAGOREAN THEOREM</b>		
<p>ALCOS #22 (8-G7) Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real world and mathematical problems in two and three dimensions.</p>	<p>8<sup>th</sup> Grade Digits: 12-2 &amp; 12-3</p> <p>IXL: 8.R.1, 8.R.2, 8.R.3, 8.R.4</p> <p>MARS: <a href="#">Discovering the Pythagorean Theorem</a></p> <p>AMSTI: Looking for Pythagoras Inv 2-4</p> <p>LTF: Module 9 – Minimizing Travel Time Module 2 – Pythagorean Theorem Investigation</p> <p>Dan Meyer’s Three-Act Math Tasks: <a href="#">Taco Cart</a></p>	5
<b>UNIT IV - CREATING, COMPARING, AND ANALYZING GEOMETRIC FIGURES: SURFACE AREA AND VOLUME</b>		
<p>ALCOS # 16 (7-G6) Solve real world and mathematical problems involving area, volume and surface area of two-and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.</p>	<p>Digits Student Companion Book Formula Reference Sheet</p> <p>Accelerated Digits: 22-1 &amp; 22-2 7<sup>th</sup> Grade Digits 13-1 &amp; 13-2 <b>**Hexagonal Prisms Optional**</b></p> <p><b>Recommended to teach Pyramids (Not to be tested)</b> Accelerated Digits: 22-2 &amp; 22-4 7<sup>th</sup> Grade Digits: 13-3 &amp; 13-4</p> <p>IXL: 7.Z.2, 7.AA.2, 7.AA.3, 7.AA.4, 7.AA.7, 7.AA.8, 7.AA.12, 7.AA.13</p> <p>MARS: <a href="#">Finding Areas of Circles</a> <a href="#">Maximizing Area: Gold Rush</a></p>	5

	<p><b>AMSTI:</b>  Covering and Surrounding Inv. 1-4  Filling and Wrapping Inv. 1-5  Stretching and Shrinking Inv. 2-3</p> <p><b>LTF:</b>  Solids of Revolution  Surface Area and Volume  Unit Dog  Hole in the Bucket  Box it Up  We All Scream for Ice Cream  Introduction to Related Rates using Volume</p> <p>Dan Meyer’s Three-Act Math Tasks:  <a href="#">Coffee Traveler</a>  <a href="#">Popcorn Picker</a>  <a href="#">Ticket to Ride</a>  <a href="#">Holes</a></p>	
<p>ALCOS 24 (8-G9) Know the formulas for the volumes of cones, cylinders, and spheres, and use them to solve real world and mathematical problems.</p>	<p>Digits Student Companion Book Formula Reference Sheet</p> <p>Accelerated Digits: 26-2, 26-4, 26-6  8<sup>th</sup> Grade Digits: 13-2, 13-4, 13-6</p> <p><b>Recommended to teach Surface Area (Not to be tested)</b></p> <p>Accelerated Digits: 26-1, 26-3, 26-5  8<sup>th</sup> Grade Digits: 13-1, 13-3, 13-5</p> <p>IXL: 8.T.9, 8.T.11</p> <p><b>MARS:</b>  <a href="#">Modeling: Making Matchsticks</a>  <a href="#">Sampling and Estimating: How Many Jelly Beans?</a></p> <p><b>AMSTI:</b>  Filling and Wrapping Inv 3-5</p> <p><b>LTF:</b>  Module 2 – An “Apeeling” Problem  Solids of Revolution</p>	<p>6</p>

		Unit Dog	
<b>UNIT IV - CREATING, COMPARING, AND ANALYZING GEOMETRIC FIGURES: CONGRUENCE</b>			
ALCOS 16 (8-G1, 8-G1a, 8-G1b, 8-G1c) Verify experimentally the properties of rotations, reflections, and translations: (a) Lines are taken to lines, and line segments are taken to line segments of the same length. (b) Angles are taken to angles of the same measure. (c) Parallel lines are taken to parallel lines.	Accelerated Digits: 23-1 to 23-3 8 <sup>th</sup> Grade Digits: 9-1 to 9-3  IXL: 8.P.2, 8.P.3, 8.P.5, 8.P.7  MARS: <a href="#">Representing and Combining Transformations</a>  AMSTI: Kaleidoscopes, Hubcaps, and Mirrors Inv 1-5  LTF: Module 1 – Pictures and Transformations Transformations and Tessellations Water Park		5
ALCOS 17 (8-G2) Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	Accelerated Digits: 23-4 & 23-5 8 <sup>th</sup> Grade Digits: 9-4 & 9-5  IXL: 8.P.9, 8.P.10, 8.Q.1  AMSTI: Kaleidoscopes, Hubcaps, and Mirrors Inv 1-5  LTF: Module 1 – Pictures and Transformations Transformations and Tessellations Water Park		5
<b>UNIT IV - CREATING, COMPARING, AND ANALYZING GEOMETRIC FIGURES: SIMILARITY</b>			
ALCOS 18 (8-G3) Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	Accelerated Digits: 24-1 & 24-2 8 <sup>th</sup> Grade Digits: 10-1 & 10-2  IXL: 8.P.4, 8.P.6, 8.P.8  AMSTI: Stretching and Shrinking Inv 2		6
ALCOS 19 (8-G4) Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a	Accelerated Digits: 24-3 & 24-4 8 <sup>th</sup> Grade Digits: 10-3 & 10-4		6

sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.

IXL: 8.Q.1, 8.Q.5

MARS:

[Identifying Similar Triangles](#)

AMSTI:

Stretching and Shrinking Inv 2

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### Fourth Nine Weeks

Extra days have been built into each 9-weeks for LTF, AMSTI, Re-teaching, & Remediation

Possible snow day: Mar. 16; Spring break: Mar. 26 – 30 (March 5 – May 24)

	7 <sup>th</sup> Grade Digits Topic 14		7 <sup>th</sup> Grade Digits Topic 15		7 <sup>th</sup> Grade Digits Topic 16		7 <sup>th</sup> Grade Digits Topic 17	
<b>Vocabulary</b>	Convenience sample Inference Population Representative sample Sampling method		Inference Interquartile range Mean absolute deviation Range Median Mean Comparative inference		Action Experimental probability Theoretical probability Outcome Probability model Probability of an event Sample space Simulation		Action Event Probability of an event Sample space Simulation Compound event	
<b>Standards</b>	<b>AL CCRS:</b>	<b>Standard:</b>	<b>AL CCRS:</b>	<b>Standard:</b>	<b>AL CCRS:</b>	<b>Standard:</b>	<b>AL CCRS:</b>	<b>Standard:</b>
	#17	7.SP.1(14.1-134.7)	#17	7.SP.1 (15.1-15.2)	#21	7.SP.5(16.1)	#24	7.SP.8(17.1-17.7)
	#18	7.SP.2(14.2,14.5,14.7)	#19	7.SP.3(15.2,15.5)	#22	7.SP.6(16.2,16.3)		
			#20	7.SP.4(15.1-15.6)	#23	7.SP.7(16.2,16.4-16.6)		



Standard	Resources	Approximate Pacing Number of Days
<b>UNIT III - STATISTICS AND PROBABILITY: SAMPLING</b>		
<p>ALCOS # 17 (7-SP1) Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.</p>	<p>Accelerated Digits: 15-1, 15-3, 15-4, 15-5, 15-6 7<sup>th</sup> Grade Digits: 14-1, 14-3, 14-4, 14-5, 14-6</p> <p>IXL: 7.CC.6</p> <p>AMSTI: Samples and Populations Inv. 2-3</p>	7
<p>ALCOS # 18 (7-SP2) Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.</p>	<p>Accelerated Digits: 15-2 &amp; 15-7 7<sup>th</sup> Grade Digits: 14-2 &amp; 14-7</p> <p>IXL: 7.J.12</p> <p>MARS: <a href="#">Sampling and Estimating: Counting Trees</a></p> <p>LTF: Getting to Know You What Percentage of the Earth is Water Free French Fries Passing Game</p> <p>Dan Meyer’s Three-Act Math Tasks: <a href="#">Yellow Starbursts</a></p>	3
<b>UNIT III - STATISTICS AND PROBABILITY: COMPARING TWO POPULATIONS</b>		
<p>ALCOS # 20 (7-SP4) Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.</p>	<p><b>These skills should not be tested. They are a prerequisite for complete mastery of the standard.</b></p> <p>IXL: 7.BB.2, 7.BB.3, 7.BB.4, 7.BB.5, 7.BB.6, 7.BB.7, 7.BB.8, 7.BB.9, 7.BB.10, 7.BB.15, 7.BB.16, 7.BB.17 (7.BB.1, 7.BB.11, 7.BB.12, 7.BB.13, 7.BB.14 optional)</p>	5

<p>ALCOS # 20 (7-SP4) Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.</p>	<p>Accelerated Digits: 16-1 to 16-4 7<sup>th</sup> Grade Digits: 15-1 to 15-4 &amp; 15-6 optional</p> <p>IXL: 7.CC.1, 7.CC.2, 7.CC.3, 7.CC.4</p> <p>MARS: <a href="#">Representing Variability with Mean, Median, Mode &amp; Range</a> <a href="#">Comparing Data Using Statistical Measures</a></p> <p>AMSTI: Samples and Populations Inv. 2 Data Distributions Inv. 2-4</p> <p>LTF: Getting to Know You Measures of Central Tendency</p>	<p>6</p>
<p>ALCOS # 19 (7-SP3) Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.</p>	<p>Accelerated Digits: 16-5 &amp; 16-6 7<sup>th</sup> Grade Digits: 15-5 &amp; 15-6</p>	<p>2</p>
<p><b>STATISTICS AND PROBABILITY: PROBABILITY CONCEPTS</b></p>		
<p>ALCOS # 21 (7-SP5) Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.</p>	<p>Digits: 16-1</p> <p>IXL: 7.DD.1</p> <p>MARS: <a href="#">Designing: A Game of Chance</a></p>	<p>2</p>
<p>ALCOS # 22 (7-SP6) Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.</p>	<p>Digits: 16-3</p> <p>IXL: 7.DD.3, 7.DD.4</p> <p>Illustrative Mathematics: <a href="#">Rolling dice</a></p>	<p>2</p>
<p>ALCOS # 23 (7-SP7, 7-SP7a, 7-SP7b) Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. (a) Develop a</p>	<p>Digits: 16-2, 16-4, 16-5, 16-6 optional</p> <p>AMSTI: How Likely Is It? Inv. 1-4</p>	<p>8</p>

<p>uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities. (b) Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.</p>	<p>What Do You Expect? Inv. 1-4</p> <p>IXL: 7.DD.1, 7.DD.3</p> <p>MARS: <a href="#">Estimating Statements about Probability</a></p> <p>LTF: Bulls Eye Family Fun Movie Probability</p>	
<p><b>UNIT III - STATISTICS AND PROBABILITY: COMPOUND EVENTS</b></p>		
<p>ALCOS # 24 (7-SP8, 7-SP8a, 7-SP8b, 7-SP8c) Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. (a) Understand that just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. (b) Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language (e.g. rolling double sixes), identify the outcomes in the sample space which compose the event. (c) Design and use a simulation to generate frequencies for compound events.</p>	<p>Accelerated Digits: 18-1 to 18-6 7<sup>th</sup> Grade Digits: 17-1 to 17-6</p> <p>IXL: 7.DD.2, 7.DD.6, 7.DD.7, 7.DD.5, 7.DD.8, 7.DD.9, 7.DD.10, 7.DD.11</p> <p>MARS: <a href="#">Analyzing Games of Chance</a></p> <p>AMSTI: What Do You Expect Inv. 1-4</p> <p>LTF: Bulls Eye Family Fun Movie Probability</p>	<p><b>10</b></p>
<p>ALCOS # 23 (7-SP7, 7-SP7a, 7-SP7b) Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. (a) Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities. (b) Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.</p>	<p>Accelerated Digits: 18-7 7<sup>th</sup> Grade Digits: 17-7</p> <p>IXL 7.DD.1, 7.DD.3</p> <p>MARS: <a href="#">Evaluating Statements About Probability</a></p>	<p><b>3</b></p>

Listed below are the technology standards for grades six through eight. You are to make every effort to incorporate the applicable standards into your daily classroom lessons. These standards should be noted in your lesson plans.

## Alabama Technology Standards Sixth – Eighth Grade

### Technology Operations and Concepts

Students will:

1. Appraise technology systems to determine software and hardware compatibility.
2. Publish digital products that communicate curriculum concepts.  
Examples: Web pages, videos, podcasts, multimedia presentations
3. Explain how network systems are connected and used.  
Examples: file sharing, collaborating, wireless networking
4. Determine basic troubleshooting strategies to correct common hardware and software problems.  
Examples: checking connections, restarting equipment, creating a backup copy of digital data  
Describing the importance of antivirus and security software
5. Use basic features of word processing, spreadsheets, databases, and presentation software.  
Examples: word processing—reports, letters, brochures  
spreadsheets—discovering patterns, tracking spending, creating budgets  
databases—contact list of addresses and telephone numbers  
presentation software—slideshow
6. Select specific digital tools for completing curriculum-related tasks.  
Examples: spreadsheet for budgets, word processing software for essays, probes for data collection
7. Demonstrate correct keyboarding techniques.

## **Digital Citizenship**

8. Identify safe uses of social networking and electronic communication.  
Recognizing dangers of online predators  
Protecting personal information online
  
9. Practice responsible and legal use of technology systems and digital content.  
Examples: avoiding plagiarism; complying with acceptable-use policies, copyright laws, and fair use standards; recognizing secure Web sites  
Identifying examples of computer crime and related penalties  
Examples: computer crime—phishing, spoofing, virus and worm dissemination, cyberbullying penalties—fines, incarceration  
Citing sources of digital content
  
10. Describe advances in technology and effects of each on the workplace and society.  
Examples: agriculture, manufacturing, medicine, warfare, transportation, communication, education

## **Research and Information Fluency**

11. Use digital tools and strategies to locate, collect, organize, evaluate, and synthesize information.  
Examples: locating—Boolean searches, graphic organizers, spreadsheets, databases collecting—probeware, graphing calculators organizing—graphic organizers, spreadsheets evaluating—reviewing publication dates, determining credibility synthesizing—word processing software, concept-mapping software

## **Communication and Collaboration**

12. Use digital tools to communicate and collaborate at all levels from interpersonal to global.  
Examples: instant messages, e-mail, blogs, wikis, collaborative authoring tools, online learning communities  
Demonstrating digital file transfer  
Examples: attaching, uploading, downloading

## **Critical Thinking, Problem Solving, and Decision Making**

13. Use digital tools to formulate solutions to authentic problems.  
Examples: electronic graphing tools, probes, spreadsheets

## Creativity and Innovation

14. Use digital tools to generate new ideas, products, or processes.

Examples: ideas—predictions, trends products—animation, video processes—models, simulations

### Curriculum Overview

Semester 1	Standards	Days
1 <sup>st</sup> 9 weeks		
Topic 1	8.NS.1, 8.NS.2	8-9
	8.EE.1, 8.EE.2	10-11
Topic 3	8.EE.3, 8.EE.4	8-9
Topic 4 Topic 2	8.EE.7	10-11
2 <sup>nd</sup> 9 weeks		
	8.EE.5, 8.EE.6	10
Topic 5	7.G.2, 7.G.5, 7.EE.4	8
Topic 10	7.G.2, 7.G.3, 7.G.6	3
Topic 11	8.G.5	9
Area review	7.G.6	11
Semester 2		
3 <sup>rd</sup> 9 weeks		
	8.G.6, 8.G.7, 8.G.8	5
Topic 12 Topic 13	7.G.6	5
Topic 13	8.G.9	6
	8.G.1, 8.G.2, 8.G.3	10
Topic 9 Topic 10	8.G.3, 8.G.4	12
4 <sup>th</sup> 9 weeks		
	7.SP.1, 7.SP.2	10
Topic 14 Topic 15	7.SP.1, 7.SP.3, 7.SP.4	13
	7.SP.5, 7.SP.6, 7.SP.7	10
Topic 16 Topic 17	7.SP.8	13