

GRADE 7 MATHEMATICS
2012-2013 SCOPE AND SEQUENCE

1st Six Weeks	28 Days		<i>The recommended number of lessons is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
	Aug. 27 – Oct. 5, 2012		
	# of Lessons	Objectives	
Unit 1 Rational Number Relationships Students establish a problem-solving plan and examine the use of various problem-solving strategies. Students compare and order rational numbers and examine equivalent forms of rational numbers.	4 90-min. lessons or 8 45-min. lessons	The student will: <u>2 (45-min) Lessons: Establishing a Problem-Solving Process</u> (PS) MATH.7.13B Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness. (PS) MATH.7.13C Select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem or working backwards to solve a problem. (PS) MATH.7.13D Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems. (PS) MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models. ----- <u>2 (45-min) Lessons: Comparing and Ordering Rational Numbers</u> (AR) (S) MATH.7.1A Compare and order integers and positive rational numbers <i>or the words associated with them using concrete or pictorial models, benchmarks, and place value.</i> (PS) MATH.7.13D Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems. (PS) MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models. ----- <u>4 (45-min) Lessons: Equivalent Fractions, Decimals, and Percents</u> (R) MATH.7.1B Convert between fractions, decimals, whole numbers, and percents presented in application problems mentally, on paper, or with a calculator <i>or using operations and definitions.</i> (PS) MATH.7.13D Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems. (PS) MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models. (PS) MATH.7.15A Make conjectures from patterns or sets of examples and nonexamples.	
Unit 2 Introduction to Multiplication and Division of Fractions and Decimals Students multiply and divide fractions and decimals using concrete and pictorial models. They connect the concrete representations to the use of the algorithms.	3 90-min. lessons or 6 45-min. lessons	(S) MATH.7.2A Represent multiplication and division situations involving fractions, and decimals with concrete objects, pictures, words, <i>expressions, and equations.</i> (PS) MATH.7.13D Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems. (PS) MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models. (PS) MATH.7.15A Make conjectures from patterns or sets of examples and nonexamples.	
Unit 3 Operations with Fractions and Decimals Students solve real-life problems involving addition, subtraction, multiplication, and division of fractions and decimals.	4 90-min. lessons or 8 45-min. lessons	(R) MATH.7.2B Use addition, subtraction, multiplication, and division to solve problems involving fractions and decimals <i>presented in real-world situations which include information expressed in various forms, including pictorial models, graphical representations, numbers, or ranges of numbers.</i> (R) MATH.7.2F Select and use appropriate operations to solve problems and justify the selections, <i>problem-solving process, and reasonableness of answer, especially in terms of an estimate.</i> (S) MATH.7.2G Determine the reasonableness of a solution to a problem <i>using a variety of strategies such as estimation using rounding or compatible numbers.</i> (PS) MATH.7.13A Identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics.	

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2nd Six Weeks	25 Days		The recommended number of lessons is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Oct. 8 – Nov. 9, 2012		
	# of Lessons	The student will:	Objectives
Unit 4 Integer Operations Students model and solve real-world problems involving integer operations and develop an understanding of the algorithms involved.	5 90-min. lessons or 10 45-min. lessons	2 (45-min) Lessons: <u>Addition of Integers</u> Ⓢ MATH.7.2C Use models, such as concrete objects, pictorial models, and number lines to add , subtract, multiply, and divide integers and connect the actions to algorithms. Ⓢ MATH.7.15A Make conjectures from patterns or sets of examples and nonexamples. Ⓢ MATH.7.15B Validate conclusions using mathematical properties and relationships.	
		2 (45-min) Lessons: <u>Subtraction of Integers</u> Ⓢ MATH.7.2C Use models, such as concrete objects, pictorial models, and number lines to add , subtract , multiply, and divide integers and connect the actions to algorithms. Ⓢ MATH.7.15A Make conjectures from patterns or sets of examples and nonexamples. Ⓢ MATH.7.15B Validate conclusions using mathematical properties and relationships.	
		2 (45-min) Lessons: <u>Multiplication of Integers</u> Ⓢ MATH.7.2C Use models, such as concrete objects, pictorial models, and number lines to add , subtract, multiply , and divide integers and connect the actions to algorithms. Ⓢ MATH.7.15A Make conjectures from patterns or sets of examples and nonexamples. Ⓢ MATH.7.15B Validate conclusions using mathematical properties and relationships.	
		2 (45-min) Lessons: <u>Division of Integers</u> Ⓢ MATH.7.2C Use models, such as concrete objects, pictorial models, and number lines to add , subtract, multiply, and divide integers and connect the actions to algorithms. Ⓢ MATH.7.15A Make conjectures from patterns or sets of examples and nonexamples. Ⓢ MATH.7.15B Validate conclusions using mathematical properties and relationships.	
		2 (45-min) Lessons: <u>Problem-Solving using Integer Operations</u> Ⓢ MATH.7.2F Select and use appropriate operations to solve problems and justify the selections, <i>problem-solving process, and reasonableness of answer, especially in terms of an estimate.</i> Ⓢ MATH.7.2G Determine the reasonableness of a solution to a problem <i>using a variety of strategies such as estimation using rounding or compatible numbers.</i> Ⓢ MATH.7.13B Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.	
Unit 5 Ratios and Rates Students begin their study of proportionality with ratios, rates, and unit rates.	2 90-min. lessons or 4 45-min. lessons	Ⓢ MATH.7.2D Use division to find unit rates and ratios in proportional relationships such as speed, density, price, recipes, and student-teacher ratios; <i>and model those relationships concretely, pictorially, and in tabular form.</i> Ⓢ MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.	
Unit 6 Proportional Reasoning Students write and solve real-world problems involving proportional reasoning, such as measurement comparisons and cost ratios. Students use intuitive methods such as unit rates and factor of change strategies.	3 90-min. lessons or 6 45-min. lessons	Ⓢ MATH.7.3B Estimate and find solutions to application problems involving proportional relationships such as similarity, scaling, unit costs, and related measurement units <i>using intuitive methods (such as unit-rate method, factor-of-change approach, or a graphical/visuals approach).</i> Ⓢ MATH.7.4A Generate formulas involving unit conversions within the same system (customary and metric), perimeter, area, circumference, volume, scaling, <i>and sequences of numbers from a variety of representations, including verbal descriptions, tables of data, and diagrams.</i> Ⓢ MATH.7.13A Identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics. Ⓢ MATH.7.13D Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems.	

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3rd Six Weeks	27 Days		<i>The recommended number of lessons is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
	Nov. 12 – Dec. 21, 2012		
	# of Lessons	Objectives	
<p>Unit 7 Proportional and Non-Proportional Relationships</p> <p>Students solve real-world problems involving proportional reasoning with data presented in multiple representations (graphs, tables, verbal descriptions, and/or equations). They learn to discriminate between proportional and non-proportional relationships using cues from the various representations.</p>	<p>4 90-min. lessons or 8 45-min. lessons</p>	<p><u>4 (45-min) Lessons: Using Multiple Representations</u></p> <p>Ⓡ MATH.7.3B Estimate and find solutions to application problems involving proportional relationships such as similarity, scaling, unit costs, and related measurement units <i>using intuitive methods (such as unit-rate method, factor-of-change approach, or a graphical/ visual approach).</i></p> <p>Ⓡ Ⓢ MATH.7.4A Generate formulas involving unit conversions within the same system (customary and metric), perimeter, area, circumference, volume, scaling, <i>and sequences of numbers from a variety of representations, including verbal descriptions, tables of data, and diagrams.</i></p> <p>Ⓢ MATH.7.4B Graph data to demonstrate relationships in familiar concepts such as conversions, perimeter, area, circumference, volume, scaling, <i>and sequences of numbers; and use the graphical data to determine whether the relationships are proportional.</i></p> <p>Ⓟ MATH.7.15A Make conjectures from patterns or sets of examples and nonexamples.</p> <hr style="border-top: 1px dashed black;"/> <p><u>4 (45-min) Lessons: Solving problems involving proportional and non-proportional situations</u></p> <p>Ⓡ MATH.7.3B Estimate and find solutions to application problems involving proportional relationships such as similarity, scaling, unit costs, and related measurement units <i>using intuitive methods (such as unit-rate method, factor-of-change approach, or a graphical/visuals approach).</i></p> <p>Ⓟ MATH.7.13B Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness.</p> <p>Ⓟ MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.</p>	
<p>Unit 8 Similarity and its Applications</p> <p>Students explore the concepts and properties of similar figures and their connections to proportional relationships.</p>	<p>3 90-min. lessons or 6 45-min. lessons</p>	<p>Ⓡ MATH.7.3B Estimate and find solutions to application problems involving proportional relationships such as similarity, scaling, unit costs, and related measurement units <i>using intuitive methods (such as unit-rate method, factor-of-change approach, or a graphical/visuals approach).</i></p> <p>Ⓡ MATH.7.6D Use critical attributes to define similarity (<i>including corresponding parts and congruent angles</i>); <i>use those attributes to determine if two figures are similar, and to identify proportional relationships of similar shapes.</i></p> <p>Ⓢ MATH.7.7A Locate and name points on a coordinate plane using ordered pairs of integers and <i>identify the origin, axes, and quadrants.</i></p> <p>Ⓡ MATH.7.9A Estimate measurements, solve application problems involving length (including perimeter and circumference) and area of polygons and other figures utilizing conversions <i>and formulas and distinguish between the types of units used (linear or square units).</i></p> <p>Ⓟ MATH.7.15A Make conjectures from patterns or sets of examples and nonexamples.</p>	
<p>Unit 9 Percents</p> <p>Students develop the concept of part-to-whole relationships as they relate to percents and use proportional reasoning to solve real-world problems. Students explore applications of percent such as percent increase, percent decrease, and circle graphs.</p>	<p>4 90-min. lessons or 8 45-min. lessons</p>	<p><u>2 (45-min) Lessons: Modeling Equivalent Fractions, Decimals, and Percents</u></p> <p>Ⓡ Ⓢ MATH.7.1A Compare and order integers and positive rational numbers or <i>the words associated with them using concrete or pictorial models, benchmarks, and place value.</i></p> <p>Ⓡ MATH.7.1B Convert between fractions, decimals, whole numbers, and percents presented in application problems mentally, on paper, or <i>with a calculator using operations and definitions.</i></p> <p>Ⓢ MATH.7.4B Graph data to demonstrate relationships in familiar concepts such as conversions, perimeter, area, circumference, volume, scaling, <i>and sequences of numbers; and use the graphical data to determine whether the relationships are proportional.</i></p> <hr/> <p><u>6 (45-min) Lessons: Solving Application Problems Involving Percent</u></p> <p>Ⓡ MATH.7.3A Estimate and find solutions to application problems involving percent <i>using a variety of strategies including concrete or pictorial models, benchmarks, and finding patterns with or without the use of calculators.</i></p> <p>Ⓟ MATH.7.13A Identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics.</p> <p>Ⓟ MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.</p>	

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4th Six Weeks	33 Days		The recommended number of lessons is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Jan. 8 – Feb. 22, 2013		
	# of Lessons	The student will:	Objectives
Unit 10 Algebraic Expressions and Equations Students evaluate algebraic expressions, and model and solve one- and two-step algebraic equations.	4 90-min. lessons or 8 45-min. lessons	3 (45-min) Lessons: Writing and Evaluating Expressions Using the Order of Operations AR S MATH.7.2E Describe the order of operations in a given numerical expression and simplify numerical expressions involving order of operations and exponents. AR S MATH.7.5A Use concrete and pictorial models to represent and solve equations involving rational numbers use pictures and symbols to record the steps of the solution process, and verify the solution using substitution. R MATH.7.5B Write problem situations when given a simple equation and write an equation when given a problem situation. PS MATH.7.13B Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness. PS MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.	
		5 (45-min) Lessons: Solving Equations Concretely AR S MATH.7.5A Use concrete and pictorial models to represent and solve equations involving rational numbers use pictures and symbols to record the steps of the solution process, and verify the solution using substitution. PS MATH.7.13D Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems. PS MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.	
Unit 11 Developing Algebraic Reasoning Students develop algebraic reasoning skills using informal and formal patterns and sequences. Students use these skills to solve one- and two-step algebraic equations.	4 90-min. lessons or 8 45-min. lessons	4 (45-min) Lesson: Exploring Sequences and Writing Equations S MATH.7.4C Use words and symbols to describe the terms in an arithmetic sequence (with a constant rate of change) and their positions in a sequence; and represent those sequences using a variety of strategies (including concrete models, tables, algebraic rules, and graphs). PS MATH.7.13D Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems. PS MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models. PS MATH.7.15A Make conjectures from patterns or sets of examples and nonexamples.	
		4 (45-min) Lessons: Solving Equations Symbolically AR S MATH.7.5A Use concrete and pictorial models to represent and solve equations involving rational numbers, use pictures and symbols to record the steps of the solution process, and verify the solution using substitution. R MATH.7.5B Write problem situations when given a simple equation and write an equation when given a problem situation. PS MATH.7.13B Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness. PS MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.	
Unit 12 Multiple Representations of Functions Students generate multiple representations of a functional relationship.	2 90-min. lessons or 4 45-min. lessons	S MATH.7.4B Graph data to demonstrate relationships in familiar concepts such as conversions, perimeter, area, circumference, volume, scaling, and sequences of numbers; and use the graphical data to determine whether the relationships are proportional. AR S MATH.7.4A Generate formulas involving unit conversions within the same system (customary and metric), perimeter, area, circumference, volume, scaling, and sequences of numbers from a variety of representations, including verbal descriptions, tables of data, and diagrams. R MATH.7.5B Write problem situations when given a simple equation and write an equation when given a problem situation. PS MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.	

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4th	Six Weeks	33 Days	The recommended number of lessons is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
		Jan. 8 – Feb. 22, 2013	
		# of Lessons	Objectives
		The student will:	
Unit 13 Introduction to Plane Geometry Students begin their study of geometry and geometric properties with the classification of, and relationships among, various types of angles. They build triangles and quadrilaterals and examine the relationships between them, including area and perimeter.	3 90-min. lessons or 6 45-min. lessons	2 (45-min) Lesson: <u>Angles and their Measures</u> Ⓢ MATH.7.6A Use angle measurements to define and classify pairs of angles as complementary or supplementary. Ⓢ MATH.7.11A Select and use an appropriate representation for presenting and displaying relationships among collected data, including line plot, line graph, bar graph, stem and leaf plot, circle graph, and Venn diagrams, and justify the selection, <i>and determine whether the graphical representation of a given set of data is appropriate and/or accurate.</i> Ⓢ MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models. 4 (45-min) Lessons: <u>Classifying Polygons</u> Ⓢ MATH.7.6B Identify properties of triangles and quadrilaterals <i>shown individually or as part of a more complex figure and use them to classify the figures.</i> Ⓢ MATH.7.11A Select and use an appropriate representation for presenting and displaying relationships among collected data, including line plot, line graph, bar graph, stem and leaf plot, circle graph, and Venn diagrams, and justify the selection, <i>and determine whether the graphical representation of a given set of data is appropriate and/or accurate.</i>

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5th	Six Weeks	29 Days	The recommended number of lessons is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
		Feb. 25 – Apr. 12, 2013	
		# of Lessons	Objectives
Unit 14 Plane Geometry Students continue their study of two-dimensional geometry and the relationships associated with circles. Students also explore transformations on the coordinate plane.	3 90-min. lessons or 6 45-min. lessons	The student will:	
		2 (45-min) Lessons: <u>Circles and Circumference</u> Ⓐ Ⓢ MATH.7.4A Generate formulas involving unit conversions within the same system (customary and metric), perimeter, area, circumference, volume, scaling, and sequences of numbers from a variety of representations, including verbal descriptions, tables of data, and diagrams. Ⓡ MATH.7.9A Estimate measurements, solve application problems involving length (including perimeter and circumference) and area of polygons and other figures utilizing conversions and formulas and distinguish between the types of units used (linear or square units).	
		2 (45-min) Lessons: <u>Area of Circles</u> Ⓡ MATH.7.9A Estimate measurements, solve application problems involving length (including perimeter and circumference) and area of polygons and other figures utilizing conversions and formulas and distinguish between the types of units used (linear or square units). Ⓢ MATH.7.13A Identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics. Ⓢ MATH.7.13D Select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems. Ⓢ MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.	
		2 (45-min) Lessons: <u>Graphing Translations and Reflections in the Coordinate Plane</u> Ⓡ MATH.7.7B Graph reflections across the horizontal or vertical axis, graph translations on a coordinate plane, and describe and predict the relationships between the original figures and their images. Ⓢ MATH.7.7A Locate and name points on a coordinate plane using ordered pairs of integers and identify the origin, axes, and quadrants. Ⓢ MATH.7.8C Use geometric concepts (including symmetry and transformations, scaling and similarity, and congruence) and properties of two- and three-dimensional figures to solve problems in fields such as art and architecture.	
Unit 15 Three-dimensional Geometry and Measurement Students use spatial visualization skills to analyze, classify, compare, and contrast three-dimensional geometric figures. They make nets (two-dimensional models) of those figures and solve real-world problems involving measurements such as surface area and volume.	5 90-min. lessons or 10 45-min. lessons	2 (45-min) Lessons: <u>Spatial Visualization</u> Ⓢ MATH.7.8A Sketch a figure when given the top, side, and front views and match those views to a given figure. Ⓐ Ⓢ MATH.7.8B Make a net (two-dimensional model) of the surface area of a three-dimensional figure and construct three-dimensional models of solids given a net. Ⓢ MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.	
		2 (45-min) Lessons: <u>Investigating Rectangular Prisms</u> Ⓢ MATH.7.6C Identify properties of three-dimensional figures, including pyramids, cones, prisms, and cylinders and use their properties to classify the figures. Ⓐ Ⓢ MATH.7.8B Make a net (two-dimensional model) of the surface area of a three-dimensional figure and construct three-dimensional models of solids given a net. Ⓢ MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.	
		3 (45-min) Lessons: <u>Pyramids, Cones, and Cylinders</u> Ⓢ MATH.7.6C Identify properties of three-dimensional figures, including pyramids, cones, prisms, and cylinders and use their properties to classify the figures. Ⓐ Ⓢ MATH.7.8B Make a net (two-dimensional model) of the surface area of a three-dimensional figure and construct three-dimensional models of solids given a net. Ⓢ MATH.7.15A Make conjectures from patterns or sets of examples and nonexamples. Ⓢ MATH.7.15B Validate conclusions using mathematical properties and relationships.	

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	Feb. 25 – Apr. 12, 2013		
	# of Lessons	Objectives	
		<p>3 (45-min) Lessons: Volume of Prisms and Cylinders</p> <p>Ⓢ MATH.7.9B Connect models for volume of prisms (triangular and rectangular) and cylinders to formulas for volume of prisms (rectangular and triangular) and cylinders.</p> <p>Ⓡ MATH.7.9C Estimate measurements, solve application problems involving volume of prisms (rectangular and triangular) and cylinders using the dimensions of a given figure and conversions and formulas, and distinguish the type of units used as cubic units.</p> <p>Ⓢ MATH.7.8C Use geometric concepts (<i>including symmetry and transformations, scaling and similarity, and congruence</i>) and properties of two- and three-dimensional figures to solve problems in fields such as art and architecture.</p>	
<p>Unit 16</p> <p>Data Analysis and Sample Spaces</p> <p>Students explore data collection and use graphical representations to create data displays (line plots, line graphs, bar graphs, stem and leaf plots, circle graphs, and Venn diagrams) of real-world situations. They use the displays and statistical measures of central tendency and variability (mean, median, mode, and range) for data analysis and interpretation. Sample spaces are constructed and described for simple and composite events using lists and tree diagrams, and geometric models.</p>	<p>4 90-min. lessons or 8 45-min. lessons</p>	<p>4 (45-min) Lessons: Data Collection and Analysis</p> <p>Ⓢ MATH.7.11A Select and use an appropriate representation for presenting and displaying relationships among collected data, including line plot, line graph, bar graph, stem and leaf plot, circle graph, and Venn diagrams, justify the selection, and <i>determine whether the graphical representation of a given set of data is appropriate and/or accurate.</i></p> <p>Ⓢ MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.</p> <p>Ⓡ MATH.7.11B Make inferences and convincing arguments based on an analysis of given or collected data and use them to draw conclusions and make predictions.</p> <p>Ⓢ MATH.7.14B Evaluate the effectiveness of different representations to communicate ideas.</p> <hr/> <p>2 (45-min) Lessons: Measures of Central Tendency and Box Plots</p> <p>Ⓢ MATH.7.12A Describe a set of data using mean, median, mode, and range, <i>match the mean, median, mode, and/or range with a given data set and identify the missing piece of data that will produce a target mean, median, mode, and/or range.</i></p> <p>Ⓡ MATH.7.12B Choose among mean, median, mode, or range to describe a set of data and justify the choice for a particular situation.</p> <p>Ⓢ MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.</p> <p>Ⓢ MATH.7.14B Evaluate the effectiveness of different representations to communicate ideas.</p> <hr/> <p>2 (45-min) Lesson: Sample Spaces</p> <p>Ⓢ MATH.7.10A Construct sample spaces for simple or composite experiments, <i>match a situation with a sample space that lists all possible combinations, or select the missing portion of a given sample space.</i></p> <p>Ⓢ MATH.7.13A Identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics.</p> <p>Ⓢ MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.</p>	

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6th Six Weeks	38 Days		<i>The recommended number of lessons is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
	April 15 – June 6, 2013		
	# of Lessons	Objectives	
Unit 17 Readiness and Supporting Standards Review Students use appropriate problem-solving strategies and skills to review relevant Readiness and Supporting Standards (based on individual student diagnostic data).	5 90-min. lessons or 10 45-min. lessons	The student will: Ⓢ MATH.7.13B Use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness. Ⓢ MATH.7.13C Select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem or working backwards to solve a problem. Ⓢ MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models.	
Unit 18 Experimental vs. Theoretical Probability Students explore, compare, and contrast experimental and theoretical probability of independent events.	2 90-min. lessons or 4 45-min. lessons	Ⓢ MATH.7.10A Construct sample spaces for simple or composite experiments, <i>match a situation with a sample space that lists all possible combinations, or select the missing portion of a given sample space.</i> Ⓢ MATH.7.10B Find the probability of independent events <i>using an experiment and compare the theoretical and experimental probabilities.</i> Ⓢ MATH.7.11B Make inferences and convincing arguments based on an analysis of given or collected data and <i>use them to draw conclusions and make predictions.</i> Ⓢ MATH.7.14A Communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models. Ⓢ MATH.7.15B Validate conclusions using mathematical properties and relationships.	
Unit 19 Bridge to Eighth Grade: Real Numbers and Their Operations Students review and extend their knowledge of the components, attributes, and operations of the real number system.	5 90-min. lessons or 10 45-min. lessons	Ⓢ MATH.7.1C Represent squares and square roots using geometric models and <i>use technology to estimate and determine exact square roots.</i> Ⓢ MATH.7.2B Use addition, subtraction, multiplication, and division to solve problems involving fractions and decimals <i>presented in real-world situations which include information expressed in various forms, including pictorial models, graphical representations, numbers, or ranges of numbers.</i> Ⓢ MATH.7.2C Use models, such as concrete objects, pictorial models, and number lines to add, subtract, multiply, and divide integers and connect the actions to algorithms. Ⓢ MATH.8.1A Compare and order rational numbers in various forms including integers, percents, and positive and negative fractions and decimals. Ⓢ MATH.8.2B Use appropriate operations to solve problems involving rational numbers in problem situations <i>and justify the problem-solving process and the reasonableness of the solution.</i>	