

Cycle 1	29 Days		The recommended number of class periods 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.
	Aug. 22-Sept. 30, 2022		
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)	
		<p>The bold face words in the TEKS/SEs indicate concepts addressed specifically in this unit; the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p> <p><i>The Mathematical Process Standards are integrated throughout the course in all activities and lessons. Teachers should refer to these standards for instructional strategies and depth of rigor. Specific process standards have been highlighted for each unit, but these process standards should not be the only process standards associated with the daily lessons.</i></p> <p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ MATH.7.1A / MATH.8.1A Apply mathematics to problems arising in everyday life, society, and the workplace.</p> <p>Ⓟ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓟ MATH.7.1C / MATH.8.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Ⓟ MATH.7.1D / MATH.8.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Ⓟ MATH.7.1E / MATH.8.1E Create and use representations to organize, record, and communicate mathematical ideas.</p> <p>Ⓟ MATH.7.1F / MATH.8.1F Analyze mathematical relationships to connect and communicate mathematical ideas.</p> <p>Ⓟ MATH.7.1G / MATH.8.1G Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</p>	
Unit 1: Rigid Motion Transformations Students generalize the properties of orientation and congruence of translations, reflections, and rotations. They make conjectures about congruence, investigate their	7 class periods (90-min. each) or 14 class periods (45-min. each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ MATH.7.1C / MATH.8.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Ⓟ MATH.7.1F / MATH.8.1F Analyze mathematical relationships to connect and communicate mathematical ideas.</p>	

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conjectures, and justify their conjectures using informal transformation language.		Two-dimensional Shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: Ⓢ MATH.8.10A Generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane. Ⓢ MATH.8.10B Differentiate between transformations that preserve congruence and those that do not. Ⓡ MATH.8.10C Explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.
Unit 2: Similarity Students compare and contrast the attributes of similar figures. They use dilations to verify that figures are similar. They also model and analyze the effect dilation has on the area and perimeter of two-dimensional figures.	4 class periods (90-min. each) or 8 class periods (45-min. each)	Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓢ MATH.7.1C / MATH.8.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓢ MATH.7.1F / MATH.8.1F Analyze mathematical relationships to connect and communicate mathematical ideas. Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to: Ⓢ MATH.8.3A Generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation. Ⓢ MATH.8.3B Compare and contrast the attributes of a shape and its dilation(s) on a coordinate plane. Ⓡ MATH.8.3C Use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation. Two-dimensional Shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to: Ⓢ MATH.8.10A Generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane.

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		Ⓢ MATH.8.10B Differentiate between transformations that preserve congruence and those that do not. Ⓡ MATH.8.10C Explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation. Ⓢ MATH.8.10D Model the effect on linear and area measurements of dilated two-dimensional shapes.	

Cycle 2	23 Days	<p><i>The recommended number of class periods 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></p>
	Oct. 3 - Nov. 4, 2022	
Unit	# Class Periods	<p>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS/SEs indicate concepts addressed specifically in this unit; the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
<p>Unit 3: Line and Angle Relationships</p> <p>Students use informal arguments to connect mathematical relationships about angles, triangles, parallel lines, and transversals.</p>	<p>3 class periods (90-min. each) or</p> <p>6 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓟ MATH.7.1F / MATH.8.1F Analyze mathematical relationships to connect and communicate mathematical ideas.</p> <p>Expressions, Equations, and Relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to:</p> <p>Ⓢ MATH.7.11C Write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.</p> <p>Expressions, Equations, and Relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to:</p> <p>Ⓢ MATH.8.8D Use 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>Unit 4: From Proportions to Linear Relationships</p> <p>Students use proportional and nonproportional relationships to recognize that the slope of a line is constant and use direct variation to write and solve real-world problems.</p>	<p>3 class periods (90-min. each) or</p> <p>6 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓟ MATH.7.1F / MATH.8.1F Analyze mathematical relationships to connect and communicate mathematical ideas.</p> <p>Proportionality. The student applies mathematical process standards to use proportional relationships to describe dilations. The student is expected to:</p> <p>Ⓢ MATH.8.3C Use an algebraic representation to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation.</p>

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		<p>Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to:</p> <p>Ⓢ MATH.8.4A Use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, $(y_2 - y_1)/(x_2 - x_1)$, is the same for any two points (x_1, y_1) and (x_2, y_2) on the same line.</p> <p>Ⓡ MATH.8.4B Graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship.</p> <p>Ⓡ MATH.8.4C Use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems.</p> <p>Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to:</p> <p>Ⓢ MATH.8.5A Represent linear proportional situations with tables, graphs, and equations in the form of $y = kx$.</p> <p>Ⓢ MATH.8.5E Solve problems involving direct variation.</p> <p>Ⓢ MATH.8.5F Distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b \neq 0$.</p> <p>Ⓢ MATH.8.5H Identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems.</p> <p>Two-dimensional Shapes. The student applies mathematical process standards to develop transformational geometry concepts. The student is expected to:</p> <p>Ⓡ MATH.8.10C Explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.</p> <p>Ⓢ MATH.8.10D Model the effect on linear and area measurements of dilated two-dimensional shapes.</p>	

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<p>Unit 5: Two-Step Equations and Inequalities</p> <p>Students use the properties of real numbers, including the distributive property, to simplify expressions, equations, and inequalities.</p> <p>(continued in cycle 3)</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓢ MATH.7.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Ⓢ MATH.7.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Expressions, Equations, and Relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to:</p> <p>Ⓢ MATH.7.10A Write one-variable, two-step equations and inequalities to represent constraints or conditions within problems.</p> <p>Ⓢ MATH.7.10B Represent solutions for one-variables, two-step equations, and inequalities on number lines.</p> <p>Ⓢ MATH.7.10C Write a corresponding real-world problem given a one-variable, two-step equation or inequality.</p> <p>Expressions, Equations, and Relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to:</p> <p>Ⓢ MATH.7.11A Model and solve one-variable, two-step equations and inequalities.</p> <p>Ⓢ MATH.7.11B Determine if the given value(s) make(s) one-variable, two-step equations and inequalities true.</p> <p>Ⓢ MATH.7.11C Write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.</p>

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	Nov. 15-Dec. 21, 2022	
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<p>Unit 5: Two-Step Equations and Inequalities</p> <p>Students use the properties of real numbers, including the distributive property, to simplify expressions, equations, and inequalities.</p> <p>(continued from cycle 2)</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓢ MATH.7.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Ⓢ MATH.7.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Expressions, Equations, and Relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to:</p> <p>Ⓢ MATH.7.10A Write one-variable, two-step equations and inequalities to represent constraints or conditions within problems.</p> <p>Ⓢ MATH.7.10B Represent solutions for one-variables, two-step equations, and inequalities on number lines.</p> <p>Ⓢ MATH.7.10C Write a corresponding real-world problem given a one-variable, two-step equation or inequality.</p> <p>Expressions, Equations, and Relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to:</p> <p>Ⓢ MATH.7.11A Model and solve one-variable, two-step equations and inequalities.</p> <p>Ⓢ MATH.7.11B Determine if the given value(s) make(s) one-variable, two-step equations and inequalities true.</p> <p>Ⓢ MATH.7.11C Write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.</p>

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Unit 6: Multiple Representations of Equations Students express linear equations using multiple representations.	3 class periods (90-min. each) or 6 class periods (45-min. each)	Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓟ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Ⓟ MATH.7.1F / MATH.8.1F Analyze mathematical relationships to connect and communicate mathematical ideas. Proportionality. The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: Ⓡ MATH.7.4A Represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$. Expressions, Equations, and Relationships. The student applies mathematical process standards to represent linear relationships using multiple representations. The student is expected to: Ⓡ MATH.7.7A Represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$. Expressions, Equations, and Relationships. The student applies mathematical process standards to use one-variable equations and inequalities to represent situations. The student is expected to: Ⓢ MATH.7.10A Write one-variable, two-step equations and inequalities to represent constraints or conditions within problems. Ⓢ MATH.7.10C Write a corresponding real-world problem given a one-variable, two-step equation or inequality. Expressions, Equations, and Relationships. The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: Ⓡ MATH.7.11A Model and solve one-variable, two-step equations and inequalities.

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<p>Unit 7: Linear Relationships Students investigate and explore linear relationships in multiple representations.</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓟ MATH.7.1F / MATH.8.1F Analyze mathematical relationships to connect and communicate mathematical ideas.</p> <p>Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to:</p> <p>Ⓢ MATH.8.4A Use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, $(y_2 - y_1)/(x_2 - x_1)$, is the same for any two points (x_1, y_1) and (x_2, y_2) on the same line.</p> <p>Ⓢ MATH.8.4C Use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems.</p> <p>Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to:</p> <p>Ⓢ MATH.8.5B Represent linear non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$, $b \neq 0$.</p> <p>Ⓢ MATH.8.5F Distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b \neq 0$.</p> <p>Ⓢ MATH.8.5I Write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations.</p>
<p>Unit 8: Introduction to Functions Students analyze the characteristics of functions and identify functional</p>	<p>3 class periods (90-min. each) or 6 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a</p>

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		The student will:	
relationships from multiple representations.		<p>solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓟ MATH.7.1D / MATH.8.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to:</p> <p>Ⓡ MATH.8.4C Use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems.</p> <p>Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to:</p> <p>Ⓢ MATH.8.5B Represent linear non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$, $b \neq 0$.</p> <p>Ⓢ MATH.8.5F Distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b \neq 0$.</p> <p>Ⓡ MATH.8.5G Identify functions using sets of ordered pairs, tables, mappings, and graphs.</p> <p>Ⓡ MATH.8.5I Write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations.</p>	

Cycle 4		33 Days Jan. 9 - Feb. 24, 2023	The recommended number of class periods 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.
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Unit 9: Patterns in Bivariate Data Students construct and describe scatterplots, use trend lines to fit lines to data and analyze linear relationships to make predictions.	2.5 class periods (90-min. each) or 5 class periods (45-min. each)	Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓟ MATH.7.1A / MATH.8.1A Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟ MATH.7.1G / MATH.8.1G Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication. Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to: Ⓢ MATH.8.5C Contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation. Ⓡ MATH.8.5D Use a trend line that approximates the linear relationship between bivariate sets of data to make predictions. Ⓡ MATH.8.5I Write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations. Measurement and Data. The student applies mathematical process standards to use statistical procedures to describe data. The student is expected to: Ⓢ MATH.8.11A Construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data.	
Unit 10: Solving Linear Equations Students use the properties of real numbers, including the distributive property, to simplify expressions, equations, and inequalities.	2.5 class periods (90-min. each) or 5 class periods (45-min. each)	Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓟ MATH.7.1C / MATH.8.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓟ MATH.7.1G / MATH.8.1G Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication. Expressions, Equations, and Relationships. The student applies mathematical process standards to use one-variable equations or inequalities in problem situations. The student is expected to:	

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		<p>Ⓢ MATH.8.8A Write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants.</p> <p>Ⓢ MATH.8.8B Write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants.</p> <p>Ⓡ MATH.8.8C Model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.</p>	
Unit 11: Systems of Linear Equations Students use the intersections of graphed lines to determine the values of x and y that simultaneously satisfy two linear equations.	2.5 class periods (90-min. each) or 5 class periods (45-min. each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓢ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓢ MATH.7.1D / MATH.8.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Proportionality. The student applies mathematical process standards to use proportional and non-proportional relationships to develop foundational concepts of functions. The student is expected to:</p> <p>Ⓢ MATH.8.5B Represent linear non-proportional situations with tables, graphs, and equations in the form of $y = mx + b$, $b \neq 0$.</p> <p>Expressions, Equations, and Relationships. The student applies mathematical process standards to use multiple representations to develop foundational concepts of simultaneous linear equations. The student is expected to:</p> <p>Ⓢ MATH.8.9A Identify and verify the values of x and y that simultaneously satisfy two linear equations in the form $y = mx + b$ from the intersections of the graphed equations.</p>	
Unit 12: Real Numbers Students focus on the set of real numbers and its various subsets,	4 class periods (90-min. each) or 8 class periods (45-min. each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓢ MATH.7.1A / MATH.8.1A Apply mathematics to problems arising in everyday life, society, and the workplace.</p>	

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		The bold face words in the TEKS/SEs indicate concepts addressed specifically in this unit; the unbolded concepts are addressed in other units of this course.
		The student will:
including integers and rational numbers. Students convert between standard notation and scientific notation, as well as approximate the value of irrational numbers and locate those values on a number line.		<p>Ⓟ MATH.7.1E / MATH.8.1E Create and use representations to organize, record, and communicate mathematical ideas.</p> <p>Numbers and Operations. The student applies mathematical process standards to represent and use rational numbers in a variety of forms. The student is expected to:</p> <p>Ⓢ MATH.7.2A Extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers.</p> <p>Numbers and Operations. The student applies mathematical process standards to represent and use real numbers in a variety of forms. The student is expected to:</p> <p>Ⓢ MATH.8.2A Extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers.</p> <p>Ⓢ MATH.8.2B Approximate the value of an irrational number, including π and square roots of numbers less than 225, and locate that rational number approximation on a number line.</p> <p>Ⓢ MATH.8.2C Convert between standard decimal notation and scientific notation.</p> <p>Ⓢ MATH.8.2D Order a set of real numbers arising from mathematical and real-world contexts.</p>
<p>Unit 13: Three-Dimensional Figures</p> <p>Students determine the relationship between prisms and pyramids and calculate the volume of those solids.</p> <p>(continued in cycle 5)</p>	<p>4 class periods (90-minutes each)</p> <p>or</p> <p>8 class periods (45-minutes each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ MATH.7.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓟ MATH.7.1G Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</p> <p>Expressions, Equations, and Relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to:</p> <ul style="list-style-type: none"> MATH.7.8A Model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights and connect that relationship to the formulas.

Cycle 4		33 Days	The recommended number of class periods 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. 9 - Feb. 24, 2023	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)	
		The bold face words in the TEKS/SEs indicate concepts addressed specifically in this unit; the unbolded concepts are addressed in other units of this course.	
		The student will:	
		<ul style="list-style-type: none">• MATH.7.8B Explain verbally and symbolically the relationship between the volume of a triangular prism and a triangular pyramid having both congruent bases and heights and connect that relationship to the formulas. <p>Expressions, Equations, and Relationships. The student applies mathematical process standards to solve geometric problems.</p> <p>® MATH.7.9A Solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids.</p> <p>® MATH.7.9C Determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.</p> <p>© MATH.7.9D Solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shapes' net.</p>	

Cycle 5		28 Days Feb. 27 - Apr. 14, 2023	<i>The recommended number of class periods 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>
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The bold face words in the TEKS/SEs indicate concepts addressed specifically in this unit; the unbolded concepts are addressed in other units of this course. The student will:	
Unit 13: Three-Dimensional Figures Students determine the relationship between prisms and pyramids and calculate the volume of those solids. (continued from cycle 4)	4 class periods (90-minutes each) or 8 class periods (45-minutes each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓡ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓡ MATH.7.1G / MATH.8.1G Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</p> <p>Expressions, Equations, and Relationships. The student applies mathematical process standards to develop geometric relationships with volume. The student is expected to:</p> <ul style="list-style-type: none"> • MATH.7.8A Model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights and connect that relationship to the formulas. • MATH.7.8B Explain verbally and symbolically the relationship between the volume of a triangular prism and a triangular pyramid having both congruent bases and heights and connect that relationship to the formulas. <p>Expressions, Equations, and Relationships. The student applies mathematical process standards to solve geometric problems.</p> <p>Ⓡ MATH.7.9A Solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids.</p> <p>Ⓡ MATH.7.9C Determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.</p> <p>Ⓢ MATH.7.9D Solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shapes' net.</p>	

Cycle 5		28 Days Feb. 27 - Apr. 14, 2023	The recommended number of class periods 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.
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The bold face words in the TEKS/SEs indicate concepts addressed specifically in this unit; the unbolded concepts are addressed in other units of this course. The student will:	
Unit 14: Probability Students construct sample spaces for real-world events then determine the experimental and/or theoretical probability of those events and make decisions and predictions for simple and compound events.	5 class periods (90-min. each) or 10 class periods (45-min. each)	Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓢ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Ⓢ MATH.7.1D / MATH.8.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to: Ⓢ MATH.7.6A Represent sample spaces for simple and compound events using lists and tree diagrams. • MATH.7.6B Select and use different simulations to represent simple and compound events with and without technology. Ⓢ MATH.7.6C Make predictions and determine solutions using experimental data for simple and compound events. Ⓢ MATH.7.6D Make predictions and determine solutions using theoretical probability for simple and compound events. Ⓢ MATH.7.6E Determine the probabilities of a simple event and its complement and describe the relationship between the two. Ⓢ MATH.7.6G Solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents. Ⓢ MATH.7.6H Solve problems using qualitative and quantitative predictions and comparisons from simple experiments. Ⓢ MATH.7.6I Determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.	
Unit 15: Variability and Sampling Students use bivariate sets of	3 class periods (90-min. each) or 6 class periods	Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:	

Cycle 5	28 Days	The recommended number of class periods 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. 27 - Apr. 14, 2023	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The bold face words in the TEKS/SEs indicate concepts addressed specifically in this unit; the unbolded concepts are addressed in other units of this course. The student will:
data to determine the mean absolute deviation and analyze linear relationships to make predictions.	(45-min. each)	<p>Ⓟ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓟ MATH.7.1D / MATH.8.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p> <p>Proportionality. The student applies mathematical process standards to use probability and statistics to describe or solve problems involving proportional relationships. The student is expected to:</p> <ul style="list-style-type: none">• MATH.7.6F Use data from a random sample to make inferences about a population. <p>Ⓟ MATH.7.6G Solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents.</p> <p>Measurement and Data. The student applies mathematical process standards to use statistical representations to analyze data. The student is expected to:</p> <p>Ⓢ MATH.7.12B Use data from a random sample to make inferences about a population.</p> <p>Ⓢ MATH.7.12C Compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations.</p> <p>Measurement and Data. The student applies mathematical process standards to use statistical procedures to describe data. The student is expected to:</p> <p>Ⓢ MATH.8.11C Simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.</p>

Cycle 6		31 Days Apr. 17 - May 31, 2023	The recommended number of class periods 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.
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The bold face words in the TEKS/SEs indicate concepts addressed specifically in this unit; the unbolded concepts are addressed in other units of this course. The student will:	
Unit 16: The Pythagorean Theorem Students use models and diagrams to explain the Pythagorean theorem. They also use the Pythagorean theorem and its converse to solve problems, as well as calculate the distance between two coordinate points on the coordinate plane.	4 class periods (90-min. each) or 8 class periods (45-min. each)	Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓟ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Ⓟ MATH.7.1F / MATH.8.1F Analyze mathematical relationships to connect and communicate mathematical ideas. Expressions, Equations, and Relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: Ⓢ MATH.8.6C Use models and diagrams to explain the Pythagorean theorem. Expressions, Equations, and Relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to: Ⓡ MATH.8.7C Use the Pythagorean theorem and its converse to solve problems. Ⓢ MATH.8.7D Determine the distance between two points on a coordinate plane using the Pythagorean theorem.	
Unit 17: Volume of Curved Figures Students solve problems involving surface area and volume in mathematical and real-world situations.	4 class periods (90-min. each) or 8 class periods (45-min. each)	Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓟ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Ⓟ MATH.7.1D / MATH.8.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Expressions, Equations, and Relationships. The student applies mathematical process standards to develop mathematical relationships and make connections to geometric formulas. The student is expected to: Ⓢ MATH.8.6A Describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height.	

Cycle 6	31 Days	The recommended number of class periods 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.
	Apr. 17 - May 31, 2023	
Unit	# Class Periods	<p>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS/SEs indicate concepts addressed specifically in this unit; the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
		<p>Ⓢ MATH.8.6B Model the relationship between the volume of a cylinder and a cone having both congruent bases and heights and connect that relationship to the formulas.</p> <p>Expressions, Equations, and Relationships. The student applies mathematical process standards to use geometry to solve problems. The student is expected to:</p> <p>Ⓡ MATH.8.7A Solve problems involving the volume of cylinders, cones, and spheres.</p> <p>Ⓡ MATH.8.7B Use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders.</p>
<p>Unit 18: Financial Literacy: Your Financial Future Students apply financial literacy concepts to calculate simple and compound interest earnings, while making decisions on future plans, including attending a 2-year or 4-year college.</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ MATH.7.1A / MATH.8.1A Apply mathematics to problems arising in everyday life, society, and the workplace.</p> <p>Ⓟ MATH.7.1B / MATH.8.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓟ MATH.7.1E / MATH.8.1E Create and use representations to organize, record, and communicate mathematical ideas.</p> <p>Personal Financial Literacy. The student applies mathematical process standards to develop an economic way of thinking and problem solving useful in one's life as a knowledgeable consumer and investor. The student is expected to:</p> <p>Ⓢ MATH.8.12A Solve real-world problems comparing how interest rate and loan length affect the cost of credit.</p> <p>Ⓢ MATH.8.12B Calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator.</p> <p>Ⓢ MATH.8.12C Explain how small amounts of money invested regularly, including money saved for college and retirement, grow over time.</p> <p>Ⓡ MATH.8.12D Calculate and compare simple interest and compound interest earnings.</p>

Cycle 6	31 Days	The recommended number of class periods 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.
	Apr. 17 - May 31, 2023	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The bold face words in the TEKS/SEs indicate concepts addressed specifically in this unit; the unbolded concepts are addressed in other units of this course. The student will:
		Ⓢ MATH.8.12E Identify and explain the advantages and disadvantages of different payment methods. Ⓢ MATH.8.12F Analyze situations to determine if they represent a financially responsible decision and identify the benefits of financial responsibility and the costs of financial irresponsibility Ⓢ MATH.8.12G Estimate the cost of a 2-year and 4-year college education including family contribution and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college.