2022-2023 Scope and Sequence: Carnegie Learning
Mathematics – Grade 7

Cycle 1	29 Days Aug. 22-Sept. 30, 2022	*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 student will:**
		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. **Mathematical Process Standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓟⓢ **MATH.7.1A** Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟⓢ **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. Ⓟⓢ **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. Ⓟⓢ **MATH.7.1D** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Ⓟⓢ **MATH.7.1E** Create and use representations to organize, record, and communicate mathematical ideas. Ⓟⓢ **MATH.7.1F** Analyze mathematical relationships to connect and communicate mathematical ideas. Ⓟⓢ **MATH.7.1G** Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.
Unit 1: Circles and Ratios Students learn formulas for the circumference and area of circles and use those formulas to solve mathematical and real-world problems. Students develop an understanding of	**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** 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** Analyze mathematical relationships to connect and communicate mathematical ideas.

Cycle 1	29 Days Aug. 22-Sept. 30, 2022	*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 student will:**
the irrational number pi(π). They also apply the formulas to calculating the area of composite figures.		**Proportionality.** The student applies mathematical process standards to represent and solve problems involving proportional relationships. The student is expected to: Ⓢ **MATH.7.4B** Calculate unit rates from rates in mathematical and real-world problems. **Proportionality.** The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: Ⓢ **MATH.7.5B** Describe π as the ratio of the circumference of a circle to its diameter. **Expressions, Equations, and Relationships.** The student applies mathematical process standards to solve geometric problems. The student is expected to: • **MATH.7.8C** Use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas. Ⓡ **MATH.7.9B** Determine the circumference and area of circles. Ⓡ **MATH.7.9C** Determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.
Unit 2: Fractional Rates Students represent constant rates of change in mathematical and real-world problems using multiple representation and determine constant of proportionality. They also solve application problems involving conversions between	**3** class periods (90-min. each) or **6** class periods (45-min. each) *Teachers Report to Campuses Aug. 8* *Teacher Service Days Aug. 8-12, Aug. 16-19*	**Mathematical Process Standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓟⓢ **MATH.7.1A** Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟⓢ **MATH.7.1F** 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.7.4B** Calculate unit rates from rates in mathematical and real-world problems. Ⓢ **MATH.7.4C** Determine the constant of proportionality (k = *y/x*) within mathematical and real-world problems.

Cycle 1	29 Days Aug. 22-Sept. 30, 2022	*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 student will:**
measurement systems.	*Teacher Prep Day (no students) Aug. 15* *Labor Day Sept. 5*	Ⓡ **MATH.7.4D** Solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems. **Proportionality.** The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to: Ⓢ **MATH.7.4E** Convert between measurement systems, including the use of proportions and the use of unit rates.
Unit 3: Proportionality Students represent constant rates of change in mathematical and real-world problems using multiple representation and determine constant of proportionality. (continues in Cycle 2)	**7** class periods (90-min. each) or **14** 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** Apply mathematics to problems arising in everyday life, society, and the workplace. ⓅⓈ **MATH.7.1E** Create and use representations to organize, record, 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 $d = rt$. Ⓢ **MATH.7.4C** Determine the constant of proportionality ($k = y/x$) within mathematical and real-world problems. Ⓡ **MATH.7.4D** Solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems.

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Cycle 2	23 Days Oct. 3 - Nov. 4, 2022	*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 student will:**
Unit 3: Proportionality Students represent constant rates of change in mathematical and real-world problems using multiple representation and determine constant of proportionality. (continued from Cycle 1)	**7**class periods (90-min. each) or **14** 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** Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟⓢ **MATH.7.1E** Create and use representations to organize, record, 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 $d = rt$. Ⓢ **MATH.7.4C** Determine the constant of proportionality ($k = y/x$) within mathematical and real-world problems. Ⓡ **MATH.7.4D** Solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems.
Unit 4: Applying Proportionality Students solve problems involving ratios, rates, and percents. They calculate and compare simple and compound interest earnings as well as calculate sales tax and income tax. They also solve real-world problems involving similarity.	**6** class periods (90-min. each) or **12** 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** Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟⓢ **MATH.7.1E** Create and use representations to organize, record, 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.7.4D** Solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems. **Proportionality.** The student applies mathematical process standards to use geometry to describe or solve problems involving proportional relationships. The student is expected to:

Cycle 2	23 Days Oct. 3 - Nov. 4, 2022	*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 student will:**
		Ⓢ **MATH.7.5A** Generalize the critical attributes of similarity, including ratios within and between similar shapes. Ⓡ **MATH.7.5C** Solve mathematical and real-world problems involving similar shape and scale drawings. **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: Ⓢ **MATH.7.13A** Calculate the sales tax for a given purchase and calculate income tax for earned wages. Ⓢ **MATH.7.13E** Calculate and compare simple interest and compound interest earnings. Ⓢ **MATH.7.13F** Analyze and compare monetary incentives, including sales, rebates, and coupons.

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Cycle 3	28 Days Nov. 7-Dec. 21, 2022	*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 student will:
Unit 5: Financial Literacy and Budgets Students identify the components of a personal budget, as well as create and organize a financial assets and liabilities record. They also calculate and compare simple and compound interest earnings.	**4** class periods (90-min. each) or **8** class periods (45-min. each) *Teacher Service Day (no students) Oct. 4* *Fall Holiday Oct. 5*	**Mathematical Process Standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓟⓢ **MATH.7.1A** Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟⓢ **MATH.7.1E** Create and use representations to organize, record, 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.7.4D** Solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems. **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: Ⓢ **MATH.7.13B** Identify the components of a personal budget, including income, planned savings for college, retirement, and emergencies, taxes, and fixed and variable expenses, and calculate what percentage each category comprises of the total budget. Ⓢ **MATH.7.13C** Create and organize a financial assets and liabilities record and construct a net worth statement. Ⓢ **MATH.7.13D** Use a family budget estimator to determine the minimum household budget and average hourly wage needed for a family to meet its basic needs in the student's city or another large city nearby. Ⓢ **MATH.7.13E** Calculate and compare simple interest and compound interest earnings.

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Cycle 3	28 Days Nov. 7-Dec. 21, 2022	*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 student will:
Unit 6: Operating with Rational Numbers Students categorize and organize numbers in sets and subsets using visual representations. They also investigate and utilize various problem-solving processes to extend previous experiences involving numeric relationships involving addition, subtraction, multiplication, and division of rational numbers in a context of real-world situations.	**4** class periods (90-min. each) or **8** class periods (45-min. each) *Thanksgiving Break* *Nov. 21-25* *Winter Break (students)* *Dec. 22 - Jan. 6* *Winter Break (teachers)* *Dec. 22 - Jan. 4*	**Mathematical Process Standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓟⓢ **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. Ⓟⓢ **MATH.7.1E** Create and use representations to organize, record, and communicate mathematical ideas. **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: Ⓢ **MATH.7.2A** Extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers. **Numbers and Operations.** The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: Ⓢ **MATH.7.3A** Add, subtract, multiply, and divide rational numbers fluently. Ⓡ **MATH.7.3B** Apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.
Unit 7: Algebraic Expressions Students apply operations with rational numbers as they model and solve one-variable, two-step equations and inequalities.	**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.7.1C** 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.7.1D** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. **Numbers and Operations.** The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: Ⓢ **MATH.7.3A** Add, subtract, multiply, and divide rational numbers fluently.

Cycle 3	28 Days Nov. 7-Dec. 21, 2022	*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 student will:**
		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. **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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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.*
Unit	**# Class Periods**	**Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)** **The student will:**
Unit 8: Two-Step Equations and Inequalities Students represent, model, write, and solve two-step equations and inequalities in application situations using mathematical properties and operations.	**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** 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.7.1D** 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 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.7.10B** Represent solutions for one-variables, two-step equations, and inequalities on number lines. Ⓢ **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. Ⓢ **MATH.7.11B** Determine if the given value(s) make(s) one-variable, two-step equations and inequalities true.

2022-2023 Scope and Sequence: Carnegie Learning
Mathematics – Grade 7

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.*

Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
Unit 9: Multiple Representations of Equations Students communicate mathematical ideas, reasoning, and their implications using multiple representations. They also represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$.	**3** class periods (90-min. each) or **6** class periods (45-min. each) *Winter Break (students) Dec. 22 - Jan. 6* *Winter Break (teachers) Dec. 22 - Jan. 4* *MLK Jr. Day Jan. 16* *Teacher Prep Day (no students) Jan. 5* *Teacher Service Day (no students) Jan. 6* *Teacher Service Day (no students) Feb. 20*	**Mathematical Process Standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓟⓢ **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. Ⓟⓢ **MATH.7.1D** 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 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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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.*

Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:
Unit 10: Introduction to Probability Students construct sample spaces for real-world events then determine the experimental and/or theoretical probability of those events.	**6** class periods (90-min. each) or **12** 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** Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟⓢ **MATH.7.1E** Create and use representations to organize, record, and communicate mathematical ideas. **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.7.6B** 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.7.6H** 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.

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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 student will:**
Unit 11: Compound Probability Students make decisions and predictions using experimental and/or theoretical data 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.7.1A** Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟⓢ **MATH.7.1E** Create and use representations to organize, record, and communicate mathematical ideas. **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.7.6I** Determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.
Unit 12: Drawing Inferences Students use graphical representations to solve problems. They also represent and compare numeric data using dot plots or box plots.	**5** class periods (90-min. each) or **10** class periods (45-min. each) *Spring Break* *Mar. 13-17* *Chávez-Huerta Day* *Mar. 31* *Spring Holiday* *Apr. 7*	**Mathematical Process Standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓟⓢ **MATH.7.1A** Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟⓢ **MATH.7.1E** Create and use representations to organize, record, and communicate mathematical ideas. **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.7.6B** Select and use different simulations to represent simple and compound events with and without technology. • **MATH.7.6F** Use data from a random sample to make inferences about a population.

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 student will:**
		Ⓡ **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. **Measurement and Data.** The student applies mathematical process standards to use statistical representations to analyze data. The student is expected to: Ⓡ **MATH.7.12A** Compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads. Ⓢ **MATH.7.12B** Use data from a random sample to make inferences about a population. Ⓢ **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.
Unit 13: Area and Surface Area Students write and solve equations using geometric concepts. They also solve problems involving composite figures. (continues in Cycle 6)	**4** class periods (90-min. each) or **8** class periods (45-min. each)	**Expressions, Equations, and Relationships.** The student applies mathematical process standards to solve geometric problems. The student is expected to: Ⓡ **MATH.7.9C** Determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles. **Expressions, Equations, and Relationships.** The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: Ⓢ **MATH.7.11C** Write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

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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 student will:
Unit 13: Area and Surface Area Students write and solve equations using geometric concepts. They also solve problems involving composite figures. (continued from Cycle 5)	**4** class periods (90-min. each) or **8** class periods (45-min. each)	**Expressions, Equations, and Relationships.** The student applies mathematical process standards to solve geometric problems. The student is expected to: Ⓡ **MATH.7.9C** Determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles. **Expressions, Equations, and Relationships.** The student applies mathematical process standards to solve one-variable equations and inequalities. The student is expected to: Ⓢ **MATH.7.11C** Write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.
Unit 14: Three-Dimensional Figures Students determine the relationship between prisms and pyramids and calculate the volume of those solids.	**5** class periods (90-min. each) or **10** class periods (45-min. each) *Memorial Day* *May 29* *Teacher Prep Day (no students)* *June 1*	**Mathematical Process Standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓟⓢ **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. Ⓟⓢ **MATH.7.1G** 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 develop geometric relationships with volume. The student is expected to: • **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. **Expressions, Equations, and Relationships.** The student applies mathematical process standards to solve geometric problems. Ⓡ **MATH.7.9A** Solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids.

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 student will:**
		Ⓡ **MATH.7.9C** Determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles. Ⓢ **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.
Unit 15: End of Course Topic Students communicate mathematical ideas using a problem-solving model, solve geometric problems, and solve one-variable, two-step equations and inequalities. They also calculate the sales tax for a given purchase.	**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** 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** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. **Numbers and Operations.** The student applies mathematical process standards to add, subtract, multiply, and divide while solving problems and justifying solutions. The student is expected to: Ⓡ **MATH.7.3B** Apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers. **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 $d = rt$. Ⓢ **MATH.7.4B** Calculate unit rates from rates in mathematical and real-world problems. Ⓡ **MATH.7.4D** Solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems.

2022-2023 Scope and Sequence: Carnegie Learning
Mathematics – Grade 7

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 student will:**
		Expressions, Equations, and Relationships. The student applies mathematical process standards to solve geometric problems. The student is expected to: Ⓡ **MATH.7.9A** Solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids. Ⓢ **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. **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.7.10B** Represent solutions for one-variables, two-step equations, and inequalities on number lines. **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. Ⓢ **MATH.7.11B** Determine if the given value(s) make(s) one-variable, two-step equations and inequalities true. **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: Ⓢ **MATH.7.13A** Calculate the sales tax for a given purchase and calculate income tax for earned wages. Ⓢ **MATH.7.13F** Analyze and compare monetary incentives, including sales, rebates, and coupons.