

Math Grade 7 - Scope and Sequence 2021-2022

TEKS Distribution among Units

Process Standards

	7.1A	7.1B	7.1C	7.1D	7.1E	7.1F	7.1G
Unit 1	X	X	X	X	X	X	X
Unit 2	X	X	X	X	X	X	X
Unit 3	X	X	X	X	X	X	X
Unit 4	X	X	X	X	X	X	X
Unit 5	X	X	X	X	X	X	X
Unit 6	X	X	X	X	X	X	X
Unit 7	X	X	X	X	X	X	X
Unit 8	X	X	X	X	X	X	X
Unit 9	X	X	X	X	X	X	X
Unit 10	X	X	X	X	X	X	X

Content Standards

	7.2A	7.3A	7.3B	7.4A	7.4B	7.4C	7.4D	7.4E	7.5A	7.5B	7.5C	7.6A	7.6B	7.6C	7.6D	7.6E	7.6F	7.6G	7.6H	7.6I	7.7A	7.8A	7.8B	7.8C	7.9A	7.9B	7.9C	7.9D	7.10A	7.10B	7.10C	7.11A	7.11B	7.11C	7.12A	7.12B	7.12C	7.13A	7.13B	7.13C	7.13D	7.13E	7.13F				
Unit 1	X	X	X																																												
Unit 2			X		X		X	X																																			X	X			
Unit 3			X	X		X																X																									
Unit 4																													X	X	X	X	X														
Unit 5									X		X																																				
Unit 6										X															X		X	X																			
Unit 7																								X	X		X	X	X																		
Unit 8												X	X	X	X	X	X			X	X																										
Unit 9																			X														X	X	X												
Unit 10																																												X	X	X	X

Math Grade 7
Scope and Sequence 2021-2022

Mathematical Process Standards: The student uses mathematical process to acquire and demonstrate mathematical understanding. The student is expected to:

- 7.1A Apply mathematics to problems arising in everyday life, society, and the workplace
- 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
- 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
- 7.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate
- 7.1E Create and use representations to organize, record, and communicate mathematical ideas
- 7.1F Analyze mathematical relationships to connect and communicate mathematical ideas
- 7.1G Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication

Grading Period 1

Unit 1: Rational Number Operations

Estimated Date Range: Aug. 11 – Sept. 3

Estimated Time Frame: 18 days

Note: Includes 4 days for Re-engagement and Assessment

Concepts within the Unit	TEKS
Establishing a Positive Mathematics Community Suggested Days: 4	<u>Process Standards:</u> 7.1A Apply mathematics to problems arising in everyday life, society, and the workplace 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 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 7.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate 7.1E Create and use representations to organize, record, and communicate mathematical ideas 7.1F Analyze mathematical relationships to connect and communicate mathematical ideas 7.1G Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication
Concept #1: Sets and Subsets Suggested Days: 2	<u>Integrated Standards:</u> 7.2 extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers
Concept #2: Rational Number Operations Suggested Days: 8	<u>Priority Standards:</u> 7.3B apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers. <u>Integrated Standards:</u> 7.3A add, subtract, multiply, and divide rational numbers fluently

Unit 2: Proportional Relationships

Estimated Date Range: Sept. 7 – Oct. 6 and Oct. 12 - 18

Estimated Time Frame: 26 days (21 days in Grading Period 1 and 5 days in Grading Period 2)

Note: Includes 1 day for DLA (Testing Window: Sept 13-17, Reporting due date Sept. 27)

Note: Includes 4 days for re-engagement and assessment

Concepts within the Unit	TEKS
<p>Concept #1: Application of Ratios, Rates, and Percents Suggested Days: 9</p> <p><i>DLA: 7.4D</i></p>	<p>Priority Standards 7.4D solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems</p> <p><u>Integrated Standards</u> 7.13A calculate the sales tax for a given purchase and calculate income tax for earned wages. 7.13E calculate and compare simple interest and compound interest earnings. 7.13F analyze and compare monetary incentives, including sales, rebates, and coupons.</p>
<p>Concept #2: Calculating Unit Rates Suggested Days: 5</p>	<p><u>Integrated Standards</u> 7.4B calculate unit rates from rates in mathematical and real-world problems 7.4E convert between measurement systems, including the use of proportions and the use of unit rates</p>
<p>Concept #3: Similarity Suggested Days: 8</p>	<p>Priority Standards 7.5C Solve mathematical and real-world problems involving similar shape and scale drawings</p> <p><u>Integrated Standards</u> 7.5A Generalize the critical attributes of similarity, including ratios within and between similar shapes</p>

Grading Period 2

Estimated Date Range: Sept. 7 – Oct. 6 and Oct. 12 - 18
Estimated Time Frame: 26 days (21 days in Grading Period 1 and 5 days in Grading Period 2)
Note: Includes 4 days for re-engagement and assessment
See Grading Period 1 for details

Unit 3: Linear Relationships

Estimated Date Range: Oct. 19 – Nov. 10
Estimated Time Frame: 17 days
Note: Includes 1 day for DLA (Testing Window: Nov 1-5, Reporting due date Nov. 12)
Note: Includes 3 days for re-engagement and assessment

Concepts within the Unit	TEKS
Concept #1: Representing Constant Rate of Change Suggested Days: 5	<u>Integrated Standards</u> 7.4A represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$ 7.4C determine the constant of proportionality ($k = y/x$) within mathematical and real-world problems
Concept #2: Linear Relationships Suggested Days: 8 DLA: 7.7A	<u>Priority Standards</u> 7.7A represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$ <u>Important Standards</u> 7.4A represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$ 7.4C determine the constant of proportionality ($k = y/x$) within mathematical and real-world problems
<h3>Unit 4: Equations and Inequalities</h3> <p>Estimated Date Range: Nov.11 – Nov. 19 and Nov. 29 – Dec. 17 Estimated Time Frame: 22 days Note: Includes 4 days for re-engagement and assessment</p>	
Concepts within the Unit	TEKS
Concept #1: Representing Equations and Inequalities Suggested Days: 4	<u>Integrated Standards</u> 7.10A Write one-variable, two-step equations and inequalities that represent conditions and constraints 7.10C write a corresponding real-world problem given a one-variable, two-step equation or inequality
Concept #2: Model and Solve Equations and Inequalities Suggested Days: 8	<u>Priority Standards</u> 7.11A model and solve one variable two step-equations and inequalities

	<p><u>Integrated Standards</u> 7.11B determine if the given value(s) make(s) one-variable, two-step equations and inequalities true 7.10B represent solutions for one-variable, two-step equations and inequalities on number lines</p>
<p>Concept #3: Geometric Applications of Equations Suggested Days: 6</p>	<p><u>Priority Standards</u> 7.11A model and solve one variable two step-equations and inequalities</p> <p><u>Integrated Standards</u> 7.11B determine if the given value(s) make(s) one-variable, two-step equations and inequalities true 7.11C write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships</p>

Grading Period 3

Unit 5: Circumference & Area of 2-D Figures

Estimated Date Range: Jan. 5 – Feb. 2

Estimated Time Frame: 20 days

Note: Includes 4 days for re-engagement and assessment

Concepts within the Unit	TEKS
Concept #1: Circumference and Area of Circles Suggested Days: 7	<u>Integrated Standards</u> 7.5B Describe π as the ratio of the circumference of a circle to its diameter 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 7.9B Determine the circumference and area of circles
Concept #2: Area of Composite Figures Suggested Days: 9	<u>Priority Standards</u> 7.9C Determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles <u>Integrated Standards</u> 7.9B Determine the circumference and area of circle
<p align="center">Unit 6: Volume & Surface Area of 3-D Figures</p> <p align="center">Estimated Date Range: Feb. 3 – Mar. 4</p> <p align="center">Estimated Time Frame: 20 days</p> <p align="center">Note: Includes 1 day for DLA (Testing Window: Feb 22-28, Reporting due date March 7)</p> <p align="center">Note: Includes 4 days for re-engagement and assessment</p>	
Concepts within the Unit	TEKS
Concept #1: Surface Area Suggested Days: 7	<u>Integrated Standards</u> 7.9C Determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles 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 shape's net
Concept #2: Volume of 3-D Figures Suggested Days: 9 DLA: 7.9A	<u>Priority Standards</u> 7.9A Solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids <u>Integrated Standards</u>

	<p>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</p> <p>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 formulas</p>
<p>Unit 7: Data & Probability Estimated Date Range: March 7– March 11 and Mar. 21 – April 14 Estimated Time Frame: 24 days (5 days in Grading Period 3 and 19 days in Grading Period 4) Note: Includes 4 days for re-engagement and assessment See Grading Period 4 for details</p>	
<p>Grading Period 4</p>	
<p>Unit 7: Data & Probability (continued) Estimated Date Range: March 7– March 11 and Mar. 21 – April 14 Estimated Time Frame: 24 days (5 days in Grading Period 3 and 19 days in Grading Period 4) Note: Includes 4 days for re-engagement and assessment</p>	
Concepts within the Unit	TEKS
<p>Concept #1: Foundations of Probability Suggested Days: 4</p>	<p><u>Integrated Standards</u> 7.6A represent sample spaces for simple and compound events using lists and tree diagrams 7.6B select and use different simulations to represent simple and compound events with and without technology</p>
<p>Concept #2: Determining Probability of Simple and Compound Events Suggested Days: 9</p>	<p>Priority Standards 7.6I determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces</p> <p><u>Integrated Standards</u> 7.6A represent sample spaces for simple and compound events using lists and tree diagrams 7.6B select and use different simulations to represent simple and compound events with and without technology 7.6E find the probability of a simple event and its complement and describe the relationship between the two</p>
<p>Concept #3: Making Predictions with Simple and Compound Events Suggested Days: 7</p>	<p>Priority Standards 7.6C make predictions and determine solutions using experimental data for simple and compound events</p> <p><u>Integrated Standards</u> 7.6B use data from a random sample to make inferences about a population</p>

	7.6H Solve problems using qualitative and quantitative predictions and comparisons from simple experiments 7.6D Make predictions and determine solutions using theoretical probability for simple and compound events with and without technology
Unit 8: Data & Statistics Estimated Date Range: April 19 – May 11 Estimated Time Frame: 17 days Note: Includes 4 days for re-engagement and assessment Note: Includes 2 days for state testing	
Concepts within the Unit	TEKS
Concept #1: Comparing Categorical Data Suggested Days: 4	<u>Integrated Standards</u> 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
Concept #2: Comparing Numerical Data Suggested Days: 4	<u>Priority Standards</u> 7.12A Compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads
Concept #3: Making Inferences with Data Suggested Days: 3	<u>Integrated Standards</u> 7.12B use data from a random sample to make inferences about a population 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 9: Financial Literacy Estimated Date Range: May 12 – May 26 Estimated Time Frame: 11 days Note: Includes 3 days for re-engagement and assessment	
Concepts within the Unit	TEKS
Concept #1: Tax Suggested Days: 2	<u>Integrated Standards</u> 7.13A calculate the sales tax for a given purchase and calculate income tax for earned wages A.12D write a formula for the n^{th} term of arithmetic and geometric sequences, given the value of several of their terms 7.13F Analyze and compare monetary incentives, including sales, rebates, and coupons

<p>Concept #2: Personal Budget and Net Worth Suggested Days: 3</p>	<p><u>Integrated Standards</u> 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 7.13C create and organize a financial assets and liabilities record and construct a net worth statement 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</p>
<p>Concept #3: Interest Suggested Days: 3</p>	<p><u>Integrated Standards</u> 7.13E calculate and compare simple interest and compound interest earnings</p>