WA-NEE Community Schools

Grade Level: 7 Subject: Math

Topic #: 1 Rational Number Operations Duration: 28 days				
Standard(s)	**Envision Lesson**	**Objective**	**Vocabulary**	**Materials**
7.NS.1 Show on a number line that a number and its opposite have a sum of 0 (are additive inverses). Find and interpret sums of rational numbers in real-world contexts.	1-1: Relate Integers and Their Opposites	SWBAT understand how integers and their opposites are related	• Absolute Value • Opposites • Integers • Negative • Positive	• Number Lines • Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Number Line • Distance from Zero • Absolute Zero Card Game • Story Problems • Board Problems • Review
7.NS.7 Compute fluently with rational numbers using an algorithmic approach. (E) 7.AF.2 Solve real-world problems with rational numbers by using one or two operations. (E)	1-2: Understand Rational Numbers	SWBAT identify rational numbers and write them in decimal form.	• repeating decimal • terminating decimal • Bar notation	• Teach a Partner • Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket,

				or other online review Small Group: • Board Work • No Calculator • Fraction to Decimal • Decimal to Fraction • Story Problems • Board Problems • Review
7.NS.1 Show on a number line that a number and its opposite have a sum of 0 (are additive inverses). Find and interpret sums of rational numbers in real-world contexts. 7.NS.7 Compute fluently with rational numbers using an algorithmic approach. (E) 7.AF.2 Solve real-world problems with rational numbers by using one or two operations. (E)	1-3: Add Integers	SWBAT • Add positive and negative integers. • Model integer addition in real-life applications.	• additive inverse	• Board Problems • Computer Fluency • Number Line • Red/Yellow Tiles • Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Hands-on Activities

				• Story Problems • Board Problems • Review
7.NS.2 Show that the distance between two rational numbers on the number line is the absolute value of their difference and apply this principle in real-world contexts. contexts. 7.NS.7 Compute fluently with rational numbers using an algorithmic approach. (E) 7.AF.2 Solve real-world problems with rational numbers by using one or two operations. (E)	1-4: Subtract Integers	SWBAT understand subtraction of integers as adding the additive inverse, $p-q=p+(-q)$.	• Adding the Opposite	• Marcy Cook Up and Down Tiles • Puzzle Boards • Yellow/Red Tiles • Music Video • Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Number Cards • Hands-On manipulating problems • Story Problems • Board Problems • Review
7.NS.1 Show on a number line that a number and its opposite have a sum of 0 (are additive inverses). Find and interpret sums of rational numbers in real-world contexts.	1-5: Add and Subtract Rational Numbers	SWBAT Use properties of operations to add and subtract rational numbers.		• Up and Down Tiles • Grudge Review • 99Math • Textbook

7.NS.2 Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. contexts. 7.NS.7 Compute fluently with rational numbers using an algorithmic approach. (E) 7.AF.2 Solve real-world problems with rational numbers by using one or two operations. (E)				• Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Integer War • Stacks • Tile Puzzles (Frac-Add) • Story Problems • Board Problems • Review
7.NS.3 Use the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. (E) 7.NS.7 Compute fluently with rational numbers using an algorithmic approach. (E) 7.AF.2 Solve real-world problems with rational numbers by using one or two operations. (E)	1-6: Multiply Integers	SWBAT • multiply positive and negative integers. • apply integer multiplication to real-life applications.		• PBS Video • Triangle • Board Problems • Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Stacks

				• Board Problems with and w/o manipulatives • Story Problems • Board Problems • Review
7.NS.3 Use the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. (E) 7.NS.7 Compute fluently with rational numbers using an algorithmic approach. (E) 7.AF.2 Solve real-world problems with rational numbers by using one or two operations. (E)	1-7: Multiply Rational Numbers	SWBAT find the product of rational numbers		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review • Story Problems • Board Problems • Review
7.NS.4 Explain that if p and q are integers, then –(p/q) = (–p)/q = p/(–q) for all nonzero integers. (E) 7.NS.7 Compute fluently with rational numbers using an algorithmic approach. (E)	1-8: Divide Integers	SWBAT • Understand how to divide integers by applying the rules of multiplying integers. • Determine equivalencies among integer quotients.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review

7.AF.2 Solve real-world problems with rational numbers by using one or two operations. (E)				• Task Cards • War – Card game • Yahtzee • Project Small Group: • Story Problems • Board Problems • Review • Story Problems • Board Problems • Review
7.NS.4 Explain that if p and q are integers, then –(p/q) = (–p)/q = p/(–q) for all nonzero integers. (E) 7.NS.7 Compute fluently with rational numbers using an algorithmic approach. (E) 7.AF.2 Solve real-world problems with rational numbers by using one or two operations. (E)	1-9: Divide Rational Numbers	SWBAT understand how the signs of integers in a multiplication sentence relate to the signs in a related division statement.	• complex fraction • multiplicative inverse	• 99Math • Music Video • Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review

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7.NS.7 Compute fluently with rational numbers using an algorithmic approach. (E) 7.AF.2 Solve real-world problems with rational numbers by using one or two operations. (E)	1-10: Solve Problems with Rational Numbers	SWBAT • Decide which operations to use to solve problems. • Use precision when solving problems with rational numbers.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Posters • CueThink • Graphic Organizers Small Group: • Story Problems • Board Problems • Review
7.NS.1 Show on a number line that a number and its opposite have a sum of 0 (are additive inverses). Find and interpret sums of rational numbers in real-world contexts. 7.NS.2 Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. contexts. 7.NS.3 Use the properties of operations, particularly the distributive	3-Act Mathematical Modeling: Win Some, Lose Some (Supplemental)	SWBAT • Use mathematical modeling to represent a problem situation and to propose a solution. • Test and verify the appropriateness of their math models		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review

property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. (E) 7.NS.4 Explain that if p and q are integers, then –(p/q) = (–p)/q = p/(–q) for all nonzero integers. (E) 7.NS.7 Compute fluently with rational numbers using an algorithmic approach. (E) 7.AF.2 Solve real-world problems with rational numbers by using one or two operations. (E)				
7.NS.5 Find the prime factorization of whole numbers and write the results using exponents.	Supplemental Resources	SWBAT • Identify prime and composite numbers	• Prime numbers • Composite numbers	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Tree Diagram • Graphic Organizers • Number Charts Small Group: • Story Problems • Board Problems • Review

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7.NS.5 Find the prime factorization of whole numbers and write the results using exponents.	IN-1: Prime Factorization	SWBAT • find the prime factorization of a whole number. • use prime factorization to find the greatest common factor (GCF) and the least common multiple (LCM) of two whole numbers.	• Prime Numbers • Factors • Exponents	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Tree Diagram • Graphic Organizers • Number Charts Small Group: • Story Problems • Board Problems • Review
7.NS.2 Apply the inverse relationship between squaring and finding the square root of a perfect square whole number. Find square roots of perfect square whole numbers.	IN-4: Evaluate Square Roots	SWBAT find square roots of rational numbers.	- Square Root - Perfect Square	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Cheez-Its • Claculator Small Group:

				• Story Problems • Board Problems • Review
7.NS.3 Know there are rational and irrational numbers. Identify, compare, and order rational and irrational numbers (e.g. !2, !3, !5, ∏) and plot them on a number line. (Keep for 2024-2025 only)	IN-2: Understand Irrational Numbers	SWBAT identify an irrational number.	- Irrational Numbers - Rational Numbers - Imperfect Square - PI – 3.14	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Real-Number Venn Diagram • Number line • All Things Algebra Notes Small Group: • Story Problems • Board Problems • Review
7.NS.3 Know there are rational and irrational numbers. Identify, compare, and order rational and irrational numbers (e.g. !2, !3, !5, ∏) and plot them on a number line. (Keep for 2024-2025 only)	IN-3: Compare and Order Real Numbers	SWBAT compare and order rational and irrational numbers.	- Natural Numbers - Whole Numbers - Integers - Rational - Irrational	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Number lines

				• Number Cards • Graphic Organizers Small Group: • Story Problems • Board Problems • Review

Topic #: 2 Analyze and Use Proportional Relationships Duration: 16-20 days				
Standard(s)	**Envision Lesson**	**Objective**	**Vocabulary**	**Materials**
7.RP.1 Identify the unit rate or constant of proportionality in tables, graphs, equations, and verbal descriptions of proportional relationships.	2-1: Connect Ratios, Rates, and Unit Rates	SWBAT • Use ratios and rates to describe the relationship between two quantities. • Find equivalent ratios and use unit rates to solve multi-step problems.	- Rates - Unit Rates - Ratios	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Heart Rate Project • Desmos Small Group: • Story Problems

				• Board Problems • Review
7.RP.1 Identify the unit rate or constant of proportionality in tables, graphs, equations, and verbal descriptions of proportional relationships.	2-2: Determine Unit Rates with Ratios of Fractions	SWBAT • Find unit rates with ratios of fractions. • Use unit rates to solve multi-step problems.	- Complex Fractions	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Taco Tuesday digital Small Group: • Story Problems • Board Problems • Review
	2-3: Understand Proportional Relationships: Equivalent Ratios	SWBAT determine whether quantities are proportional by testing for equivalent ratios.	- proportional relationship, -proportion Equivalent Ratios Origin Cross Product -	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Coordinate Planes • Graphic Organizers Small Group:

				• Story Problems • Board Problems • Review
7.RP.1 Identify the unit rate or constant of proportionality in tables, graphs, equations, and verbal descriptions of proportional relationships.	2-4: Describe Proportional Relationships: Constant of Proportionality	SWBAT: • Use the constant of proportionality to write equations that represent proportional relationships. • Use equations to solve problems involving proportional relationships.	• constant of proportionality (K)	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review
7.RP.1 Identify the unit rate or constant of proportionality in tables, graphs, equations, and verbal descriptions of proportional relationships.	3- Act Mathematical Modeling: Mixin' it Up (Supplemental)	SWBAT • Use mathematical modeling to represent a problem situation and to propose a solution. • Test and verify the appropriateness of math models. • Explain why the results from mathematical models may not align exactly to the problem situation.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review

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7.RP.1 Identify the unit rate or constant of proportionality in tables, graphs, equations, and verbal descriptions of proportional relationships. 7.RP.3 Represent real-world and other mathematical situations that involve proportional relationships. Write equations and draw graphs to represent these proportional relationships. Apply the definition of unit rate to y = mx. (E)	2-5: Graph Proportional Relationships	SWBAT • Use a graph to recognize proportionality. • Identify a constant of proportionality from a graph. • Interpret a point on a graph of a proportional relationship.	Coordinate Plane Quadrants Ordered Pairs	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Graphic Organizers • Coordinate Plane Small Group: • Story Problems • Board Problems • Review
7.RP.2 Use proportional relationships to solve ratio and percent problems with multiple operations (e.g. simple interest, tax, markups, markdowns, gratuities, conversions within and across measurement systems, and percent increase and decrease). (E) 7.RP.1 Identify the unit rate or constant of proportionality in tables, graphs,	2-6: Apply Proportional Reasoning to Solve Problems	SWBAT • Explain whether a situation represents a proportional relationship. • Use representations to find entry points into problems.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review

equations, and verbal descriptions of proportional relationships. 7.RP.3 Represent real-world and other mathematical situations that involve proportional relationships. Write equations and draw graphs to represent these proportional relationships. Apply the definition of unit rate to y = mx. (E)				Small Group: • Story Problems • Board Problems • Review
7.AF.5 Define slope as vertical change for each unit of horizontal change and recognize that a constant rate of change or constant slope describes a linear function. Identify and describe situations with constant or varying rates of change.	IN-5		- Slope (m) - Rise (change in y value) - Run (change in x value) -	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Graphic Organizers • Geo-Boards Small Group: • Story Problems • Board Problems • Review
7.RP.3 Represent real-world and other mathematical situations that involve proportional relationships. Write equations and draw graphs to represent these proportional relationships. Apply the definition of unit rate to y = mx. (E)	IN-6		- Linear equation - Direct Variation	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!,

				Blooket, or other online review • Coordinate Planes Small Group: • Story Problems • Board Problems • Review

Topic #: 3 Analyze and Solve Percent Problems Duration: 24 days				
Standard(s)	**Envision Lesson**	**Objective**	**Vocabulary**	**Materials**
7.RP.2 Use proportional relationships to solve ratio and percent problems with multiple operations (e.g. simple interest, tax, markups, markdowns, gratuities, conversions within and across measurement systems, and percent increase and decrease). (E)	3-1: Analyze Percents of Numbers	SWBAT • Understand that equivalent rates can be used to find percents. • Analyze percents of numbers in a real-world context.	-Percent -Part versus Whole	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Graphic Organizers Small Group: • Story Problems • Board Problems • Review

7.RP.2 Use proportional relationships to solve ratio and percent problems with multiple operations (e.g. simple interest, tax, markups, markdowns, gratuities, conversions within and across measurement systems, and percent increase and decrease). (E)	3-2 Connect Percent and Proportion	SWBAT • Construct a percent proportion. • Use a percent proportion to find an unknown part, whole, or percent.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review
7.RP.2 Use proportional relationships to solve ratio and percent problems with multiple operations (e.g. simple interest, tax, markups, markdowns, gratuities, conversions within and across measurement systems, and percent increase and decrease). (E)	3-3: Represent and Use the Percent Equation	SWBAT • Understand the relationship between proportional reasoning and percent. • Interpret the results of a percent equation in a real-life scenario.	•	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review
7.RP.2 Use proportional relationships to solve ratio and percent problems with multiple operations (e.g. simple interest,	3-4: Solve Percent Change and	SWBAT	• percent change	• Textbook • Worksheet

tax, markups, markdowns, gratuities, conversions within and across measurement systems, and percent increase and decrease). (E)	Percent Error Problems	• Solve real-world problems involving percent change and percent error. • Understand the percent equation and the different ways it can be used.	• percent error	• IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review
7.RP.2 Use proportional relationships to solve ratio and percent problems with multiple operations (e.g. simple interest, tax, markups, markdowns, gratuities, conversions within and across measurement systems, and percent increase and decrease). (E)	3-Act Mathematical Modeling: The Smart Shopping (Supplemental)	SWBAT • Use mathematical modeling to represent a problem situation and to propose a solution. • Test and verify the appropriateness of their math models.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review
7.RP.2 Use proportional relationships to solve ratio and percent problems with multiple operations (e.g. simple interest, tax, markups, markdowns, gratuities, conversions within and across measurement systems, and percent increase and decrease). (E)	3-5: Solve Markup and Markdown Problems	SWBAT • Understand and calculate markups and markdowns. • Relate percent change to percent markup and percent markdown.	• markup • markdown • percent markup • percent markdown	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review

			• Tax • Tip • Gratuities •	• Project – Daisy's Donuts Small Group: • Story Problems • Board Problems • Review
7.RP.2 Use proportional relationships to solve ratio and percent problems with multiple operations (e.g. simple interest, tax, markups, markdowns, gratuities, conversions within and across measurement systems, and percent increase and decrease). (E)	3-6: Solve Simple Interest Problems	SWBAT • Identify the parts of interest problems and how the values are related. • Understand what simple interest is and how it is calculated.	• interest rate • principal • simple interest	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review

Topic #: 4 Write and Evaluate Algebraic Expressions Duration: 16 days				
Standard(s)	**Envision Lesson**	**Objective**	**Vocabulary**	**Materials**
7.AF.3 Solve equations of the form px + q = r and p(x + q) = r fluently, where p, q, and r are specific rational numbers. Represent real-world problems using equations of these forms and solve such problems. (E)	4-1: Write and Evaluate Algebraic Expressions	SWBAT understand how variables are used to represent unknown values in problems.	-Evaluate - Simplify -Expressions -Variables	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or

				other online review Small Group: • Story Problems • Board Problems • Review
7.AF.1 Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions, including situations that involve factoring out a common number (e.g., given2x 2 10, create an equivalent expression 2(x 2 5)). Justify each step in the process. (E)	4-2: Generate Equivalent Expressions	SWBAT • Recognize when two expressions are equivalent. • Use properties of operations to write equivalent expressions.	-Associative Property -Commutative Property -Distributive Property -Identity Property -Simplify	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Graphic Organizer for Properties • Property Theatre Small Group: • Story Problems • Board Problems • Review
7.AF.1 Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions, including situations that	4-3: Simplify Expressions	SWBAT combine like integer and rational terms.	-Like Terms	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!,

involve factoring out a common number (e.g., given2x 2 10, create an equivalent expression 2(x 2 5)). Justify each step in the process. (E)				Blooket, or other online review • Tiles Small Group: • Story Problems • Board Problems • Review
7.AF.1 Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions, including situations that involve factoring out a common number (e.g., given2x 2 10, create an equivalent expression 2(x 2 5)). Justify each step in the process. (E)	4-4: Expand Expressions	SWBAT use the Distributive Property to expand expressions.	-Distributive Property	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review
7.AF.1 Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions, including situations that involve factoring out a common number (e.g., given2x 2 10, create an equivalent	4-5: Factors Expressions	SWBAT • Understand expanding an expression is the reverse of factoring. • Identify the GCF of algebraic terms in expressions.	-Factoring -Factors	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or

expression 2(x 2 5)). Justify each step in the process. (E)				other online review Small Group: • Story Problems • Board Problems • Review
7.AF.1 Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions, including situations that involve factoring out a common number (e.g., given2x 2 10, create an equivalent expression 2(x 2 5)). Justify each step in the process. (E)	3-Act Mathematical Modeling: I've Got You Covered (Supplemental)	SWBAT • Use mathematical modeling to represent a problem situation and to propose a solution. • Test and verify the appropr iateness of their math models. • Explain why the results from their mathematical models may not align exactly to the problem situation.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review
7.AF.1 Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions, including situations that involve factoring out a common number (e.g., given2x 2 10, create an equivalent	4-6: Add Expressions	SWBAT • Use properties of operations to add expressions. • Model addition of expressions in real-life applications.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or

expression 2(x 2 5)). Justify each step in the process. (E)				other online review Small Group: • Story Problems • Board Problems • Review
7.AF.1 Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions, including situations that involve factoring out a common number (e.g., given2x 2 10, create an equivalent expression 2(x 2 5)). Justify each step in the process. (E)	4-7: Subtract Expressions	SWBAT • Use properties of operations to subtract expressions. • Model subtraction of expressions in real-life applications.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review
7.AF.1 Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions, including situations that	4-8: Analyze Equivalent Expressions	SWBAT write equivalent expressions to show how quantities are related in real-life applications.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!,

involve factoring out a common number (e.g., given2x 2 10, create an equivalent expression 2(x 2 5)). Justify each step in the process. (E)				Blooket, or other online review Small Group: • Story Problems • Board Problems • Review

Topic #: 5 Solve Problems Using Equations and Inequalities Duration: 14 days				
Standard(s)	**Envision Lesson**	**Objective**	**Vocabulary**	**Materials**
7.AF.3 Solve equations of the form px + q = r and p(x + q) = r fluently, where p, q, and r are specific rational numbers. Represent real-world problems using equations of these forms and solve such problems. (E)	5-1: Write Two-Step Equations	SWBAT • Analyze word problems to write two-step equations. • Understand the relationship between the terms of the equation and the values they represent.	• Equations •	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Operation Word Graphic Organizer Small Group: • Story Problems

				• Board Problems • Review
7.AF.3 Solve equations of the form px + q = r and p(x + q) = r fluently, where p, q, and r are specific rational numbers. Represent real-world problems using equations of these forms and solve such problems. (E)	5-2: Solve Two-Step Equations	SWBAT • Use models to solve two-step equations. • Compare algebraic and arithmetic solutions.	• isolate the variable • equation	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Mobile • Balance and Number Tiles • Desmos • Partner Passing Small Group: • Story Problems • Board Problems • Review
7.AF.1 Apply the properties of operations (e.g., identity, inverse, commutative, associative, distributive properties) to create equivalent linear expressions, including situations that involve factoring out a common number (e.g., given2x 2 10, create an equivalent	5-3: Solve Equations Using the Distributive Property	SWBAT solve equations using the Distributive Property		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review

expression 2(x 2 5)). Justify each step in the process. (E) 7.AF.3 Solve equations of the form px + q = r and p(x + q) = r fluently, where p, q, and r are specific rational numbers. Represent real-world problems using equations of these forms and solve such problems. (E)				• Partner Check Small Group: • Story Problems • Board Problems • Review
7.AF.3 Solve equations of the form px + q = r and p(x + q) = r fluently, where p, q, and r are specific rational numbers. Represent real-world problems using equations of these forms and solve such problems. (E)	5-4: Solve Inequalities Using Addition or Subtractions	SWBAT • Graph the solution of inequalities on a number line. • Solve inequalities using the Addition and Subtraction Properties of Inequality.	-Inequalities -Greater than -Less than	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Number Lines • Small Group: • Story Problems • Board Problems • Review
7.AF.4 Solve inequalities of the form px + q (> or ≥) r or px + q (< or ≤) r, where p, q, and r are specific rational numbers. Represent real-world problems using inequalities of these forms and	5-5: Solve Inequalities Using Multiplication or Division	SWBAT • Write inequalities and solve them using Multiplication		• Textbook • Worksheet • IXL

solve such problems. Graph the solution set of the inequality and interpret it in the context of the problem.		and Division Properties of Inequality. • Graph the solutions of an inequality on a number line.		• Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Task Cards Small Group: • Story Problems • Board Problems • Review
7.AF.4 Solve inequalities of the form px + q (> or ≥) r or px + q (< or ≤) r, where p, q, and r are specific rational numbers. Represent real-world problems using inequalities of these forms and solve such problems. Graph the solution set of the inequality and interpret it in the context of the problem.	3-Act Mathematical Modeling: Digital Downloads (Supplemental)	SWBAT • Use mathematical modeling to represent a problem situation and to propose a solution. • Test and verify the appropriateness of their mathematical models.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review

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7.AF.4 Solve inequalities of the form px + q (> or ≥) r or px + q (< or ≤) r, where p, q, and r are specific rational numbers. Represent real-world problems using inequalities of these forms and solve such problems. Graph the solution set of the inequality and interpret it in the context of the problem.	5-6: Solve Two-Step Inequalities	SWBAT • Write and solve a two-step inequality to solve a problem. • Solve an inequality by multiplying or dividing by a negative rational number.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review
7.AF.4 Solve inequalities of the form px + q (> or ≥) r or px + q (< or ≤) r, where p, q, and r are specific rational numbers. Represent real-world problems using inequalities of these forms and solve such problems. Graph the solution set of the inequality and interpret it in the context of the problem.	5-7: Solve Multi-Step Inequalities	SWBAT • Explore the relationship between two-step inequalities and multi-step inequalities. • Apply the Distributive Property to simplify and solve multi-step inequalities.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Around the World Activity Small Group: • Story Problems • Board Problems

				• Review

Topic #: 8 Solve Problems Involving Geometry Duration: 27-32 days				
Standard(s)	**Envision Lesson**	**Objective**	**Vocabulary**	**Materials**
7.GM.1 Solve real-world and other mathematical problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing. Create a scale drawing by using proportional reasoning.	8-1: Solve Problems Involving Scale Drawings	SWBAT use a scale drawing as a representation of actual lengths and area.	• scale drawing	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Scale Project Small Group: • Story Problems • Board Problems • Review
7.GM.1 Solve real-world and other mathematical problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing. Create a scale drawing by using proportional reasoning.	IN-7	SWBAT • identify similar polygons. • solve problems by applying their understanding of similar polygons.	• polygons	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review

				Small Group: • Story Problems • Board Problems • Review •
7.GM.2 Understand the formulas for area and circumference of a circle and use them to solve real-world and other mathematical problems; give an informal derivation of the relationship between circumference and area of a circle.	8-5: Solve Problems Involving Circumference of a Circle	SWBAT • Calculate the circumference, radius, or diameter of a circle. • Recognize the relationship between the circumference and the diameter of a circle and π.	• Circumference • Diameter • Radius • Center • PI •	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Manipulatives Small Group: • Story Problems • Board Problems • Review
7.GM.2 Understand the formulas for area and circumference of a circle and use them to solve real-world and other mathematical problems; give an informal derivation of the relationship between circumference and area of a circle.	8-6: Solve Problems Involving Area of a Circle	SWBAT • Find the area of a circle. • Use the area to find the radius and diameter. • Solve problems involving the area of circle.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Circle Project • Task Cards

				Small Group: • Story Problems • Board Problems • Review
7.GM.2 Understand the formulas for area and circumference of a circle and use them to solve real-world and other mathematical problems; give an informal derivation of the relationship between circumference and area of a circle.	3-Act Mathematical Modeling: Whole Lotta Dough (Supplemental)	SWBAT • Use mathematical modeling to represent a problem situation and to propose a solution. • Test and verify the appropr iateness of their mathematical mode ls.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review
7.GM.3 Solve real-world and other mathematical problems involving volume of cylinders and three-dimensional objects composed of right rectangular prisms (E)	8-9: Solve Problems Involving Volume	SWBAT • Calculate the volume of various three-dimensional figures. • Solve problems involving the volume of three-dimensional figures.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group:

				• Story Problems • Board Problems • Review
7.GM.3 Solve real-world and other mathematical problems involving volume of cylinders and three-dimensional objects composed of right rectangular prisms (E)	IN-9	SWBAT • identify and use the correct formula to calculate the volume of a cylinder. • recognize the relationship between the formulas for the volume of a rectangular prism and the volume of a cylinder.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review

Topic #: 6 Use Sampling to Draw Inferences About Populations Duration: 8 days				
Standard(s)	**Envision Lesson**	**Objective**	**Vocabulary**	**Materials**
7.DSP.1 Understand that statistics can be used to gain information about a population by examining a sample of the population. Understand that conclusions and generalizations about a population from a sample are valid only if the sample is representative of that population and that random	6-1: Populations and Samples	SWBAT • Distinguish between a population and a sample. • Establish whether a sample is representative of a population. • Generate random samples.	• random sample • representative sample	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review

sampling tends to produce representative samples and support valid inferences. (E)				Small Group: • Story Problems • Board Problems • Review
7.DSP.1 Understand that statistics can be used to gain information about a population by examining a sample of the population. Understand that conclusions and generalizations about a population from a sample are valid only if the sample is representative of that population and that random sampling tends to produce representative samples and support valid inferences. (E)	6-2: Draw Inferences from Data	SWBAT • Make qualitative inferences from a sample data set. • Make quantitative inferences from a sample data set. • Make estimates about a population based on a sample data set, and assess whether the inferences are valid.	• valid inference	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Graphs • Data Sets • Tables Small Group: • Story Problems • Board Problems • Review
7.DSP.2 Find, use, and interpret measures of center (mean and median) and measures of spread (range, interquartile range, and mean absolute deviation) for numerical data from random samples to draw comparative inferences about two populations. (E)	6-3: Make Comparative Inferences About Populations	SWBAT • Use box plots to compare and make inferences about populations. • Use the median and IQR of data sets to informally compare and make		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review

7.DSP.3 Make observations about the degree of visual overlap of two numerical data distributions represented in line plots or box plots. Describe how data, particularly outliers, added to a data set may affect the mean and/or median.		inferences about two populations.		• Graphic Organizers Small Group: • Story Problems • Board Problems • Review
7.DSP.2 Find, use, and interpret measures of center (mean and median) and measures of spread (range, interquartile range, and mean absolute deviation) for numerical data from random samples to draw comparative inferences about two populations. (E) 7.DSP.3 Make observations about the degree of visual overlap of two numerical data distributions represented in line plots or box plots. Describe how data, particularly outliers, added to a data set may affect the mean and/or median.	6-4: Make More Comparative Inferences About Populations	SWBAT use the mode, range, mean, and mean absolute deviation (MAD)to compare populations.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems • Review
7.DSP.1 Understand that statistics can be used to gain information about a population by examining a sample of the population. Understand that conclusions and generalizations about a population from a sample are valid only if the sample is representative of	3-Act Mathematical Modeling: Raising Money (Supplemental)	SWBAT • Use mathematical modeling to represent a problem situation and to propose a solution.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review

that population and that random sampling tends to produce representative samples and support valid inferences. (E) 7.DSP.2 Find, use, and interpret measures of center (mean and median) and measures of spread (range, interquartile range, and mean absolute deviation) for numerical data from random samples to draw comparative inferences about two populations. (E) 7.DSP.3 Make observations about the degree of visual overlap of two numerical data distributions represented in line plots or box plots. Describe how data, particularly outliers, added to a data set may affect the mean and/or median.		• Test and verify the appropr iateness of their math models. • Explain why the results from their mathematical models may not align exactly to the problem situation.		• Graphs • Tables • Data Charts Small Group: • Story Problems • Board Problems • Review

Topic #: 7 Probability		**Duration: 14 days**		
Standard(s)	**Envision Lesson**	**Objective**	**Vocabulary**	**Materials**
7.DSP.4 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Understand that a probability near 0 indicates an unlikely event, a probability around 12 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a	7-1: Understand Likelihood and Probability	SWBAT • Use probability to describe to describe the likelihood that an event will occur. • Relate probability to mathematical fairness.	• outcomes • probability	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Continuum

likely event. Understand that a probability of 1 indicates an event certain to occur and a probability of 0 indicates an event impossible to occur. Identify probabilities of events as impossible, unlikely, equally likely, likely, or certain. (E) 7.DSP.5 Develop probability models that include the sample space and probabilities of outcomes to represent simple events with equally likely outcomes. Predict the approximate relative frequency of the event based on the model. Compare probabilities from the model to observed frequencies; evaluate the level of agreement and explain possible sources of discrepancy. (E)				• Graphic Organizers Small Group: • Story Problems • Board Problems • Review
7.DSP.4 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Understand that a probability near 0 indicates an unlikely event, a probability around 12 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. Understand that a probability of 1 indicates an event certain to occur and a probability of 0 indicates an event impossible to occur. Identify probabilities of events as	7-2: Understand Theoretical Probability	SWBAT • Understand theoretical probability and how it can be used. • Use theoretical probability to predict an outcome.	• event • theoretical probability	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review Small Group: • Story Problems • Board Problems

impossible, unlikely, equally likely, likely, or certain. (E) 7.DSP.5 Develop probability models that include the sample space and probabilities of outcomes to represent simple events with equally likely outcomes. Predict the approximate relative frequency of the event based on the model. Compare probabilities from the model to observed frequencies; evaluate the level of agreement and explain possible sources of discrepancy. (E)				• Review
7.DSP.4 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Understand that a probability near 0 indicates an unlikely event, a probability around 12 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. Understand that a probability of 1 indicates an event certain to occur and a probability of 0 indicates an event impossible to occur. Identify probabilities of events as impossible, unlikely, equally likely, likely, or certain. (E) 7.DSP.5 Develop probability models that include the sample space and	7-3: Understand Experimental Probability	SWBAT • Compare theoretical and experimental probability. • Use experimental probability to make predictions. • Explain differences betwe en theoretical and experimental probability.	• experimental probability • relative frequency	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Dice • Desmos • Probablity Project • Bracketology Small Group: • Story Problems

probabilities of outcomes to represent simple events with equally likely outcomes. Predict the approximate relative frequency of the event based on the model. Compare probabilities from the model to observed frequencies; evaluate the level of agreement and explain possible sources of discrepancy. (E)				• Board Problems • Review
7.DSP.4 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Understand that a probability near 0 indicates an unlikely event, a probability around 12 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. Understand that a probability of 1 indicates an event certain to occur and a probability of 0 indicates an event impossible to occur. Identify probabilities of events as impossible, unlikely, equally likely, likely, or certain. (E)	7-4: Use Probability Models	SWBAT • Develop a probability model. • Use a probability model to evaluate a situation. • Use a probability model to make an estimate.	• sample space • probability model	• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!, Blooket, or other online review • Yellow Starburst Activity Small Group: • Story Problems • Board Problems • Review
7.DSP.4 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Understand that a probability near 0 indicates an unlikely event, a probability around 12 indicates an	3-Act Mathematical Modeling: Photo Finish (Supplemental)	SWBAT • Use mathematical modeling to represent a problem situation and to propose a solution.		• Textbook • Worksheet • IXL • Quizziz, Gimkit, Kahoot!,

event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. Understand that a probability of 1 indicates an event certain to occur and a probability of 0 indicates an event impossible to occur. Identify probabilities of events as impossible, unlikely, equally likely, likely, or certain. (E)		• Test and verify the appropriateness of their math models. • Explain why the results from their mathematical models may not align exactly to the problem situation.		Blooket, or other online review Small Group: • Story Problems • Board Problems • Review