6th Grade Math
Curriculum Resources

Curriculum Overview

The Alabama Course of Study: Mathematics (2019) provides the framework for the K-12 study of Mathematics in Alabama's public schools. Content standards in this document are minimum and required, fundamental and specific, but not exhaustive. The standards set high expectations for student learning in all grades.

Here are definitions to help understand this curriculum guide:

- **Units of Study:** A series of lessons, experiences, and assessments aligned to standards that may last two to six weeks.
- **Priority Standards:** These are the standards students must know and be able to do to be prepared for the next grade level or course.
- **Supporting Standards:** These standards support, connect to, or enhance priority standards.
- **Knowledge:** What students should know related to the standard.
- **Skills:** What students should be able to do related to the standard.
- **Bloom's Taxonomy:** This hierarchy helps describe the complexity and requirements of a standard.
- **Quad:** This framework has four parts that help determine the rigor and relevance of a standard: Acquisition, Application, Assimilation, Adaptation.
- **ACT:** This refers to ACT standards alignment.
- **Key Understandings:** Essential ideas students need to understand about the standard.
- **Key Vocabulary:** Keywords that should be taught to ensure understanding of the standard.
- **Formative Assessment:** Frequent and ongoing checks for understanding teachers can use throughout the unit.
- **Summative Assessment:** How students will be assessed at the end of a unit to demonstrate their level of mastery of the standards.
- **Activities & Resources:** Specific examples, lessons, and/or resources that may be used to support implementation of the standard.
- **RTI:** Response to Intervention - additional supports/resources teachers can use for students who need them.
- **Extensions:** Additional activities and resources to extend the learning experience, especially for accelerated students.

6th Grade Curriculum At A Glance - Pacing Calendar				
Quarter	**# Weeks**	**Unit Name**	**Priority Standards**	**Supporting Standards**
1	1	Launch Week	**Pre-Assessment**	
1	5	UNIT 1: Use Positive Rational Numbers	**6.1, 6.4**	**6.5, 6..6**
1	5	UNIT 2: Integers and Rational Numbers	**6.9, 6.10, 6.11, 6.13**	
2	5	UNIT 3: Numeric and Algebraic Expressions	**6.8, 6.14, 6.15, 6.16, 6.17**	
2	5	UNIT 4: Represent and Solve Equations and Inequalities	**6.7, 6.15, 6.17, 6.18, 6.19, 6.20, 6.21**	
3	5	UNIT 5: Understand and Use Ratio and Rate	**6.1, 6.2, 6.3**	
3	2	UNIT 6: Understand and Use Percent	**6.1, 6.3**	
3	4	UNIT 7: Solve Area, Surface Area, and Volume Problems	**6.11, 6.11c, 6.11d, 6.15, 6.15b, 6.15c**	**6.23, 6.26, 6.27, 6.28**
4	3	UNIT 8: Display, Describe, and Summarize Data		**6.22, 6.23, 6.24**

UNIT 1: Use Positive Rational Numbers	DURATION: 5 weeks
CONTENT STANDARDS	
PRIORITY STANDARDS • 6.4 Interpret and compute quotients of fractions using visual models and equations to represent problems. • 6.5 Fluently divide multi-digit whole numbers using a standard algorithm to solve real-world and mathematical problems. • 6.6 Add, subtract, multiply, and divide decimals using a standard algorithm.	SUPPORTING STANDARDS

The knowledge and skills here are the expected elements on which we collect evidence to determine whether a student is proficient or not proficient against the PRIORITY standards

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
	Understand that dividing fractions is equivalent to multiplying by the reciprocal of the divisor and be able to apply this concept in calculations.	2-Understanding	A	
	Represent the quotient of fractions using visual models.	3-Applying	B	
	Divide using a maximum of five-digit dividends and a maximum of two-digit divisors.	3-Applying	B	
	Find the sum of decimals. Each addend is greater than or equal to 0.001 and less than or equal to 99.999	3-Applying	B	
	Find the difference of decimals. The subtrahend and minuend are each greater than or equal to 0.001 and less than or equal to 99.999. All differences are positive.	3-Applying	B	
	Find the product of decimals. For purposes of assessment, the possibilities	3-Applying	B	

	are 1-digit × 2-digit, 1-digit × 3-digit, 2-digit × 3-digit, 2-digit × 4-digit, or 2-digit × 5-digit.			
	Find the quotient of decimals. Tasks are either 4-digit ÷ 2-digit or 3-digit ÷ 3-digit (e.g., 14.28 ÷0.68 or 2.39 ÷ 0.684). Every quotient is a whole number or a decimal terminating at the tenths, hundredths, or thousandths place.	3-Applying	B	

KEY COMPONENTS

LEARNING TARGETS (incremental learning target by week)

Week 1:

- Day 1: I can use a model and algorithm to add decimals.
- Day 2: I can use a model and algorithm to subtract decimals.
- Day 3: I can use a model and algorithm to multiply decimals by whole numbers.
- Day 4: I can use a model and algorithm to multiply decimals by decimals.
- Day 5: Adding, Subtracting, and Multiplying Decimal Quiz

Week 2:

- Day 6: I can use a model and algorithm to divide decimals.
- Day 7: I can divide a whole number by a decimal number.
- Day 8: I can divide a decimal number by a whole number.
- Day 9: I can divide a decimal number by a decimal number.
- Day 10: Dividing Decimal Quiz

Week 3

- Day 11: I can divide multi-digit whole numbers. (Unpacking the Standard and Key Vocabulary)
- Day 12: I can divide multi-digit whole numbers using the standard algorithm.
- Day 13: I can divide multi-digit numbers by two-digit divisors.
- Day 14: I can divide multi-digit numbers with 5-digit dividends.
- Day 15: Dividing Multi-Digit Numbers Quiz

Week 4:

- Day 16: I can use models to divide a fraction by a Whole Number.
- Day 17: I can use algorithms to divide a fraction by a Whole Number.
- Day 18: I can use models to divide a fraction by a fraction.

KEY VOCABULARY

- Standard algorithms (addition, subtraction, multiplication, and division)
- Quotient
- Sum
- Product
- Difference
- Tenths
- Hundredths
- Thousandths
- Ten thousandths
- Hundred thousandths
- Dividend
- Divisor
- Visual fraction models
- Equation
- Numerator
- Denominator
- Mixed number
- Improper fraction

• Day 19: I can use algorithms to divide a fraction by a fraction. • Day 20: Interpreting and Compute Quotients of Fractions Quiz **Week 5:** • Day 21: Unit 1 Review • Day 22: Unit 1 Test		
ESSENTIAL QUESTION(S) • How can you fluently add, subtract, multiply, and divide decimals? • How can you multiply and divide fractions?	**PRIOR KNOWLEDGE** *In Grade 5* • Students added, subtracted, and multiplied decimals through the hundredths. • They used place-value strategies to divide decimals by whole numbers and decimals. • They estimated quotients to place the first digit in the quotient and to determine whether their calculations were reasonable. • Students extended their understanding of multiplication to multiply with fractions and mixed numbers. • They also learned how to divide unit fractions by whole numbers and a whole number by a unit fraction.	

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT
Grade 6 Math-Evidence of Student Learning #1-Unit 1 Grade 6 Math-Evidence of Student Learning #2-Unit 1 Grade 6 Math-Evidence of Student Learning #3-Unit 1 Grade 6 Math-Evidence of Student Learning #4-Unit 1 Grade 6 Math-Evidence of Student Learning #5-Unit 1 Grade 6 Math-Evidence of Student Learning #6-Unit 1	Topic 1 Performance Task

ACTIVITIES & RESOURCES

Envision Resources	Other Resources	ACAP Resources
1-1: Fluently Add, Subtract, and Multiply Decimals 1-2: Fluently Divide Whole Numbers and Decimals 1-3: Multiply Fractions *Mid-Topic Checkpoint and Performance Task* 1-4: Understand Division with Fractions 1-5: Divide Fractions by Fractions 1-6: Divide Mixed Numbers 1-7: Solve Problems with Rational Numbers	Student Mathematical Practice Posters Grade 6 Number Systems Illustrative Math Tasks Mathigon Edulastic Decimal Place Value Chart Dividing Decimal by a Whole Number Graphic Organizer Multiplying Decimals with Models Long Division Practice Sheets	Grade 6 Performance Level Descriptors Grade 6 Alabama Educators Instructional Supports Grade 6 Item Specifications Standard 6.1 Proficiency Scale Standard 6.4 Proficiency Scale Mathigon

	Long Division Graphic Organizers	
RTI	**EXTENSION OPPORTUNITIES**	

UNIT 2: Integers and Rational Numbers	DURATION: 5 weeks
CONTENT STANDARDS	
PRIORITY STANDARDS ● 6.9 Use signed numbers to describe quantities that have opposite directions or values and to represent quantities in real-world contexts. ● 6.10 Locate integers and other rational numbers on a horizontal or vertical line diagram. ○ 6.10.a Define opposites as numbers located on opposite sides of 0 and the same distance from 0 on a number line. ○ 6.10.b Use rational numbers in real-world and mathematical situations, explaining the meaning of 0 in each situation. ● 6.11 Find the position of pairs of integers and other rational numbers on the coordinate plane. ○ 6.11.a Identify quadrant locations of ordered pairs on the coordinate plane based on the signs of the x- and y-coordinates. ○ 6.11.b Identify (a,b) and (a,-b) as reflections across the x-axis. ○ 6.11.c Identify (a,b) and (-a,b) as reflections across the y-axis. ○ 6.11.d Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane, including finding distances between points with the same first or second coordinate. ● 6.13 Compare and order rational numbers and absolute value of rational numbers with and without a number line in order to solve real-world and mathematical problems.	SUPPORTING STANDARDS ●

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
notation for and meaning of positive and negative numbers, and their opposites in mathematical and real-world situations.		Remember	A	

Notation for positive and negative numbers and zero		**Remembering**	**A**	
How to use and interpret inequality notation with rational numbers and absolute value.		**Applying**	**B**	
	Use positive, negative numbers, and their opposites to represent quantities in real-world contexts.	**Applying**	**B**	
	Represent rational numbers and their opposites on a number line including both positive and negative quantities.	**Applying**	**B**	
	Explain and justify the creation of number lines and placement of rational numbers on a number line.	**Evaluating**	**C**	
	Explain the meaning of 0 in a variety of real-world contexts.	**Analyzing**	**C**	
	Graph points corresponding to ordered pairs	**Applying**	**B**	
	Represent real-world and mathematical problems on a coordinate plane.	**Applying**	**B**	
	Interpret coordinate values of points in the context of real-world/mathematical situations.	**Applying**	**B**	
	Determine lengths of line segments on a coordinate plane when the line segment joins points with the same first coordinate (vertical distance) or the same second coordinate (horizontal distance)	**Understanding**	**A**	
	Use mathematical language to communicate the relationship between verbal representations of inequalities and the related number line and algebraic models.	**Analyzing**	**C**	
	Distinguish comparisons of the absolute value of positive and negative rational numbers from statements about order.	**Analyzing**	**C**	
	Use number line models to explain absolute value concepts in order to solve real-world and mathematical problems.	**Understanding**	**A**	

KEY COMPONENTS		
LEARNING TARGETS (incremental learning target by week) ● **<u>Week 1:</u>** ○ **Day 1: I can identify opposites of integers.** ○ **Day 2: I can compare and order integers.** ○ **Day 3: I can use integers to represent real-world quantities and explain the meaning of 0 in each context.** ○ **Day 4: I can plot rational numbers on a number line.** ○ **Day 5: I can compare and order rational numbers.** ● **<u>Week 2:</u>** ○ **Day 6: I can use rational numbers to represent real-world quantities.** ○ **Day 7: I can use absolute value to represent a number's distance from 0.** ○ **Day 8: I can interpret absolute value in real-world situations.** ○ **Day 9: Topic 2 Mid-Topic Checkpoint** ○ **Day 10: I can identify and graph points with rational coordinates on the coordinate plane.** ● **<u>Week 3:</u>** ○ **Day 11: I can reflect points with rational coordinates across both axes.** ○ **Day 12: I can use absolute value to find the distance between two points that lie on the same horizontal or vertical number line on a coordinate plane.** ○ **Day 13: I can solve real-world and mathematical problems involving distances on the coordinate plane.** ○ **Day 14: I can find the side lengths of polygons on the coordinate plane.** ○ **Day 15: I can find the perimeter of polygons on the coordinate plane.** ● **<u>Week 4:</u>** ○ **Day 16: Integers and Rational Numbers Review** ○ **Day 17: Unit Test** ○ **Day 18: Review or Reteach** ○ **Day 19: Review or Reteach** ○ **Day 20: Review or Reteach**	**KEY VOCABULARY** ● **Integers** ● **Rational numbers** ● **Horizontal line diagram** ● **Vertical line diagram** ● **Positive Numbers** ● **Negative Numbers** ● **Opposites** ● **Coordinate plane**	● **Quadrants** ● **Coordinate values** ● **ordered pairs** ● **x axis** ● **y axis** ● **Reflection** ● **Absolute Value** ● **Inequalities**
ESSENTIAL QUESTION(S) ● **What are integers and rational numbers?** ● **How are points graphed on a coordinate plane?**	**PRIOR KNOWLEDGE** **In Grade 5,** ● **Students extended their understanding of decimal place value to**	

	the thousandths place. • They graphed decimals on a number line to help them compare and round decimals. • They extended their ability to do computations with rational numbers to include adding, subtracting, multiplying, and dividing decimals and fractions. • Students learned about the coordinate plane and graphed points in the first quadrant to solve real-world and mathematical problems. • Students increased their fluency when performing all four operations with positive rational numbers in decimal form or fraction form. • Students solved problems with rational numbers.

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT
Grade 6 Math-Evidence of Student Learning #1-Unit 2 Grade 6 Math-Evidence of Student Learning #2-Unit 2 Grade 6 Math-Evidence of Student Learning #3-Unit 2	

ACTIVITIES & RESOURCES		
Envision Resources Topic 2-1: Understand Integers Topic 2-2: Represent Rational Numbers on the Number Line Topic 2-3: Absolute Value of Rational Numbers Topic 2-4: Represent Rational Numbers on the Coordinate Plane Topic 2-5: Find Distances on the Coordinate Plane Topic 2-6: Represent Polygons on the Coordinate Plane AL1: Find Locations of Ordered Pairs in the Coordinate Plane	Other Resources Absolute Value and Opposite Numbers Interactive Notebook	ACAP Resources
RTI	EXTENSION OPPORTUNITIES	

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UNIT 3: Numeric and Algebraic Expressions	DURATION: 5 weeks
CONTENT STANDARDS	
PRIORITY STANDARDS ● 6.8 Find the greatest common factor (GCF) and least common multiple (LCM) of two or more whole numbers. ○ 6.8.a Use factors and multiples to determine prime factorization. ● 6.14 Write, evaluate, and compare expressions involving whole number exponents. ● 6.15 Write, read, and evaluate expressions in which letters represent numbers in real-world contexts. ○ 6.15.a Interpret a variable as an unknown value for any number in a specified set, depending on the context. ○ 6.15.b Write expressions to represent verbal statements and real-world scenarios. ○ 6.15.c Identify parts of an expression using mathematical terms such as sum, term, product, factor, quotient, and coefficient ○ 6.15.d Evaluate expressions (which may include absolute value and whole number exponents) with respect to order of operations. ● 6.16 Generate equivalent algebraic expressions using the properties of operations, including inverse, identity, commutative, associative, and distributive. ● 6.17 Determine whether two expressions are equivalent and justify the reasoning.	SUPPORTING STANDARDS ●

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
Strategies for determining the greatest common factor of two or more numbers,		Applying	B	
Strategies for determining the least common multiple of two or more numbers		Applying	B	

Strategies for determining the prime factorization of a number.		**Applying**	**B**	
Conventions of exponential notation.		**Remembering**	**A**	
Factorization strategies for whole numbers.		**Applying**	**B**	
Correct usage of mathematical symbolism to model the terms sum, term, product, factor, quotient, variable, difference, constant, and coefficient when they appear in verbally stated contexts.		**Understanding**	**C**	
Conventions for order of operations.		**Remembering**	**A**	
Convention of using juxtaposition (5A or xy) to indicate multiplication.		**Remembering**	**A**	
	Apply strategies for determining greatest common factors and least common multiples.	**Applying**	**B**	
	Apply strategies for determining the product of a number's prime factors in multiple forms which include exponential form and standard form.	**Applying**	**B**	
	Use factorization strategies to write equivalent expressions involving exponents.	**Applying**	**B**	
	Accurately find products for repeated multiplication of the same factor in evaluating exponential expressions.	**Evaluating**	**C**	
	Translate fluently between verbally stated situations and algebraic models of the situation.	**Understanding**	**A**	
	Use operations (addition, subtraction, multiplication, division, and exponentiation) fluently with the conventions of parentheses and order of operations to evaluate expressions for specific values of variables in expressions.	**Evaluating**	**C**	

	Use terminology related to algebraic expressions such as sum, term, product, factor, quotient, or coefficient, to communicate the meanings of the expression and the parts of the expression.	Evaluating	C	

KEY COMPONENTS

LEARNING TARGETS (incremental learning target by week)

- <u>Week 1:</u>
  - Day 1: I can write expressions using whole-number exponents to represent real-world and mathematical problems.
  - Day 2: I can evaluate expressions with whole-number exponents.
  - Day 3: I can find the prime factorization of a whole number.
  - Day 4: I can find the greatest common factor (GCF) and the least common multiple (LCM) of two whole numbers.
  - Day 5: I can use the GCF and the Distributive Property to add.
- <u>Week 2</u>
  - Day 6: I can use the GCF and the LCM to solve problems.
  - Day 7: I can evaluate expressions using the orders of operations.
  - Day 8: I can insert grouping symbols in a numerical expression to affect the value of the expression.
  - Day 9: Unit 3 Mid-Topic Checkpoint
  - Day 10: I can write an algebraic expression to model a pattern.
- <u>Week 3</u>
  - Day 11: I can write an algebraic expression from a word phrase.
  - Day 12: I can use precise language when identifying parts of a language.
  - Day 13: I can evaluate algebraic expressions with whole numbers.
  - Day 14: I can evaluate algebraic expressions with decimals.
  - Day 15: I can evaluate algebraic expressions with fractions.
- <u>Week 4</u>
  - Day 16: I can write equivalent algebraic expressions.

KEY VOCABULARY

- Greatest common factor
- Least common multiple
- Exponential Form
- Prime Factorization
- Factors
- Multiples
- Prime
- Relatively Prime
- Composite
- Numerical expression
- Exponent
- Expressions
- Term
- Inverse property
- Identity property
- Commutative property
- Associative property
- Equivalent algebraic expressions
- Coefficient
- Sum
- Product
- Factor
- Quotient
- Variable
- Constant
- Difference
- Evaluate
- Order of Operations
- Exponent
- Absolute Value
- Properties of operations
- Distributive property

○ Day 17: I can identify equivalent algebraic expressions. ○ Day 18: I can justify whether two expressions are equivalent. ○ Day 19: I can use the properties of operations to simplify algebraic expressions by combining like terms. ○ Day 20: Unit 3 Review ● <u>Week 5</u> ○ Day 21: Unit 3 Test		
ESSENTIAL QUESTION(S) ● What are expressions and how can they be written and evaluated?	**PRIOR KNOWLEDGE** *In Grade 5,* ● Students used whole-number exponents to express powers of 10. ● Students used the order of operations to simplify numerical expressions that contain parentheses. ● Students also wrote numerical expressions to represent real-world contexts.	

FORMATIVE ASSESSMENT	**SUMMATIVE ASSESSMENT**

ACTIVITIES & RESOURCES		
<u>Envision Resources</u> Topic 3-1: Understand and Represent Exponents Topic 3-2: Find Greatest Common Factor and Least Common Multiple Topic 3-3: Write and Evaluate Numerical Expressions Topic 3-4: Write Algebraic Expressions Topic 3-5: Evaluate Algebraic Expressions Topic 3-6: Generate Equivalent Expressions	<u>Other Resources</u>	<u>ACAP Resources</u>
RTI	**EXTENSION OPPORTUNITIES**	

UNIT 4: Represent and Solve Equations and Inequalities	DURATION: 5 weeks
CONTENT STANDARDS	
PRIORITY STANDARDS ● 6.7 Use the distributive property to express the sum of two whole numbers with a common factor as a multiple of a sum of two whole numbers with no common factor. ● 6.15 Write, read, and evaluate expressions in which letters represent numbers in real-world contexts. ○ 6.15a Interpret a variable as an unknown value for any number in a specified set, depending on the context. ○ 6.15b Write expressions to represent verbal statements and real-world scenarios. ○ 6.15.c Identify parts of an expression using mathematical terms such as sum, term, product, factor, quotient, and coefficient. ○ 6.15d Evaluate expressions (which may include absolute value and whole number exponents) with respect to order of operations. ● 6.17 Determine whether two expressions are equivalent and justify the reasoning. ● 6.18 Determine whether a value is a solution to an equation or inequality by using substitution to conclude whether a given value makes the equation or inequality true. ● 6.19 Write and solve an equation in the form of x+p=q or px=q for cases in which p,q, and x are all non-negative rational numbers to solve real-world and mathematical problems.	SUPPORTING STANDARDS ●

○ 6.19a Interpret the solution of an equation in the context of the problem. ● 6.20 Write and solve inequalities in the form of x > c, *x* < *c*, $x ge c$, or x le c$ to represent a constraint or condition in a real-world or mathematical problem. ○ 6.20a Interpret the solution of an inequality in the context of a problem. ○ 6.20b Represent the solutions of inequalities on a number line and explain that the solutions set may contain infinitely many solutions. ● 6.21: Identify, represent, and analyze two quantities that change in relationship to one another in real-world or mathematical situations. ○ 6.21a: Use tables, graphs, and equations to represent the relationship between independent and dependent variables.	

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
Strategies for determining the greatest common factor of two or more numbers.		Applying	B	
Strategies for determining the least common multiple of two or more numbers.		Applying	B	
Strategies for determining the prime factorization of a number.		Applying	B	
	Apply strategies for determining greatest common factors and least common multiples.	Applying	B	
	Apply strategies for determining the product of a number's prime factors in multiple forms which include exponential form and standard form.	Applying	B	
Correct usage of mathematical symbolism to		Applying	B	

model the terms sum, term, product, factor, quotient, variable, difference, constant, and coefficient when they appear 8in verbally stated contexts.				
Conventions for order of operations.		**Remembering**	**A**	
Conventions of using juxtaposition (5A or xy) to indicate multiplication.		**Remembering**	**A**	
	Translate fluently between verbally stated situations and algebraic models of the situation.	**Understanding**	**A**	
	Use operations (addition, subtraction, multiplication, division, and exponentiation) fluently with the conventions of parentheses and order of operations to evaluate expressions for specific values of variables in expressions	**Evaluating**	**C**	
	Use terminology related to algebraic expressions such as sum, term, product, factor, quotient, or coefficient, to communicate the meanings of the expression and the parts of the expression.	**Applying**	**B**	
The properties of operations, including inverse, identify, commutative, associative, and distributive and their appropriate application to be able to determine whether two expressions are equivalent.		**Applying**	**B**	
	Accurately use the properties of operations to produce equivalent forms of an algebraic expression when interpreting mathematical	**Applying**	**B**	

	and contextual situations.			
	Use mathematical reasoning to communicate the relationships between equivalent algebraic expressions	Evaluating	C	
The solution is the value of the variable that will make the equation or inequality true.				
That using various processes to identify the values that when substituted for the variable will make the equation true.		Understanding	A	
	Substitute specific values into algebraic equations or inequality and accurately perform operations of addition, subtraction, multiplication, division and exponentiation using order of operation.	Applying	B	
Correct translation between verbally stated situations and mathematical symbols and notation.		Applying	B	
How to write and solve a simple equation using non-negative rational numbers to solve mathematical and real-world problems.		Applying	B	
	Translate fluently between verbally stated situations and algebraic models of the situation.	Applying	B	
	Use inverse operations and properties of equality to produce solutions to equations of the forms $x + p = q$ or $px = q$.	Creating	D	
	Use logical reasoning and properties of equality to justify solutions, reasonableness	Evaluating	C	

	of solutions, and solution paths.			
Many real-world situations are represented by inequalities.		Applying	B	
The number line represents inequalities from various contextual and mathematical situations.		Applying	B	
	Translate fluently among verbally stated inequality situations, algebraic models of the situation (x > c or x)	Applying	B	
Roles of dependent and independent variables.		Understanding	A	
	Represent real world problems involving two quantities that change in relationship to one another using equations, graphs, and tables,	Applying	B	
	Use mathematical vocabulary to explain connections among representations of function contexts.	Evaluating	C	
	Analyze and interpret the relationship between the independent and the dependent variable in a given situation.	Analyzing	C	

KEY COMPONENTS

LEARNING TARGETS (incremental learning target by week)

- <u>Week 1:</u>
  - Day 1: I can identify equations and variables.
  - Day 2: I can use substitution to find solutions to equations.

KEY VOCABULARY

- Greatest common factor
- Least common multiple
- Exponential Form
- Prime Factorization
- Equivalent
- Non-negative rational numbers
- Inequalities
- Constraint

○ Day 3: I can use the properties of equality to keep both sides of an equation equal. ○ Day 4: I can identify which properties of equality are used to write equivalent expressions. ○ Day 5: I can write one-variable addition and subtraction equations. ● <u>Week 2:</u> ○ Day 1: I can use inverse relationships and properties of equality to solve one-step addition and subtraction equations. ○ Day 2: I can write one-variable multiplication and division equations. ○ Day 3: I can use inverse relationships and properties of equality to solve one-step multiplication and division equations. ○ Day 4: I can write and solve equations that involve fractions, decimals, and mixed numbers. ○ Day 5: Mid-Topic Checkpoint ● <u>Week 3:</u> ○ Day 1: I can understand the symbols required to write an inequality. ○ Day 2: I can Write inequalities to describe mathematical or real-world situations. ○ Day 3: I can describe solutions to an inequality. Represent solutions to an inequality on a number line. ○ Day 4: I can Identify dependent variables. Identify independent variables. ○ Day 5: I can analyze the relationship between variables by using tables ● <u>Week 4:</u> ○ Day 1: I can write Equations to represent the relationships between variables. ○ Day 2: I can analyze the relationship between dependent and independent variables using tables. ○ Day 3: I can analyze the relationship between dependent and independent variables using graphs. ○ Day 4: I can analyze the relationship between dependent and independent variables using equations. ○ Day 5: Topic 4-1 to 4-5 Review ● <u>Week 5</u> ○ Day 1: Topic 4-6 to 4-10 Review ○ Day 2: Unit 4 Test	● Factors ● Multiples ● Prime ● Relatively Prime ● Composite ● Expressions ● Term ● Coefficient ● Sum ● Product ● Factor ● Quotient ● Variable ● Constant ● Difference ● Evaluate ●	● Infinitely many solutions ● Substitution ● Order of operation ● Exponent ● Absolute value

○ Day 3: Reteach ○ Day 4: Reteach ○ Day 5: Reteach		
ESSENTIAL QUESTION(S) ● What procedures can be used to write and solve equations and inequalities?	**PRIOR KNOWLEDGE** ● In grade 5 students developed their understanding of numerical expressions. This prepared students to become proficient with equations, comparing and ordering numbers, and operations with whole numbers and fractions. ● In grade 5 students learned about graphing points in the first quadrant of the coordinate plane. They learned new vocabulary, including ordered pair, x-axis, y-axis, origin, x-coordinate, and y-coordinate. They used a table of ordered pairs to graph a line and used the line to solve a problem. Earlier in Grade 6, ● Students developed understanding of algebraic expressions, including evaluating algebraic Expressions, generating equivalent expressions, and simplifying algebraic expressions. ● Students graphed points with rational coordinates on a coordinate plane.	

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT

ACTIVITIES & RESOURCES		
Envision Resources Topic 4-1: Understand Equations and Solutions Topic 4-2: Apply Properties of Equality Topic 4-3: Write and Solve Addition and Subtraction Equations Topic 4-4: Write and Solve Multiplication and Division Equations Topic 4-5: Write and Solve Equations with Rational Numbers Topic 4-6: Understand and Write Inequalities Topic 4-7: Solve Inequalities Topic 4-8: Understand Dependent and Independent	**Other Resources**	**ACAP Resources**

Variables **Topic 4-9 Use Patterns to Write and Solve Equations** **Topic 4-10: Relate Tables, Graphs, and Equations**		
RTI	**EXTENSION OPPORTUNITIES**	

UNIT 5: Understand and Use Ratio and Rate	**DURATION: 5 weeks**
CONTENT STANDARDS	
PRIORITY STANDARDS ● **6.1 Use appropriate notations [a/b, a to b, a:b] to represent a proportional relationship between quantities and use ratio language to describe the relationship between quantities.** ● **6.2 Use unit rates to represent and describe ratio relationships.** ● **6.3 Use ratio and rate reasoning to solve mathematical and real-world problems (including but not limited to percent,**	**SUPPORTING STANDARDS** ●

measurement conversion, and equivalent ratios) using a variety of models, including tables of equivalent ratios, tape diagrams, double number lines, and equations.	

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
Characteristics of additive situations.		Understanding	A	
Characteristics of multiplicative situations		Understanding	A	
Rate and ratio language.		Applying	A	
Techniques for determining unit rates		Evaluating	C	
To use reasoning to find unit rates instead of a rule or using algorithms such as cross-products.		Analyzing	C	
Strategies for representing contexts involving rates and ratios including. tables of equivalent ratios, changing to unit rate, tape diagrams, double number lines, equations, and plots on coordinate planes.		Applying	B	
Strategies for finding equivalent ratios		Applying	B	
Strategies for using ratio reasoning to convert measurement units.		Applying	B	
Strategies to recognize that a conversion factor is a fraction equal to 1 since the quantity described in the numerator and		Applying	B	

denominator is the same.				
Strategies for converting between fractions, decimals and percents.		Applying	B	
Strategies for finding the whole when given the part and percent in a mathematical and contextual situation.		Applying	B	
Strategies for finding the part, given the whole and the percent in mathematical and contextual situations.		Applying	B	
Strategies for finding the percent, given the whole and the part in mathematical and contextual situations.		Applying	B	
	Compare and contrast additive vs. multiplicative contextual situations.	Analyzing	C	
	Identify a ratio as a part-to-part or a part-to whole comparison.	Remembering	A	
	Identify all ratios and describe them using "For every..., there are..."	Remembering	A	
	Represent multiplicative comparisons in ratio notation and language (e.g., using words such as "out of" or "to" before using the symbolic notation of the colon and then the fraction bar. for example, 3 out of 7, 3 to 5, 6:7 and then 4/5).	Applying	B	
	Explain relationships between ratios and the related unit rates.	Evaluating	C	

	Use unit rates to name the amount of either quantity in terms of the other quantity flexibly.	**Applying**	**B**	
	Represent contextual relationships as ratios.	**Applying**	**B**	
	Represent ratio and rate situations using a variety of strategies (e.g., tables of equivalent ratios, changing to unit rate, tape diagrams, double number line diagrams, equations, and plots on coordinate planes).	**Applying**	**B**	
	Use ratio, rates, and multiplicative reasoning to explain connections among representations and justify solutions in various contexts, including measurement, prices and geometry.	**Evaluating**	**C**	
	Understand the multiplicative relationship between ratio comparisons in a table by writing an equation.	**Analyzing**	**C**	
	Plot ratios as ordered pairs.	**Applying**	**B**	
	Solve and justify solutions for rate problems including unit pricing, constant speed, measurement conversions, and situations involving percents.	**Evaluating**	**C**	
	Solve problems and justify solutions when finding the whole given a part and the percent.	**Evaluating**	**C**	

	Model using an equivalent fraction and decimal to percent.	Applying	B	
	Use ratio reasoning, multiplication, and division to transform and interpret measurements.	Applying	B	

KEY COMPONENTS

LEARNING TARGETS (incremental learning target by week)

- Week 1:
  - Day 1: I can write ratios to compare quantities.
  - Day 2: I can use a Double Number Line Diagram to Solve a Ratio Problem.
  - Day 3: I can use multiplication to find Equivalent Ratios.
  - Day 4: I can use division to find equivalent Ratios.
  - Day 5: I can compare ratios.
- Week 2:
  - Day 1: I can compare ratios to solve problems.
  - Day 2: I can explore ratios in tables and graphs.
  - Day 3: I can graph ratios using repeated addition.
  - Day 4: Mid-Topic Checkpoint
  - Day 5: I can find equivalent rates.
- Week 3:
  - Day 1: I can compare quantities in two ways.
  - Day 2: I can compare to find the greater unit rate.
  - Day 3: I can compare to find the lesser unit rate.
  - Day 4: I can solve constant speed problems.
  - Day 5: I can solve unit price problems.
- Week 4:
  - Day 1: I can convert customary units of lengths.
  - Day 2: I can convert customary units of capacity.
  - Day 3: I can convert customary units of weight.
  - Day 4: I can convert metric units of length.
  - Day 5: I can convert metric units of capacity.
- <u>Week 5</u>
  - Day 1: I can convert metric units of Mass.
  - Day 2: I can convert from metric units to Customary Units.
  - Day 3: I can convert from customary units to metric units.

KEY VOCABULARY

- Ratio
- Ratio Language
- Part-to-Part
- Part-to-Whole
- Attributes
- Quantity
- Measures
- Fraction
- Unit rate
- Rate language
- Per
- Rate
- Rate reasoning
- Transform units
- Ratio Tables
- Double Number Line Diagram
- Percents
- Coordinate Plane
- Ordered Pairs
- Quadrant I
- Tape Diagrams
- Constant Speed

○ **Day 4: I can convert using two steps.** ○ **Day 5: Topic 5 Review** ● **<u>Week 6</u>** ○ **Day 1: Unit 5 Test**		
ESSENTIAL QUESTION(S) ● **What are ratios and rates?** ● **How can you use ratios and rates to describe quantities and solve problems?**	**PRIOR KNOWLEDGE** ***In Grade 5,*** ● ***Students used equivalent fractions to add and subtract fractions and mixed numbers with unlike denominators, and to multiply with fractions.*** ● ***They also learned to divide two whole numbers and get a quotient expressed as either a fraction or a mixed number.*** ● ***Students learned to convert measurements within a given measurement system by using multiplication and division.*** ● ***Students learned to graph points in the first quadrant of the coordinate plane.*** ***Earlier in Grade 6,*** ● ***Students develop fluency in adding, subtracting, multiplying, and dividing rational numbers.*** ● ***Students learned how to find the greatest common factor and the least common multiple of two numbers.*** ● ***Students solved one-step equations with rational numbers.***	

FORMATIVE ASSESSMENT	**SUMMATIVE ASSESSMENT**

ACTIVITIES & RESOURCES		
<u>Envision Resources</u> **Topic 5-1: Understand Ratios** **Topic 5-2: Generate Equivalent Ratios** **Topic 5-3: Compare Ratios** **Topic 5-4: Represent and Graph Ratios** **Topic 5-5: Understand Rate and Unit Rate** **Topic 5-6: Compare Unit Rate** **Topic 5-7: Solve Unit Rate Problems** **Topic 5-8: Ratio Reasoning: Convert Customary Units** **Topic 5-9: Ratio Reasoning: Convert Metric Units**	**<u>Other Resources</u>**	**<u>ACAP Resources</u>**

Topic 5-10: Relate Customary and Metric Units		
RTI	**EXTENSION OPPORTUNITIES**	

UNIT 6: Understand and Use Percent	DURATION: 2 weeks
CONTENT STANDARDS	
PRIORITY STANDARDS • 6.1 Use appropriate notations [a/b, a to b, a:b] to represent a proportional relationship between quantities and use ratio language to describe the relationship between quantities. • 6.3 Use ratio and rate reasoning to solve mathematical and real-world problems (including but not limited to percent, measurement conversion, and equivalent ratios) using a variety of models, including tables of equivalent ratios, tape diagrams, double number lines, and equations.	SUPPORTING STANDARDS •

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
Strategies for converting between fractions, decimals and percents.		Applying	B	
Strategies for finding the whole when given the part and percent in a mathematical and contextual situation.		Applying	B	
Strategies for finding the part, given the whole and the percent in mathematical and contextual situations.		Applying	B	
Strategies for finding the percent, given the whole and the part in mathematical and contextual situations.		Applying	B	
Strategies for representing contexts involving rates and ratios including. tables of equivalent ratios, changing to unit rate, tape diagrams, double number lines, equations, and plots on coordinate planes.		Applying	B	

Strategies for finding equivalent ratios		Applying	B	
Strategies for using ratio reasoning to convert measurement units.		Applying	B	
Strategies to recognize that a conversion factor is a fraction equal to 1 since the quantity described in the numerator and denominator is the same.		Applying	B	
Strategies for converting between fractions, decimals and percents.		Applying	B	
Strategies for finding the whole when given the part and percent in a mathematical and contextual situation.		Applying	B	
Strategies for finding the part, given the whole and the percent in mathematical and contextual situations.		Applying	B	
Strategies for finding the percent, given the whole and the part in mathematical and contextual situations.		Applying	B	
	Solve and justify solutions for rate problems including unit pricing, constant speed, measurement conversions, and situations involving percents.	Evaluating	C	
	Solve problems and justify solutions when finding the whole given a part and the percent.	Evaluating	C	

	Model using an equivalent fraction and decimal to percent.	**Applying**	**B**	
	Represent ratio and rate situations using a variety of strategies (e.g., tables of equivalent ratios, changing to unit rate, tape diagrams, double number line diagrams, equations, and plots on coordinate planes).	**Applying**	**B**	
	Use ratio, rates, and multiplicative reasoning to explain connections among representations and justify solutions in various contexts, including measurement, prices and geometry.	**Evaluating**	**C**	
	Understand the multiplicative relationship between ratio comparisons in a table by writing an equation.	**Analyzing**	**C**	
	Plot ratios as ordered pairs.	**Applying**	**B**	
	Solve and justify solutions for rate problems including unit pricing, constant speed, measurement conversions, and situations involving percents.	**Evaluating**	**C**	
	Solve problems and justify solutions when finding the whole given a part and the percent.	**Evaluating**	**C**	
	Model using an equivalent fraction and decimal to percent.	**Applying**	**B**	

	Use ratio reasoning, multiplication, and division to transform and interpret measurement.	Applying	B	

KEY COMPONENTS		
LEARNING TARGETS (incremental learning target by week) ● Week 1: ○ Day 1: I can represent percentages and find the percent of a whole. ○ Day 2: I can write equivalent values as fractions, decimals, and percents. ○ Day 3: I can write fractions as decimals and percents when the denominator of the fraction is not 100. ○ Day 4: I can represent a fraction greater than 100 or less than 1: ○ Day 5: Unit 6 Mid-Topic Checkpoint ● Week 2: ○ Day 1: I can estimate the percent of a number. ○ Day 2: I can find the percent of a number. ○ Day 3: I can find the whole when given a part and the percent. ○ Day 4: Unit 6 Review ○ Day 5: Unit 6 Test	**KEY VOCABULARY** ● Ratio ● Ratio Language ● Part-to-Part ● Part-to-Whole ● Attributes ● Quantity ● Measures ● Fraction ● Unit Rate ● Constant Speed	● Rate ● Rate reasoning ● Transform units ● Ratio Tables ● Double Number Line Diagram ● Percents ● Coordinate Plane ● Ordered Pairs ● Quadrant I ● Tape Diagrams
ESSENTIAL QUESTION(S) ● What is the meaning of percent? ● How can percent be estimated and found?	**PRIOR KNOWLEDGE** *In Grade 5,* ● *Students used equivalent fractions to add and subtract fractions and mixed numbers.* ● *Students used models, number sense, and properties to multiply decimals.* *Earlier in Grade 6,* ● *Students wrote ratios in fraction form and wrote equivalent ratios by multiplying or dividing both terms of the ratio by the same number.* ● *Students multiply decimals the same way they multiplied whole numbers and placed the decimal point in the product.*	

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT

ACTIVITIES & RESOURCES		
Envision Resources **Topic 6-1 Understand Percent** **Topic 6-2: Relate Fractions, Decimals, and Percent** **Topic 6-3: Represent Percents Greater than 100 or Less Than 1**	**Other Resources**	**ACAP Resources**
RTI	**EXTENSION OPPORTUNITIES**	

UNIT 7: Solve Area, Surface Area, and Volume Problems	DURATION: 3 weeks
CONTENT STANDARDS	
PRIORITY STANDARDS ● 6.11 Find the position of pairs of integers and other rational numbers on the coordinate plane. ○ 6.11c Identify (a,b) and (-a,b) as reflections across the y-axis. ○ 6.11d Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane, including finding distances between points with the same first or second coordinate. ● 6.15 Write, read, and evaluate expressions in which letters represent numbers in real-world contexts. ○ 6.15b Write expressions to represent verbal statements and real-world scenarios. ○ 6.15c Identify parts of an expression using mathematical terms such as sum, term, product, factor, quotient, and coefficient.	SUPPORTING STANDARDS ● 6.23 Calculate, interpret, and compare measures of center (mean, median, mode) and variability (range and interquartile range) in real-world data sets. ○ 6.23.a Determine which measure of center best represents a real-world data set. ○ 6.23.b Interpret the measures of center and variability in the context of a problem. ● 6.26 Calculate the area of triangles, special quadrilaterals, and other polygons by composing and decomposing them into known shapes. ○ 6.26.a Apply the techniques of composing and decomposing polygons to find area in the context of solving real-world and mathematical problems ● 6.27 Determine the surface area of three-dimensional figures by representing them with nets composed of rectangles and triangles to solve real-world and mathematical problems. ● 6.28:Apply previous understanding of volume of right rectangular prisms to those with fractional edge lengths to solve real-world and mathematical problems. ○ 6.28.a Use models (cubes or drawings) and the volume formulas (V = lwh and V = Bh) to find and compare volumes of right rectangular prisms.

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
Appropriate units for measuring area: square inches, square units, square feet, etc..		Understanding	A	
Strategies for composing and decomposing shapes to find area.		Applying	B	
Measurable attributes of objects, specifically area and surface area.		Analyzing	C	

Strategies for representing the surface area of a 3-D shape as a 2-D net.		**Applying**	**B**	
Measurable attributes of objects, specifically volume.		**Analyzing**	**C**	
Units of measurement, specifically unit cubes.				
Relationships between unit cubes and corresponding cubes with unit fraction edge lengths.		**Analyzing**	**C**	
Strategies for determining volume.		**Applying**	**B**	
Strategies for finding products of fractions.		**Applying**	**B**	
	Communicate the relationship between models of area and the associated real-world mathematical problems.	**Analyzing**	**C**	
	Use logical reasoning to choose and apply strategies for finding areas by composing and decomposing shapes.	**Analyzing**	**C**	
	Accurately compute area of rectangles using multiplication and the formula.	**Applying**	**B**	
	Communicate the relationships between rectangular models of area and multiplication problems.	**Analyzing**	**C**	
	Model the surface area of 3-D shapes using 2-D nets.	**Applying**	**B**	
	Accurately measure and compute the area of triangles and rectangles.	**Evaluating**	**C**	

	Strategically and fluently choose and apply strategies for finding surface areas of 3-D figures.	**Applying**	**B**	
	Communicate the relationships between rectangular models of volume and multiplication problems.	**Analyzing**	**C**	
	Model the volume of rectangles using manipulatives.	**Applying**	**B**	
	Accurately measure volume using cubes with unit fraction edge lengths.	**Evaluating**	**C**	
	Strategically and fluently choose and apply strategies for finding products of fractions.	**Applying**	**B**	
	Accurately compute products of fractions.	**Applying**	**B**	

KEY COMPONENTS

LEARNING TARGETS (incremental learning target by week)

- **Week 1:**
  - **Day 1: I can use a formula to find the areas of parallelograms and rhombuses.**
  - **Day 2: I can find the base or height of a parallelogram or rhombus when the area and the height or base are known.**
  - **Day 3: I can find the areas of triangles, including right triangles.**
  - **Day 4: I can find the corresponding base or height of a triangle.**
  - **Day 5: I can find the areas of trapezoids.**
- **Week 2:**
  - **Day 1: I can find the areas of kites.**
  - **Day 2: I can find the areas of polygons by composing and decomposing shapes, including polygons on the coordinate plane.**
  - **Day 3: Mid-Topic Checkpoint**

KEY VOCABULARY

- **Right triangles**
- **Special quadrilaterals**
- **Polygons**
- **Area**
- **Decompose**
- **Compose**
- **Nets**
- **Surface area**
- **Rectangular prism**
- **Triangular prism**
- **Square pyramid**
- **Rectangular pyramid**
- **Triangular pyramid**

○ **Day 4: I can represent solid figures using nets.** ○ **Day 5: I can find the surface area of rectangular prisms, including cubes.** ● **Week 3:** ○ **Day 1: I can find the surface area of triangular prisms.** ○ **Day 2: I can find the surface areas of square and triangular pyramids.** ○ **Day 3: I can find volume with fractional edge lengths.** ○ **Day 4: Unit 7 Review** ○ **Day 5: Unit 7 Test**		
ESSENTIAL QUESTION(S) ● **How can the areas of certain shapes be found?** ● **What are the meanings of surface area and volume and how can surface area and volume?**	**PRIOR KNOWLEDGE** ***In Grade 5,*** ● ***Students found the area of a rectangle with fractional side lengths by tiling it with unit squares of an appropriate fractional side length.*** ● ***Students were introduced to the concept of volume as the number of unit cubes needed to fill a solid.*** ● ***Students related volume to the operations of multiplication and addition and to the formulas V=lwh and V=bh, and they solved problems using the formulas.*** ***Earlier in Grade 6,*** ● ***Students drew polygons on the coordinate plane and solved problems involving these polygons.*** ● ***Students evaluated algebraic expressions.***	

FORMATIVE ASSESSMENT	**SUMMATIVE ASSESSMENT**

ACTIVITIES & RESOURCES		
<u>Envision Resources</u> **Topic 7-1: Find Area of Parallelograms and Rhombuses** **Topic 7-2: Solve Triangle Area Problems** **Topic 7-3: Find Area of Trapezoids and Kites** **Topic 7-4: Find Area of Polygons** **Topic 7-5: Represent Solid Figures Using Nets** **Topic 7-6: Find Surface Area of Prisms**	**<u>Other Resources</u>**	**<u>ACAP Resources</u>**

Topic 7-7: Find Surface Area of Pyramids **Topic 7-8: Find Volumes with Fractional Edge Lengths**		
RTI	**EXTENSION OPPORTUNITIES**	

UNIT 8: Display, Describe, and Summarize Data	**DURATION: 4 weeks**
CONTENT STANDARDS	

PRIORITY STANDARDS
•
	SUPPORTING STANDARDS
	• **6.22 Write examples and non-examples of statistical questions, explaining that a statistical question anticipates variability in the data related to the question.**
	• **6.23 Calculate, interpret, and compare measures of center (mean, median, mode) and variability (range and interquartile range) in real-world data sets.**
	• **6.24 Represent numerical data graphically, using dot plots, line plots, histograms, stem and leaf plots, and box plots.**
	  ○ **6.24.a Analyze the graphical representation of data by describing the center, spread, shape (including approximately symmetric or skewed), and unusual features (including gaps, peaks, clusters, and extreme values).**
	  ○ **6.24.b Use graphical representations of real-world data to describe the context from which they were collected.**

KNOWLEDGE (students need to know):	**SKILLS (students need to be able to do):**	**BLOOM'S TAXONOMY**	**QUAD**	**ACT**
Measures of the center and how they are affected by the data distribution and context.		**Evaluating**	**C**	

Measures of variability and how they are affected by the data distribution and context.		**Evaluating**	**C**	
Methods of determining mean, median, mode, interquartile range, and range.		**Applying**	**B**	
Characteristics of statistical and non-statistical questions.		**Understanding**	**A**	
How to use graphical representations of real-world data to describe context, center, spread and shape from which they were collected.		**Analyzing**	**C**	
Techniques for constructing line plots, stem and leaf plots, dot plots, histograms, and box plots.		**Creating**	**D**	
	Describe the nature of the attribute under investigation including how it was measured and its unit of measure using the context in which the data were collected.	**Analyzing**	**C**	
	Determine measures of center and variability for a set of numerical data.	**Evaluating**	**C**	
	Use characteristics of measures of center and variability to justify choices for summarizing and describing data.	**Evaluating**	**C**	
	Justify the classification of mathematical questions as statistical or non-statistical questions.	**Evaluating**	**C**	
	Organize and display data using dot plots, line plots, stem and leaf plots, histograms, and box plots.	**Analyzing**	**C**	
	Describe the nature of the attribute under investigation including how it was measured and its unit of measure using the context in which the data were	**Analyzing**	**C**	

	collected.			
	Describe the shape of numerical data distribution including patterns and extreme values.	Analyzing	C	
	Use graphical representations of real-world data to describe and summarize the context from which they were collected.	Applying	B	

KEY COMPONENTS		
LEARNING TARGETS (incremental learning target by week) ● Week 1: ○ Day 1: I can recognize Statistical Questions. ○ Day 2: I can summarize data using mean, median, and mode. ○ Day 3: I can display data in a box plot. ○ Day 4: I can interpret and analyze a box plot. ○ Day 5: I can organize data into equal intervals and display data in a frequency table or histogram ● Week 2: ○ Day 1: I can interpret and analyze a histogram. ○ Day 2: Unit 8 Mid-Topic Checkpoint ○ Day 3: I can calculate the mean absolute deviation (MAD) and interquartile range (IQR) of a data set. ○ Day 4: I can summarize data using measures of variability. ○ Day 5: I can select the most appropriate measure of center and variability for a data set. ● Week 3: ○ Day 1: I can use measures to describe data sets. ○ Day 2: I can describe the center, spread, and overall shape of a data set. ○ Day 3: I can summarize numerical data sets using measures of center and related measures of variability. ○ Day 4: Unit 8 Review ○ Day 5: Unit 8 Test	KEY VOCABULARY ● Statistical questions ● Variability ● Dot plots ● Histograms ● Box plots ● Stem and leaf plots ● Line plots ● Extreme values ● Outliers ● Gaps ● Clusters	● Symmetric ● Skewed ● Center ● Spread ● peaks ● 5 number summary ● Minimum ● Maximum ● Median ● lower quartile ● Upper quartile
ESSENTIAL QUESTION(S) ● How can data be described by a single number?	PRIOR KNOWLEDGE *In Grade 5,*	

• **How can tables and graphs be used to represent data and answer questions?**	• ***Students displayed numerical data using line plots, which are also called dot plots.*** ***Earlier in Grade 6,*** • ***Students developed fluency with adding, subtracting, multiplying, and dividing decimals.*** • ***Students also solved problems requiring the division of fractions and mixed numbers.***

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT

ACTIVITIES & RESOURCES

Envision Resources	Other Resources	ACAP Resources
Topic 8-1: Recognize Statistical Question **Topic 8-2: Summarize Data Using Mean, Median, Mode, and Range** **Topic 8-3: Display Data in Box Plots** **Topic 8-4: Display Data in Frequency Tables and Histograms** **Topic 8-5: Summarize Data Using Measures of Variability** **Topic 8-6: Choose Appropriate Statistical Measures** **Topic 8-7: Summarize Data Distributions**		

RTI	EXTENSION OPPORTUNITIES