2017-2018

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First Nine Weeks

Unit 1: Number and Base Ten Operations

- 5.NBT.1
- 5.NBT.2
- 5.NBT.3
    - 5.NBT.3a
    - 5.NBT.3b
- 5.NBT.4
- 5.NBT.5
- 5.NBT.6
- 5.NBT.7

Unit 2: Measurement and Data

- 5.MD.1
- 5.MD.2
- 5.MD.3
    - 5.MD.3a
    - 5.MD.3b

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Second Nine Weeks

Unit 2: Measurement and Data

- 5.MD.4
- 5.MD.5
    - 5.MD.5a
    - 5.MD.5b
    - 5.MD.5c

Unit 3: Operations and Algebraic Thinking

- 5.OA.1
- 5.OA.2
- 5.OA.3

Unit 4: Geometry

- 5.G.1
- 5.G.2
- 5.G.3
- 5.G.4

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Third Nine Weeks

Unit 5: Fractions

- 5.NF.1
- 5.NF.2
- 5.NF.3
- 5.NF.4ab
- 5.NF.5ab
- 5.NF.6
- 5.NF.7abc

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First Nine Weeks

Unit 1: Number and Base Ten Operation

Module 1: Understand the Place Value System	
Standards	**Mathematical Practices**
5.NBT.1 ● Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left (e.g., "In the number 3.33, the underlined digit represents 3/10, which is 10 times the amount represented by the digit to its right (3/100) and is 1/10 the amount represented by the digit to its left (3)).	MP.1. Make sense of problems and persevere in solving them. **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.** MP.5. Use appropriate tools strategically. **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.
5.NBT.2 ● Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.	MP.1. Make sense of problems and persevere in solving them. **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.** MP.5. Use appropriate tools strategically. **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
5.NBT.3 ● Read, write, and compare decimals to thousandths.	MP.1. Make sense of problems and persevere in solving them. **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. **MP.5. Use appropriate tools strategically.** MP.6. Attend to precision. **MP.7. Look for and make use of structure.**

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	MP.8. Look for and express regularity in repeated reasoning.
5.NBT.3a ● Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000)	MP.1. Make sense of problems and persevere in solving them. **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. **MP.5. Use appropriate tools strategically.** MP.6. Attend to precision. **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
5.NBT.3b ● Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.** MP.5. Use appropriate tools strategically. **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.
5.NBT.4 ● Use place value understanding to round decimals to any place.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.** MP.5. Use appropriate tools strategically**.** **MP.6. Attend to precision.** MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
Student Learning Target(s)	Essential Vocabulary

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● For a multi-digit number, tell what value each digit holds. For example, in 245, the 2 is in the hundreds place and has a value of 200. ● Explain the patterns of the Base Ten System (each position is 10 times the position to its right and 1/10 of the position to its left). ● Write an expression for a multi-digit number to show the quantity of each digit. For example: 345.67 is equivalent. ● Explain how the patterns of the powers of ten relate to numbers being multiplied by them. ● Explain 10^2 is the same as multiplying by 10 x 10, and the product of this is 100. ● Explain why the problem 6.2 x 10^2 is the same as 6.2 x 100. ● Use patterns and reasoning to place a decimal in a product or quotient. For example: The product of 3.1 x 10^2 must be close to 300 because 3.1 is 1/10 of the column to the left of it. ● How to multiply multi-digit numbers by a single digit number as well as multi-digit numbers by a two-digit number. close to 3 and 3 x 100 = 300, therefore the logical placement of the decimal is between the ones place and the tenths place. ● Read and write decimals to thousandths using base-ten numerals, number names, and expanded form. ● Convert numbers to word form and expanded form. ● Compare the decimal amount in the various forms and with varying decimal place values. ● Compare decimals to the thousandths place by using the symbols >, =, and <. ● Use visual models to show the value of each digit in a base ten decimal number.	● place value ● Decimal ● decimal point ● Patterns ● Multiply ● Divide ● Tenths ● Hundredths ● Thousandths ● greater than ● less than ● equal to ● <, >, = ● compare/comparison ● Round ● multiplication/multiply ● division/divide ● Products ● Quotients ● Dividends ● rectangular arrays ● area models ● addition/add ● subtraction/subtract ● (properties)-rules about how numbers work ● reasoning

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● Explain decimal equivalence by using visual models and/or fractional equivalence. ● Place decimals on a number line. ● Use the number line to determine what benchmark number the original number is closest to on the line.	

Supplement Resources Correlation

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
5.NBT.1 5.NBT.2 5.NBT.3 5.NBT.3a 5.NBT.3b 5.NBT.4	Lesson 1 Lesson 2 Lesson 3 Lesson 4	Lesson 1 Lesson 2 Lesson 3 Lesson 4

Module 2: Perform operations with multi-digit whole numbers and decimals to the hundredths

Standards	Mathematical Practices
5.NBT.5 ● Fluently multiply multi-digit whole numbers using the standard algorithm.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
5.NBT.6 ● Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.**

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based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** MP.6. Attend to precision. **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.
5.NBT.7 ● Add, subtract, multiply, and divide decimals to hundredths, using concrete models (to include, but not limited to: base ten blocks, decimal tiles, etc.) or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	MP.1. Make sense of problems and persevere in solving them. **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
Student Learning Target(s)	Essential Vocabulary
● Explain each of the steps in the standard multiplication algorithm and how place value plays an important role in each step. ● Explain how the partial products in the standard algorithm relate to the place value of the digits being multiplied. ● Complete all of steps in the standard algorithm with the results of multiplying by each digit in the multiplier. A two-digit multiplier results in two partial products. A three-digit multiplier results in three partial products, and so on. corresponding place values lined up appropriately. ● Adhere to precision and determine the reasonableness of the final product based on the numbers multiplied. ● Complete the standard algorithm fluently to multiply multi-digit numbers. ● Divide a whole number dividend with up to four digits by a two-digit divisor using any appropriate strategy.	● place value ● Decimal ● decimal point ● Patterns ● Multiply ● Divide ● Tenths ● Hundredths ● Thousandths ● greater than ● less than ● equal to ● <, >, = ● compare/comparison ● Round

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● Use multiple strategies for multi-digit division. Area models illustrate a connection to multiplication, partial quotients make a connection to place value, and concrete models (base- ten blocks) demonstrate the decomposition needed in the standard algorithm. ● Illustrate and explain the solution strategy using equations, rectangular arrays, and/or area models. ● Use number lines, concrete models (base-ten blocks or decimal grids) or visual models to illustrate addition, subtraction, multiplication, or division of decimal numbers. ● Apply knowledge of fraction multiplication and division to perform decimal operations. ● Use reasoning to place the decimal in a sum, difference, product, or quotient.	● multiplication/multiply ● division/divide ● Products ● Quotients ● Dividends ● rectangular arrays ● area models ● addition/add ● subtraction/subtract ● (properties)-rules about how numbers work ● reasoning

Supplement Resources Correlation

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
5.NBT.5 5.NBT.6 5.NBT.7	Lesson 5 Lesson 6 Lesson 7	Lesson 5 Lesson 6 Lesson 7

Unit 1: Measurement and Data

Module 1: Convert like measurement units within a given measurement system	
Standards	**Mathematical Practices**
5.MD.1 ● Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5	**MP.1. Make sense of problems and persevere in solving them.** MP.2. Reason abstractly and quantitatively. **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.**

cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	**MP.5. Use appropriate tools strategically.** MP.6. Attend to precision. **MP.7. Look for and make use of structure.** MP.5. Look for and express regularity in repeated reasoning.
Student Learning Target(s)	Essential Vocabulary
● Solve multiple-step, real- world problems using various units of measurement (within the same system). ● Explain equivalents within a given measurement system. ● Use knowledge of whole numbers, fractions, and decimals to compare/convert units of measurement within a system. ● Use visual models for conversions and solve measurement problems. ● Apply knowledge of base-ten place value to conceptually understand the conversion of metric units. ● Use measurement tools appropriately.	● line plot ● Length ● Mass ● liquid volume ● conversion/convert ● metric and customary units ● liquid volume ● Mass ● Length ● kilometer (km) ● meter (m) ● centimeter (cm) ● millimeter (mm) ● kilogram (kg) ● gram (g) ● milligram (mg) ● liter (l or L) ● milliliter (ml or mL) ● inch (in) ● foot (ft) ● yard (yd) ● mile (mi) ● ounce (oz)

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	● pound, (lb) ● cup © ● pint (pt) ● quart (qt) ● gallon (gal) ● Hour ● ● Minute ● second

Supplement Resources Correlation		
MCCRS	**Ready Mathematics Instruction**	**Ready Practice and Problem Solving**
5.MD.1	Lesson 21 Lesson 22	Lesson 21 Lesson 22

Module 2: Represent and interpret data	
Standards	**Mathematical Practices**
5.MD.2 ● Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**

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Student Learning Target(s)	Essential Vocabulary
● Collect real-world data using fractions 1/2, 1/4, and 1/8, and create a line plot to display the results visually. ● Use the results of the line plot to make observations and/or inferences about the data. ● Answer questions using a line plot that has already been created. ● Use fraction operations of addition, subtraction, multiplication, and division to solve real-world problems using line plots. ● Find the mean (average) of a set of data by leveling off the line plot and redistributing the data equally.	● line plot ● Length ● Mass ● liquid volume ● conversion/convert ● metric and customary units ● liquid volume ● Mass ● Length ● kilometer (km) ● meter (m) ● centimeter (cm) ● millimeter (mm) ● kilogram (kg) ● gram (g) ● milligram (mg) ● liter (l or L) ● milliliter (ml or mL) ● inch (in) ● foot (ft) ● yard (yd) ● mile (mi) ● ounce (oz) ● pound, (lb) ● cup © ● pint (pt)

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	● quart (qt) ● gallon (gal) ● Hour ● Minute ● second

Supplement Resources Correlation		
MCCRS	**Ready Mathematics Instruction**	**Ready Practice and Problem Solving**
5.MD.2	Lesson 23	Lesson 23

Module 3: Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	
Standards	**Mathematical Practices**
5.MD.3 ● Recognize volume as an attribute of solid figures and understand concepts of volume measurement.	**MP.1. Make sense of problems and persevere in solving them.** MP.2. Reason abstractly and quantitatively. **MP.3. Construct viable arguments and critique the reasoning of others.** MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. **MP.7. Look for and make use of structure.** MP.5. Look for and express regularity in repeated reasoning.
5.MD.3a ● A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.**

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	MP.7. Look for and make use of structure. **MP.8. Look for and express regularity in repeated reasoning.**
5.MD.3b ● A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
Student Learning Target(s)	Essential Vocabulary
● Explain the concept of volume. Provide examples in the real world that represent a measure of volume. ● Describe the difference between square units and cubic units. ● Make connections between exponents and the relationship they have with square units and cubic units. ● Explain how the unit cube is used to find the volume of an object. ● Explain that when finding volume, unit cubes must be packed without gaps or overlays inside a three-dimensional space. ● The total number of unit cubes (n) packed into a three-dimensional figure equals the volume of the figure. ● Look at examples of different sized prisms packed with unit cubes, some packed with no gaps or overlays and others packed in an unorganized manner, and explain which examples accurately represent the volume of the prism.	● line plot ● Length ● Mass ● liquid volume ● conversion/convert ● metric and customary units ● liquid volume ● Mass ● Length ● kilometer (km) ● meter (m) ● centimeter (cm) ● millimeter (mm) ● kilogram (kg) ● gram (g) ● milligram (mg) ● liter (l or L)

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	• milliliter (ml or mL) • inch (in) • foot (ft) • yard (yd) • mile (mi) • ounce (oz) • pound, (lb) • cup © • pint (pt) • quart (qt) • gallon (gal) • Hour • Minute • second

Supplement Resources Correlation

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
5.MD.3 5.MD.3a 5.MD.3b	Lesson 24	Lesson 24

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Second Nine Weeks

Unit 2: Measurement and Data

Module 3 (revisited): Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	
Standards	**Mathematical Practices**
5.MD.4 ● Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.5. Look for and express regularity in repeated reasoning.**
5.MD.5 ● Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
5.MD.5a ● Find the volume of a right rectangular prism with whole number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.**

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base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.	**MP.8. Look for and express regularity in repeated reasoning.**
5.MD.5b ● Apply the formulas V = l × w × h and V = b × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
5.MD.5c ● Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
Student Learning Target(s)	Essential Vocabulary
● Determine the volume of a rectangular prism using a concrete or pictorial example, by counting unit cubes. The unit cubes may be cubic centimeters, cubic inches, cubic feet, or other improvised units. (These examples should already have visible unit cubes associated with them. *For example: a cube or rectangular prism built from snap cubes or inch cubes or a drawing or picture of a cube/rectangular prism with individual unit cubes visible.)*	● line plot ● Length ● Mass ● liquid volume ● conversion/convert ● metric and customary units ● liquid volume ● Mass ● Length

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● Pack real-world prisms/cubes with unit cubes such as inch cubes, centimeter cubes, and improvised cubes. State the volume of a given prism/cube based on how many unit cubes it holds. ● Calculate the volume of realworld rectangular prisms by counting the unit cubes used for the length, width, and height and multiplying them to get the total number of unit cubes in the volume. ● Use addition to determine the number of unit cubes or volume in a three-dimensional shape. ● Solve real-world problems using the concepts related to volume. ● Discover the formulas for volume (l x w x h and b x h) based on their knowledge of packing unit cubes into three-dimensional figures and counting the cubes. ● Explain the different formulas V=l x w x h and V = b x h (l represents length, w represents width, h represents height, and b represents the area of the base). ● Find the volume for real- world problems using rectangular prisms with whole number side lengths. ● Find the volume of different rectangular prism/cubes by counting unit cubes and applying the formulas for volume. ● Combine two different rectangular prisms/cubes and determine the total volume of the combined prisms. Explain that if two prisms are combined, the total volume of one prism is added to the volume of the second prism.	● kilometer (km) ● meter (m) ● centimeter (cm) ● millimeter (mm) ● kilogram (kg) ● gram (g) ● milligram (mg) ● liter (l or L) ● milliliter (ml or mL) ● inch (in) ● foot (ft) ● yard (yd) ● mile (mi) ● ounce (oz) ● pound, (lb) ● cup © ● pint (pt) ● quart (qt) ● gallon (gal) ● Hour ● Minute ● second

Supplement Resources Correlation

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving

5.MD.4 5.MD.5 5.MD.5a 5.MD.5b 5.MD.5c	Lesson 25 Lesson 26 Lesson 27	Lesson 25 Lesson 26 Lesson 27

Unit 3: Operations and Algebraic Thinking

Module 1: Write and interpret numerical expressions	
Standards	**Mathematical Practices**
5.OA.1 ● Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** MP.6. Attend to precision. **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.
5.OA.2 ● Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8+7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** MP.6. Attend to precision.

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	MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
Student Learning Target(s)	Essential Vocabulary
● Evaluate expressions by solving within parentheses first, within brackets second, and finally within the braces. ● Recognize that not all problems will contain all the mathematical symbols, but when they are present, an order of operations must be followed to complete the problem. ● Use mathematical symbols appropriately to organize numerical expressions. ● Represent a word problem or real-world situation as a numeric expression. ● Write a problem in various equivalent expressions. ● Use parentheses and other mathematical symbols appropriately. ● Use these mathematical symbols appropriately to organize numerical expressions. ● Interpret numerical expressions. ● Evaluate, create, and write numerical expressions.	● Parentheses ● Brackets ● Braces ● Expression ● numerical patterns ● Rules ● ordered pairs ● coordinate plane

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Supplement Resources Correlation		
MCCRS	**Ready Mathematics Instruction**	**Ready Practice and Problem Solving**
5.OA.1 5.OA.2	Lesson 19	Lesson 19

Module 2: Analyze patterns and relationships	
Standards	**Mathematical Practices**
5.OA.3 ● Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.	MP.1. Make sense of problems and persevere in solving them. **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others**. **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** MP.6. Attend to precision. **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
Student Learning Target(s)	Essential Vocabulary
● Create real-world and mathematical problems that require graphing points in Quadrant I of a coordinate plane. ● Interpret coordinate values of points in the context of the situation. ● Calculate terms of an ordered pair given a rule that must be followed.	● Parentheses ● Brackets ● Braces ● Expression ● numerical patterns ● Rules ● ordered pairs ● coordinate plane

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Supplement Resources Correlation	

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
5.OA.3	Lesson 20	Lesson 20

Unit 4: Geometry

Module 1: Graph points on the coordinate plane to solve real-world and mathematical problems	
Standards	**Mathematical Practices**
5.G.1 ● Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).	MP.1. Make sense of problems and persevere in solving them. **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** MP.7. Look for and make use of structure. **MP.8. Look for and express regularity in repeated reasoning.**
5.G.2 ● Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.**

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	MP.5. Use appropriate tools strategically. **MP.6. Attend to precision.** MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
Student Learning Target(s)	Essential Vocabulary
● Identify the different parts of the coordinate grid. Know and understand the following: Origin, x-axis, y-axis, Ordered Pair, Quadrant I, Point/Coordinate ● Given an ordered pair, place a point on the correct coordinate. ● Given a point in Quadrant I, identify the correct ordered pair. ● Explain how to correctly move and locate points within Quadrant I. ● Locate points (coordinates) and follow directions on a coordinate grid that has been contextualized using a real-world example. ● Use maps, pictures, or drawings with a coordinate grid imposed upon it to create real-world math problems that involve locating and graphing points within Quadrant I. ● Create Quadrant I using an x-axis and y-axis and graph points within Quadrant I that relate to real-world data. ●	● coordinate system ● coordinate plane ● first quadrant ● Points ● Lines ● axis/axes ● X-axis ● Y-axis ● Horizontal ● Vertical ● intersection of lines ● Origin ● ordered pairs ● Coordinates ● X-coordinate ● Y-coordinate ● Attribute ● Category ● Subcategory ● properties (rules about how numbers work) ● Two-dimensional ● Polygon ● rhombus/rhombi

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	● Rectangle ● Square ● Triangle ● Quadrilateral ● Pentagon ● Hexagon ● Trapezoid ● half circle ● quarter circle ● kite

Supplement Resources Correlation		
MCCRS	**Ready Mathematics Instruction**	**Ready Practice and Problem Solving**
5.G.1 5.G.2	Lesson 28 Lesson 29	Lesson 28 Lesson 29

Module 2: Classify two-dimensional figures into categories based on their properties	
Standards	**Mathematical Practices**
5.G.3 ● Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically**. **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.

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5.G.4 ● Classify two-dimensional figures in a hierarchy based on properties.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
Student Learning Target(s)	Essential Vocabulary
● Given the attributes without a visual picture, a student should be able to classify and name the polygon. ● Sort polygons, especially quadrilaterals, into different subcategories by explaining the criterion by which they used to sort the polygons. ● Compare and contrast the different polygons. ● Justify, explain, and debate the categorizing of different types of polygons. ● Given the attributes without a visual picture, a student should be able to classify, draw, and name the polygon. ● Explain why squares are unique among quadrilaterals. ● Create a hierarchy of polygons, such as quadrilaterals, sorted with those with the most attributes and narrowing down to those with the fewest attributes.	● coordinate system ● coordinate plane ● first quadrant ● Points ● Lines ● axis/axes ● X-axis ● Y-axis ● Horizontal ● Vertical ● intersection of lines ● Origin ● ordered pairs ● Coordinates ● X-coordinate ● Y-coordinate ● Attribute ● Category ● Subcategory

5th Grade MCCRS Curriculum Map

	• properties (rules about how numbers work) • Two-dimensional • Polygon • rhombus/rhombi • Rectangle • Square • Triangle • Quadrilateral • Pentagon • Hexagon • Trapezoid • half circle • quarter circle • kite

Supplement Resources Correlation

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
5.G.3 5.G.4	Lesson 31 Lesson 30	Lesson 31 Lesson 30

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Third Nine Weeks

Unit 5: Functions

Module 1: Use equivalent fractions as a strategy to add and subtract fractions	
Standards	**Mathematical Practices**
5.NF.1 ● Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)	MP.1. Make sense of problems and persevere in solving them. **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
5.NF.2 ● Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result 2/5 +1/2 = 3/7, by observing that 3/7 < 1/2.	MP.1. Make sense of problems and persevere in solving them. **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** MP.6. Attend to precision. **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.
Student Learning Target(s)	Essential Vocabulary
● Find a common denominator and create equivalent fractions for given fractions or mixed numbers. ● Place a fraction or mixed number on a number line and then increase or decrease it in value (move on the number line) from this position to perform an operation (adding or subtracting).	● Fraction ● Numerator ● Denominator ● Operations ● multiplication/multiply ● division/divide

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● Use bar models or visual models to represent the adding or subtracting of fractions or mixed numbers with unlike denominators. ● Create equivalent fractions for given fractions or mixed numbers. ● Find a common denominator for given fractions or mixed numbers. ● Solve word problems involving addition and subtraction of fractions with like or unlike denominators. ● Use bar models, equations, or a number line to represent adding or subtracting of fractions with unlike denominators	● mixed numbers ● Product ● Quotient ● Partition ● equal parts ● Equivalent ● Factor ● unit fraction ● Area ● side lengths ● fractional sides lengths ● Scaling ● comparing

Supplement Resources Correlation

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
5.NF.1 5.NF.2	Lesson 10	Lesson 10

Module 2: Apply and extend previous understandings of multiplication and division to multiply and divide fractions	
Standards	**Mathematical Practices**
5.NF.3 ● Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving	MP.1. Make sense of problems and persevere in solving them. **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others.

5th Grade MCCRS Curriculum Map

division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. For example, interpret ¾ as the result of dividing 3 by 4, noting that ¾ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size ¾. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?	MP.4. Model with mathematics. **MP.5. Use appropriate tools strategically.** MP.6. Attend to precision. **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.
5.NF.4 ● Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.
5.NF.4a ● Interpret the product (a/b) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b. For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b × (c/d) = ac/bd.)	MP.1. Make sense of problems and persevere in solving them. **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** MP.6. Attend to precision. **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.
5.NF.4b ● Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.**

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the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	**MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.
5.NF.5 ● Interpret multiplication as scaling (resizing)	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.
5.NF.5a ● Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.
5.NF.5b ● Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence a/b = (n × a)/(n × b) to the effect of multiplying a/b by 1.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** MP.3. Construct viable arguments and critique the reasoning of others. **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** MP.8. Look for and express regularity in repeated reasoning.
5.NF.6	**MP.1. Make sense of problems and persevere in solving them.**

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● Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	**MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
5.NF.7 ● Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
5.NF.7a ● Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.	MP.1. Make sense of problems and persevere in solving them. **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
5.NF.7b ● Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.**

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	MP.7. Look for and make use of structure. **MP.8. Look for and express regularity in repeated reasoning.**
5.NF.7c ● Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.	**MP.1. Make sense of problems and persevere in solving them.** **MP.2. Reason abstractly and quantitatively.** **MP.3. Construct viable arguments and critique the reasoning of others.** **MP.4. Model with mathematics.** **MP.5. Use appropriate tools strategically.** **MP.6. Attend to precision.** **MP.7. Look for and make use of structure.** **MP.8. Look for and express regularity in repeated reasoning.**
Student Learning Target(s)	Essential Vocabulary
● Contextualize and decontextualize word problems involving division. ● Produce visual models (bar/ circle) to justify a division such as 7/8 (i.e., draw 7 wholes and 8 groups. Partition each whole into 8 pieces and then share the parts with the 8 groups). Each group will have seven pieces, and each piece will have a size of 1/8, thus each group will receive 7/8. ● Multiply a fraction or whole number by a fraction and interpret the product. ● Use visual fraction models and number lines to show the steps used in solving a problem involving multiplication by a fraction. ● Use benchmarks to estimate the product and determine if the solution is reasonable. ● Find the area of a rectangle with fractional side lengths using unit squares of the appropriate unit fraction side lengths. ● Find and explain the relationship between the fractional side lengths of the square unit and the fractional side lengths of the rectangle	● Fraction ● Numerator ● Denominator ● Operations ● multiplication/multiply ● division/divide ● mixed numbers ● Product ● Quotient ● Partition ● equal parts ● Equivalent ● Factor ● unit fraction ● Area ● side lengths ● fractional sides lengths ● Scaling

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● Compare the size of a product of two fractions to the size of one of the factors, without performing the indicated multiplication ● Predict the relative size of the product for a given multiplication problem based on the two factors in the problem. ● Use patterns to reason/ justify about the size of the product when multiplying a whole number by a fraction. ● Solve real-world multiplication problems involving fractions and mixed numbers by creating a visual model or equation to solve. ● Create visual models and divide unit fractions by whole numbers. ● Create word problems to represent division problems. ● Solve real-world word problems involving division of unit fractions by non-zero whole numbers.	● comparing

Supplement Resources Correlation

MCCRS	Ready Mathematics Instruction	Ready Practice and Problem Solving
5.NF.3 5.NF.4 5.NF.4a 5.NF.4b 5.NF.5 5.NF.5a 5.NF.5b 5.NF.6 5.NF.7 5.NF.7a 5.NF.7b 5.NF.7c	Lesson 12 Lesson 13 Lesson 14 Lesson 15 Lesson 16 Lesson 17 Lesson 18	Lesson 12 Lesson 13 Lesson 14 Lesson 15 Lesson 16 Lesson 17 Lesson 18

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