

Mathematics 5<sup>th</sup> Grade

**Common Core Standards for Mathematics**

**Content Standards**

**Operations and Algebraic Thinking**

**CCSS.MATH.CONTENT.5.OA.A:** Write and interpret numerical expressions.  
**CCSS.MATH.CONTENT.5.OA.B:** Analyze patterns and relationships.

**Number and Operations in Base Ten**

**CCSS.MATH.CONTENT.5.NBT.A:** Understand the place value system.  
**CCSS.MATH.CONTENT.5.NBT.B:** Perform operations with multi-digit whole numbers and with decimals to hundredths.

**Number and Operations-Fractions**

**CCSS.MATH.CONTENT.5.NF.A:** Use equivalent fractions as a strategy to add and subtract fractions.  
**CCSS.MATH.CONTENT.5.NF.B:** Apply and extend previous understandings of multiplication and division.

**Measurement and Data**

**CCSS.MATH.CONTENT.5.MD.A:** Convert like measurement units within a given measurement system.  
**CCSS.MATH.CONTENT.5.MD.B:** Represent and interpret data.  
**CCSS.MATH.CONTENT.5.MD.C:** Geometric measurement: understand concepts of volume.

**Geometry**

**CCSS.MATH.CONTENT.5.G.A:** Graph points on the coordinate plane to solve real-world and mathematical problems.  
**CCSS.MATH.CONTENT.5.G.B:** Classify two-dimensional figures into categories based on their properties.

**Mathematical Practices**

**CCSS.MATH.PRACTICE.MP1:** Make sense of problems and persevere in solving them.

**CCSS.MATH.PRACTICE.MP2:** Reason abstractly and quantitatively.

**CCSS.MATH.PRACTICE.MP3:** Construct viable arguments and critique the reasoning of others.

**CCSS.MATH.PRACTICE.MP4:** Model with mathematics.

**CCSS.MATH.PRACTICE.MP5:** Use appropriate tools strategically.

**CCSS.MATH.PRACTICE.MP6:** Attend to precision.

**CCSS.MATH.PRACTICE.MP7:** Look for and make use of structure.

**CCSS.MATH.PRACTICE.MP8:** Look for and express regularity in repeated reasoning.

\* Mathematical Practices are incorporated within all units.

**Technology**

Elmo, SMART Board, iPads, Chromebook, Google Classroom, ALEKS

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Standards	Essential Questions	Content	Skills	Assessment	Resources
<p><b>Place Value</b> CCSS.MATH.CONTENT.5.NBT.A</p>	<p><b>Place Value</b> How does the position of a digit in the number relate to its value?</p>	<p><b>Place Value</b> -Place value chart -Period -Place -Place value -Standard form -Expanded form -Word form -Decimal -Decimal point -Equivalent decimals -Powers of 10</p>	<p><b>Place Value</b> -Read, write and compare whole numbers through millions -Read and write whole numbers and decimal numbers in standard, expanded, and word form -Represent fractions as decimals in the powers of 10 -Read, write and compare decimals through thousandths -Order whole numbers and decimals using inequality symbols -Use place value understanding to round whole numbers and decimals -Explain patterns in the number of zeros of the product in the powers of 10</p>	<p><b>Place Value</b> -Quizzes -Tests</p>	<p><b>Place Value</b> -<i>My Math Grade 5</i> by McGraw-Hill (2016)</p>
<p><b>Multiplication: Whole Numbers</b> CCSS.MATH.CONTENT.5.NBT.A CCSS.MATH.CONTENT.5.NBT.B</p>	<p><b>Multiplication: Whole Numbers</b> How can different strategies be used to multiple whole numbers?</p>	<p><b>Multiplication: Whole Numbers</b> -Prime factorization -Exponent -Base -Power -Squared -Cubed -Distributive Property -Compatible numbers -Estimation</p>	<p><b>Multiplication: Whole Numbers</b> -Recall and use the patterns of prime factorization -Use powers and exponents -Explore multiplication using equations, rectangular arrays, and area models -Incorporate properties in multiplication -Multiply up to a three-digit number by a two-digit number -Use compatible numbers to determine if an answer is sensible</p>	<p><b>Multiplication: Whole Numbers</b> -Quizzes -Tests</p>	<p><b>Multiplication: Whole Numbers</b> -<i>My Math Grade 5</i> by McGraw-Hill (2016)</p>

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Standards	Essential Questions	Content	Skills	Assessment	Resources
<b>Division: Whole Numbers</b> CCSS.MATH.CONTENT.5.NBT.B CCSS.MATH.CONTENT.5.NFA.B	<b>Division: Whole Numbers</b> How can different strategies be used to divide whole numbers?	<b>Division: Whole Numbers</b> -Fact family -Unknown variable -Dividend -Divisor -Quotient -Remainder -Estimation	<b>Division: Whole Numbers</b> -Understand how division and multiplication are related -Explore division using equations, rectangular arrays, and area models -Divide up to a four-digit dividend and two-digit divisor -Understand how to interpret a remainder as a fraction -Use compatible numbers to determine if an answer is sensible	<b>Division: Whole Numbers</b> -Quizzes -Tests	<b>Division: Whole Numbers</b> - <i>My Math Grade 5</i> by McGraw-Hill (2016)
<b>Decimals: Addition and Subtraction</b> CCSS.MATH.CONTENT.5.NBT.A CCSS.MATH.CONTENT.5.NBT.B	<b>Decimals: Addition and Subtraction</b> How can place value and properties be used to add and subtract decimals?	<b>Decimals: Addition and Subtraction</b> -Commutative Property of Addition -Associative Property of Addition -Identity Property of Addition -Rounding	<b>Decimals: Addition and Subtraction</b> -Round decimal numbers using place value understanding -Compare decimal numbers using the inequality symbols -Add and subtract decimals using different methods -Add and subtract money -Apply the properties to add decimals mentally	<b>Decimals: Addition and Subtraction</b> -Quizzes -Tests	<b>Decimals: Addition and Subtraction</b> - <i>My Math Grade 5</i> by McGraw-Hill (2016)
<b>Decimals: Multiplication and Division</b> CCSS.MATH.CONTENT.5.NBT.A CCSS.MATH.CONTENT.5.NBT.B	<b>Decimals: Multiplication and Division</b> How is multiplying and dividing decimals similar to multiplying and dividing whole numbers?	<b>Decimals: Multiplication and Division</b> -Decimal -Estimate -Place value	<b>Decimals: Multiplication and Division</b> -Apply knowledge of multiplication and division to decimals -Explain patterns in the placement of the decimal point when a decimal is multiplied or divided	<b>Decimals: Multiplication and Division</b> -Quizzes -Tests	<b>Decimals: Multiplication and Division</b> - <i>My Math Grade 5</i> by McGraw-Hill (2016)

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<p><b>Expressions and Patterns</b>                      CCSS.MATH.CONTENT.5.OA.A                      CCSS.MATH.CONTENT.5.OA.B                      CCSS.MATH.CONTENT.5.G.A</p>	<p><b>Expressions and Patterns</b>                      How are patterns used to solve problems?</p>	<p><b>Expressions and Patterns</b>                      -Evaluate                      -Numerical expressions                      -Order of operations                      -Sequence                      -Term                      -Coordinate plane                      -Origin                      -Ordered pair                      -X-coordinate                      -Y-coordinate                      -Axis                      -Parallel                      -Perpendicular</p>	<p><b>Expressions and Patterns</b>                      -Distinguish between an expression and equation                      -Write and evaluate numerical expressions                      -Use the order of operations to evaluate expressions                      -Write verbal phrases as numerical expressions                      -Use number and operation symbols                      -Solve problem by working backwards                      -Generate numerical patterns and identify pattern relationships                      -Form and graph ordered pairs using the pattern relationship                      -Plot points on a coordinate plane                      -Graph points using the ordered pairs</p>	<p><b>Expressions and Patterns</b>                      -Quizzes                      -Tests</p>	<p><b>Expressions and Patterns</b>                      -<i>My Math Grade 5</i> by McGraw-Hill (2016)</p>

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<p><b>Fractions: Basics</b>                      CCSS.MATH.CONTENT.5.NF.A                      CCSS.MATH.CONTENT.5.NF.B</p>	<p><b>Fractions: Basics</b>                      How can the understanding of fractions be used to solve problems?</p>	<p><b>Fractions: Basics</b>                      -Numerator                      -Denominator                      -Equivalent fractions                      -Simplest form                      -Common factors                      -Greatest common factor                      -Multiples                      -Least common multiples                      -Least common denominator</p>	<p><b>Fractions: Basics</b>                      -Write fractions using numerators and denominators                      -Interpret a fraction as division of the numerator by the denominator                      -Determine common and greatest common factors of a set of numbers                      -Generate equivalent fractions by writing a fraction in simplest form                      -Determine the common and least common multiples of a set of numbers                      -Compare fractions by using the least common denominator                      -Use fraction equivalents to write fractions as decimals</p>	<p><b>Fractions: Basics</b>                      -Quizzes                      -Tests</p>	<p><b>Fractions: Basics</b>                      -<i>My Math Grade 5</i> by McGraw-Hill (2016)</p>
<p><b>Fractions: Addition and Subtraction</b>                      CCSS.MATH.CONTENT.5.NF.A</p>	<p><b>Fractions: Addition and Subtraction</b>                      How can equivalent fractions help add and subtract fractions?</p>	<p><b>Fractions: Addition and Subtraction</b>                      -Like fractions                      -Unlike fractions                      -Benchmark fraction                      -Number line                      -Rounding                      -Mixed numbers                      -Improper fractions                      -Rename</p>	<p><b>Fractions: Addition and Subtraction</b>                      -Add and subtract like and unlike fractions using multiple methods                      -Use number lines and benchmark fractions to round fractions                      -Use number sense and benchmark fractions to estimate sums and differences                      -Add and subtract mixed numbers                      -Use fraction equivalents to subtract with renaming</p>	<p><b>Fractions: Addition and Subtraction</b>                      -Quizzes                      -Tests</p>	<p><b>Fractions: Addition and Subtraction</b>                      -<i>My Math Grade 5</i> by McGraw-Hill (2016)</p>

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Standards	Essential Questions	Content	Skills	Assessment	Resources
<b>Fractions: Multiplication and Division</b> CCSS.MATH.CONTENT.5.NF.B	<b>Fractions: Multiplication and Division</b> How are fractions multiplied and divided?	<b>Fractions: Multiplication and Division</b> -Scaling -Unit fractions -Commutative Property of Multiplication -Reciprocal	<b>Fractions: Multiplication and Division</b> -Estimate products of fractions using compatible numbers and rounding -Multiply whole numbers and fractions using different methods -Multiply fractions by fractions -Multiply using mixed numbers -Interpret multiplication of fractions as scaling -Divide whole numbers by unit fractions -Use bar diagrams to divide whole numbers by unit fractions -Use bar diagrams to divide unit fractions by whole numbers	<b>Fractions: Multiplication and Division</b> -Quizzes -Tests	<b>Fractions: Multiplication and Division</b> - <i>My Math Grade 5</i> by McGraw-Hill (2016)
<b>Measurement</b> CCSS.MATH.CONTENT.5.MD.A CCSS.MATH.CONTENT.5.MD.B CCSS.MATH.CONTENT.5.MD.C	<b>Measurement</b> How can measurement conversions be used to solve real world problems?	<b>Measurement</b> -Conversion -Customary system -Metric system -Line plot -Fair share -Length -Weight -Capacity -Mass -Volume	<b>Measurement</b> -Convert measurements within a given system -Make a line plot to display a set of measurements -Estimate and measure the capacity of liquids -Apply formulas to measure	<b>Measurement</b> -Quizzes -Tests	<b>Measurement</b> - <i>My Math Grade 5</i> by McGraw-Hill (2016)
<b>Geometry</b> CCSS.MATH.CONTENT.5.G.B	<b>Geometry</b> How is geometry used to solve real world problems?	<b>Geometry</b> -Geometric shapes -Properties -Congruent	<b>Geometry</b> -Classify two-dimensional figures based on properties	<b>Geometry</b> -Quizzes -Tests	<b>Geometry</b> - <i>My Math Grade 5</i> by McGraw-Hill (2016)