

Florida Tutorials are designed specifically for the New Florida Standards for Math and English Language Arts and the Next Generation Sunshine State Standards (NGSSS) for science and social studies to prepare students for the Florida Standards Assessments and the NGSSS End-of-Course (EOC) exams.

Math Tutorials offer targeted instruction, practice and review designed to develop computational fluency, deepen conceptual understanding, and apply mathematical practices. They automatically identify and address learning gaps down to elementary-level content, using adaptive remediation to bring students to grade-level no matter where they start. Students engage with the content in an interactive, feedback-rich environment as they progress through standards-aligned modules. By constantly honing the ability to apply their knowledge in abstract and real world scenarios, students build the depth of knowledge and higher order skills required to demonstrate their mastery when put to the test.

In each module, the Learn It and Try It make complex ideas accessible to students through focused content, modeled logic and process, multi-modal representations, and personalized feedback as students reason through increasingly challenging problems. The Review It offers a high impact summary of key concepts and relates those concepts to students' lives. The Test It assesses students' mastery of the module's concepts, providing granular performance data to students and teachers after each attempt. To help students focus on the content most relevant to them, unit-level pretests and posttests can quickly identify where students are strong and where they're still learning.

## Unit 1: Ratios and Rates

### • RATIOS

- MA.6.AR.3.1: Given a real-world context, write and interpret ratios to show the relative sizes of two quantities using appropriate notation: /, to, or : where 0.
- MA.6.AR.3.5: Solve mathematical and real-world problems involving ratios, rates and unit rates, including comparisons, mixtures, ratios of lengths and conversions within the same measurement system.
- MA.6.AR.3.2: Given a real-world context, determine a rate for a ratio of quantities with different units. Calculate and interpret the corresponding unit rate.
- MA.6.AR.3.3: Extend previous understanding of fractions and numerical patterns to generate or complete a two- or three-column table to display equivalent part-to-part ratios and part-to-part-to-whole ratios.
- MA.6.GR.1.1: Extend previous understanding of the coordinate plane to plot rational number ordered pairs in all four quadrants and on both axes. Identify the - or -axis as the line of reflection when two ordered pairs have an opposite - or -coordinate.
- MA.6.AR.3.1: Given a real-world context, write and interpret ratios to show the relative sizes of two quantities using appropriate notation: /, to, or : where 0.

- **RATES AND UNIT RATES**

- MA.6.AR.3.5: Solve mathematical and real-world problems involving ratios, rates and unit rates, including comparisons, mixtures, ratios of lengths and conversions within the same measurement system.
- MA.6.AR.3.2: Given a real-world context, determine a rate for a ratio of quantities with different units. Calculate and interpret the corresponding unit rate.
- MA.6.AR.3.1: Given a real-world context, write and interpret ratios to show the relative sizes of two quantities using appropriate notation: /, to, or : where 0.

- **SOLVING PERCENT PROBLEMS**

- MA.6.AR.3.4: Apply ratio relationships to solve mathematical and real-world problems involving percentages using the relationship between two quantities.
- MA.6.NSO.3.5: Rewrite positive rational numbers in different but equivalent forms including fractions, terminating decimals and percentages.

- **UNIT CONVERSIONS**

- MA.6.AR.3.1: Given a real-world context, write and interpret ratios to show the relative sizes of two quantities using appropriate notation: /, to, or : where 0.
- MA.6.AR.3.5: Solve mathematical and real-world problems involving ratios, rates and unit rates, including comparisons, mixtures, ratios of lengths and conversions within the same measurement system.
- MA.6.AR.3.1: Given a real-world context, write and interpret ratios to show the relative sizes of two quantities using appropriate notation: /, to, or : where 0.

## Unit 2: Number Sense

- **DIVIDING FRACTIONS**

- MA.6.NSO.2.2: Extend previous understanding of multiplication and division to compute products and quotients of positive fractions by positive fractions, including mixed numbers, with procedural fluency.
- MA.6.NSO.2.3: Solve multi-step real-world problems involving any of the four operations with positive multi-digit decimals or positive fractions, including mixed numbers.

- **SOLVING PROBLEMS BY DIVIDING FRACTIONS**

- MA.6.NSO.2.2: Extend previous understanding of multiplication and division to compute products and quotients of positive fractions by positive fractions, including mixed numbers, with procedural fluency.
- MA.6.NSO.2.3: Solve multi-step real-world problems involving any of the four operations with positive multi-digit decimals or positive fractions, including mixed numbers.

- **DECIMAL OPERATIONS**

- MA.6.NSO.2.3: Solve multi-step real-world problems involving any of the four operations with positive multi-digit decimals or positive fractions, including mixed numbers.
- MA.6.NSO.2.1: Multiply and divide positive multi-digit numbers with decimals to the thousandths, including using a standard algorithm with procedural fluency.
- **GREATEST COMMON FACTOR AND LEAST COMMON MULTIPLE**
- MA.6.NSO.3.2: Rewrite the sum of two composite whole numbers having a common factor, as a common factor multiplied by the sum of two whole numbers.
- MA.6.NSO.3.1: Given a mathematical or real-world context, find the greatest common factor and least common multiple of two whole numbers.

### Unit 3: Signed Numbers

- **SIGNED NUMBERS**

- MA.6.NSO.1.1: Extend previous understanding of numbers to define rational numbers. Plot, order and compare rational numbers.
- MA.6.NSO.1.2: Given a mathematical or real-world context, represent quantities that have opposite direction using rational numbers. Compare them on a number line and explain the meaning of zero within its context.

- **INEQUALITIES AND COMPARISON**

- MA.6.NSO.1.1: Extend previous understanding of numbers to define rational numbers. Plot, order and compare rational numbers.
- MA.6.AR.1.2: Translate a real-world written description into an algebraic inequality in the form of  $>$ ,  $<$ , or  $\geq$ . Represent the inequality on a number line.

- **ABSOLUTE VALUE**

- MA.6.NSO.1.3: Given a mathematical or real-world context, interpret the absolute value of a number as the distance from zero on a number line. Find the absolute value of rational numbers.
- MA.6.NSO.1.4: Solve mathematical and real-world problems involving absolute value, including the comparison of absolute value.

### Unit 4: Adding and Subtracting Rational Numbers

- **ADDING RATIONAL NUMBERS**

- MA.6.NSO.4.1: Apply and extend previous understandings of operations with whole numbers to add and subtract integers with procedural fluency.
- MA.6.NSO.1.2: Given a mathematical or real-world context, represent quantities that have opposite direction using rational numbers. Compare them on a number line and explain the meaning of zero within its context.
- MA.6.NSO.1.3: Given a mathematical or real-world context, interpret the absolute value of a number as the distance from zero on a number line. Find the absolute value of rational

numbers.

- **SUBTRACTING RATIONAL NUMBERS**

- MA.6.NSO.4.1: Apply and extend previous understandings of operations with whole numbers to add and subtract integers with procedural fluency.
- MA.6.NSO.1.3: Given a mathematical or real-world context, interpret the absolute value of a number as the distance from zero on a number line. Find the absolute value of rational numbers.
- MA.6.NSO.1.4: Solve mathematical and real-world problems involving absolute value, including the comparison of absolute value.

- **USING PROPERTIES TO ADD AND SUBTRACT RATIONAL NUMBERS**

- MA.6.NSO.4.1: Apply and extend previous understandings of operations with whole numbers to add and subtract integers with procedural fluency.

## Unit 5: Multiplying and Dividing Rational Numbers

- **MULTIPLYING RATIONAL NUMBERS**

- MA.6.NSO.4.2: Apply and extend previous understandings of operations with whole numbers to multiply and divide integers with procedural fluency.

- **DIVIDING RATIONAL NUMBERS**

- MA.6.NSO.4.2: Apply and extend previous understandings of operations with whole numbers to multiply and divide integers with procedural fluency.

- **USING PROPERTIES TO MULTIPLY AND DIVIDE RATIONAL NUMBERS**

- MA.6.NSO.4.2: Apply and extend previous understandings of operations with whole numbers to multiply and divide integers with procedural fluency.

## Unit 6: The Coordinate Plane

- **PLOTTING POINTS IN THE COORDINATE PLANE**

- MA.6.GR.1.3: Solve mathematical and real-world problems by plotting points on a coordinate plane, including finding the perimeter or area of a rectangle.
- MA.6.NSO.1.1: Extend previous understanding of numbers to define rational numbers. Plot, order and compare rational numbers.
- MA.6.GR.1.1: Extend previous understanding of the coordinate plane to plot rational number ordered pairs in all four quadrants and on both axes. Identify the  $x$ - or  $y$ -axis as the line of reflection when two ordered pairs have an opposite  $x$ - or  $y$ -coordinate.
- MA.6.GR.1.1: Extend previous understanding of the coordinate plane to plot rational number ordered pairs in all four quadrants and on both axes. Identify the  $x$ - or  $y$ -axis as the line of reflection when two ordered pairs have an opposite  $x$ - or  $y$ -coordinate.
- MA.6.GR.1.1: Extend previous understanding of the coordinate plane to plot rational number ordered pairs in all four quadrants and on both axes. Identify the  $x$ - or  $y$ -axis as the line of

reflection when two ordered pairs have an opposite  $x$  or  $y$ -coordinate.

- MA.6.GR.1.2: Find distances between ordered pairs, limited to the same  $x$ -coordinate or the same  $y$ -coordinate, represented on the coordinate plane.

#### • **QUADRANTS AND AXES**

- MA.6.GR.1.3: Solve mathematical and real-world problems by plotting points on a coordinate plane, including finding the perimeter or area of a rectangle.
- MA.6.GR.1.1: Extend previous understanding of the coordinate plane to plot rational number ordered pairs in all four quadrants and on both axes. Identify the  $x$  or  $y$ -axis as the line of reflection when two ordered pairs have an opposite  $x$  or  $y$ -coordinate.
- MA.6.GR.1.1: Extend previous understanding of the coordinate plane to plot rational number ordered pairs in all four quadrants and on both axes. Identify the  $x$  or  $y$ -axis as the line of reflection when two ordered pairs have an opposite  $x$  or  $y$ -coordinate.
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#### • **USING GRAPHS TO SOLVE PROBLEMS**

- MA.6.GR.1.3: Solve mathematical and real-world problems by plotting points on a coordinate plane, including finding the perimeter or area of a rectangle.
- MA.6.GR.1.2: Find distances between ordered pairs, limited to the same  $x$ -coordinate or the same  $y$ -coordinate, represented on the coordinate plane.
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- MA.6.NSO.1.4: Solve mathematical and real-world problems involving absolute value, including the comparison of absolute value.
- MA.6.GR.1.2: Find distances between ordered pairs, limited to the same  $x$ -coordinate or the same  $y$ -coordinate, represented on the coordinate plane.

- MA.6.GR.1.2: Find distances between ordered pairs, limited to the same  $x$ -coordinate or the same  $y$ -coordinate, represented on the coordinate plane.

### Unit 7: Numerical and Algebraic Expressions

#### • EXPONENTS

- MA.6.AR.1.3: Evaluate algebraic expressions using substitution and order of operations.
- MA.6.NSO.3.3: Evaluate positive rational numbers and integers with natural number exponents.
- MA.6.AR.1.1: Given a mathematical or real-world context, translate written descriptions into algebraic expressions and translate algebraic expressions into written descriptions.

#### • WRITING EXPRESSIONS

- MA.6.AR.1.1: Given a mathematical or real-world context, translate written descriptions into algebraic expressions and translate algebraic expressions into written descriptions.

#### • UNDERSTANDING PARTS OF EXPRESSIONS

- MA.6.AR.1.1: Given a mathematical or real-world context, translate written descriptions into algebraic expressions and translate algebraic expressions into written descriptions.

### Unit 8: Evaluating Expressions

#### • EVALUATING EXPRESSIONS

- MA.6.AR.1.3: Evaluate algebraic expressions using substitution and order of operations.
- MA.6.NSO.3.3: Evaluate positive rational numbers and integers with natural number exponents.

#### • EQUIVALENT EXPRESSIONS

- MA.6.AR.1.3: Evaluate algebraic expressions using substitution and order of operations.
- MA.6.AR.1.4: Apply the properties of operations to generate equivalent algebraic expressions with integer coefficients.

#### • WRITING EXPRESSIONS TO SOLVE PROBLEMS

- MA.6.AR.1.1: Given a mathematical or real-world context, translate written descriptions into algebraic expressions and translate algebraic expressions into written descriptions.
- MA.6.AR.1.3: Evaluate algebraic expressions using substitution and order of operations.

### Unit 9: Solving Equations and Inequalities

#### • SOLUTIONS OF EQUATIONS AND INEQUALITIES

- MA.6.AR.2.1: Given an equation or inequality and a specified set of integer values, determine which values make the equation or inequality true or false.

#### • SOLVING ADDITION EQUATIONS

- MA.6.AR.2.2: Write and solve one-step equations in one variable within a mathematical or real-world context using addition and subtraction, where all terms and solutions are integers.
- **SOLVING MULTIPLICATION EQUATIONS**
- MA.6.AR.2.3: Write and solve one-step equations in one variable within a mathematical or real-world context using multiplication and division, where all terms and solutions are integers.
- **SOLVING INEQUALITIES**
- MA.6.AR.1.2: Translate a real-world written description into an algebraic inequality in the form of  $>$ ,  $<$ , or  $\geq$ . Represent the inequality on a number line.
- MA.6.AR.2.1: Given an equation or inequality and a specified set of integer values, determine which values make the equation or inequality true or false.
- MA.6.AR.1.2: Translate a real-world written description into an algebraic inequality in the form of  $>$ ,  $<$ , or  $\geq$ . Represent the inequality on a number line.
- MA.6.NSO.1.1: Extend previous understanding of numbers to define rational numbers. Plot, order and compare rational numbers.
- MA.6.AR.1.1: Given a mathematical or real-world context, translate written descriptions into algebraic expressions and translate algebraic expressions into written descriptions.
- MA.6.AR.1.2: Translate a real-world written description into an algebraic inequality in the form of  $>$ ,  $<$ , or  $\geq$ . Represent the inequality on a number line.
- MA.6.AR.1.2: Translate a real-world written description into an algebraic inequality in the form of  $>$ ,  $<$ , or  $\geq$ . Represent the inequality on a number line.

## Unit 10: Geometry

- **AREA**
- MA.6.GR.2.1: Derive a formula for the area of a right triangle using a rectangle. Apply a formula to find the area of a triangle.
- MA.6.GR.2.2: Solve mathematical and real-world problems involving the area of quadrilaterals and composite figures by decomposing them into triangles or rectangles.
- **VOLUME**
- MA.6.GR.2.3: Solve mathematical and real-world problems involving the volume of right rectangular prisms with positive rational number edge lengths using a visual model and a formula.
- **COORDINATE GEOMETRY**
- MA.6.GR.1.3: Solve mathematical and real-world problems by plotting points on a coordinate plane, including finding the perimeter or area of a rectangle.
- MA.6.GR.1.1: Extend previous understanding of the coordinate plane to plot rational number ordered pairs in all four quadrants and on both axes. Identify the  $x$ - or  $y$ -axis as the line of reflection when two ordered pairs have an opposite  $x$ - or  $y$ -coordinate.



- MA.6.GR.1.2: Find distances between ordered pairs, limited to the same  $x$ -coordinate or the same  $y$ -coordinate, represented on the coordinate plane.
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- **SOLID FIGURES**

- MA.6.GR.2.4: Given a mathematical or real-world context, find the surface area of right rectangular prisms and right rectangular pyramids using the figures net.

### Unit 11: Introduction to Statistics

- **STATISTICAL QUESTIONS AND DATA DISTRIBUTIONS**

- MA.6.DP.1.1: Recognize and formulate a statistical question that would generate numerical data.
- MA.6.DP.1.2: Given a numerical data set within a real-world context, find and interpret mean, median, mode and range.
- MA.6.DP.1.4: Given a histogram or line plot within a real-world context, qualitatively describe and interpret the spread and distribution of the data, including any symmetry, skewness, gaps, clusters, outliers and the range.

- **MEASURES OF CENTER AND VARIABILITY**

- MA.6.DP.1.2: Given a numerical data set within a real-world context, find and interpret mean, median, mode and range.

- **BOX PLOTS**

- MA.6.DP.1.3: Given a box plot within a real-world context, determine the minimum, the lower quartile, the median, the upper quartile and the maximum. Use this summary of the data to describe the spread and distribution of the data.
- MA.6.DP.1.2: Given a numerical data set within a real-world context, find and interpret mean, median, mode and range.
- MA.6.DP.1.5: Create box plots and histograms to represent sets of numerical data within real-world contexts.

- **DOT PLOTS AND HISTOGRAMS**



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- MA.6.DP.1.5: Create box plots and histograms to represent sets of numerical data within real-world contexts.

## **Unit 12: Summarizing Data**

### **• COLLECTING DATA**

- MA.6.DP.1.5: Create box plots and histograms to represent sets of numerical data within real-world contexts.

### **• SUMMARIZING DATA USING MEASURES OF CENTER AND VARIABILITY**

- MA.6.DP.1.2: Given a numerical data set within a real-world context, find and interpret mean, median, mode and range.
- MA.6.DP.1.3: Given a box plot within a real-world context, determine the minimum, the lower quartile, the median, the upper quartile and the maximum. Use this summary of the data to describe the spread and distribution of the data.
- MA.6.DP.1.4: Given a histogram or line plot within a real-world context, qualitatively describe and interpret the spread and distribution of the data, including any symmetry, skewness, gaps, clusters, outliers and the range.

### **• CHOOSING APPROPRIATE MEASURES TO SUMMARIZE DATA SETS**

- MA.6.DP.1.4: Given a histogram or line plot within a real-world context, qualitatively describe and interpret the spread and distribution of the data, including any symmetry, skewness, gaps, clusters, outliers and the range.
- MA.6.DP.1.6: Given a real-world scenario, determine and describe how changes in data values impact measures of center and variation.