South Carolina Tutorials are designed specifically for the South Carolina College and Career Readiness Standards and the South Carolina Academic Standards to prepare students for the South Carolina End-of-Course Examination Program (EOCEP), ACT Aspire, and the South Carolina Palmetto Assessment of State Standards (SCPASS).

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.

1. RATIOS AND RATES

- **RATIOS**
    - **6.RP.1** *Interpret the concept of a ratio as the relationship between two quantities, including part to part and part to whole.*
    - **6.RP.2.a** *Translate between multiple representations of ratios (i.e., a/b, a:b, a to b, visual models).*
    - **6.RP.3.f** *Solve one-step problems involving ratios and unit rates (e.g., dimensional analysis).*
    - **6.RP.3.a** *Create a table consisting of equivalent ratios and plot the results on the coordinate plane.*
    - **6.RP.3.b** *Use multiple representations, including tape diagrams, tables, double number lines, and equations, to find missing values of equivalent ratios.*
    - **6.RP.3.c** *Use two tables to compare related ratios.*
    - **6.NS.6.d** *Plot rational numbers on number lines and ordered pairs on coordinate planes.*
    - **6.NS.8.a** *Plot points in all four quadrants to represent the problem.*

- **RATES AND UNIT RATES**
    - **6.RP.2.b** *Recognize that a rate is a type of ratio involving two different units.*
    - **6.RP.2.c** *Convert from rates to unit rates.*
    - **6.RP.3.d** *Apply concepts of unit rate to solve problems, including unit pricing and constant speed.*
    - **6.RP.3.e** *Understand that a percentage is a rate per 100 and use this to solve problems involving wholes, parts, and percentages.*
    - **6.RP.3.f** *Solve one-step problems involving ratios and unit rates (e.g., dimensional analysis).*

- **SOLVING PERCENT PROBLEMS**
    - **6.RP.3.e** *Understand that a percentage is a rate per 100 and use this to solve problems involving wholes, parts, and percentages.*

- **UNIT CONVERSIONS**
    - **6.RP.3.f** *Solve one-step problems involving ratios and unit rates (e.g., dimensional analysis).*

2. DIVIDING FRACTIONS

- **DIVIDING FRACTIONS**
  - **6.NS.1** *Compute and represent quotients of positive fractions using a variety of procedures (e.g., visual models, equations, and real-world situations).*

- **SOLVING PROBLEMS BY DIVIDING FRACTIONS**
  - **6.NS.1** *Compute and represent quotients of positive fractions using a variety of procedures (e.g., visual models, equations, and real-world situations).*

3. NUMBER SENSE

- **DIVIDING MULTI-DIGIT WHOLE NUMBERS**
  - **6.NS.2** *Fluently divide multi-digit whole numbers using a standard algorithmic approach.*

- **DECIMAL OPERATIONS**
  - **6.NS.3** *Fluently add, subtract, multiply and divide multi-digit decimal numbers using a standard algorithmic approach.*

- **GREATEST COMMON FACTOR AND LEAST COMMON MULTIPLE**
  - **6.NS.4.a** *Compute the greatest common factor (GCF) of two numbers both less than or equal to 100.*
  - **6.NS.4.c** *Express sums of two whole numbers, each less than or equal to 100, using the distributive property to factor out a common factor of the original addends.*
  - **6.NS.4.b** *Compute the least common multiple (LCM) of two numbers both less than or equal to 12.*

4. SIGNED NUMBERS

- **SIGNED NUMBERS**
  - **6.NS.5** *Understand that the positive and negative representations of a number are opposites in direction and value. Use integers to represent quantities in real-world situations and explain the meaning of zero in each situation.*
  - **6.NS.6.a** *Understand the concept of opposite numbers, including zero, and their relative locations on the number line.*

- **INEQUALITIES AND COMPARISON**
  - **6.NS.7.b** *Interpret statements using less than ($<$), greater than ($>$), and equal to ($=$) as relative locations on the number line.*
  - **6.NS.7.c** *Use concepts of equality and inequality to write and to explain real-world and mathematical situations.*
  - **6.EEI.8.a** *Write an inequality of the form $x > c$ or $x < c$ and graph the solution set on a number line.*
  - **6.NS.7.a** *Interpret statements using equal to ($=$) and not equal to ($\neq$).*

- **ABSOLUTE VALUE**
  - **6.NS.7.d** *Understand that absolute value represents a number's distance from zero on the number line and use the absolute value of a rational number to represent real-world situations.*
  - **6.NS.7.e** *Recognize the difference between comparing absolute values and ordering rational numbers. For negative rational numbers, understand that as the absolute value increases, the value of the negative number decreases.*

5. THE COORDINATE PLANE

- **PLOTTING POINTS IN THE COORDINATE PLANE**
  - **6.NS.6.d** *Plot rational numbers on number lines and ordered pairs on coordinate planes.*
  - **6.NS.8.a** *Plot points in all four quadrants to represent the problem.*
  - **6.NS.8.b** *Find the distance between two points when ordered pairs have the same x-coordinates or same y-coordinates.*

- **QUADRANTS AND AXES**

- - **6.NS.6.b** *Understand that the signs of the coordinates in ordered pairs indicate their location on an axis or in a quadrant on the coordinate plane.*
  - **6.NS.6.d** *Plot rational numbers on number lines and ordered pairs on coordinate planes.*
  - **6.NS.8.a** *Plot points in all four quadrants to represent the problem.*
  - **6.NS.6.c** *Recognize when ordered pairs are reflections of each other on the coordinate plane across one axis, both axes, or the origin.*

- **USING GRAPHS TO SOLVE PROBLEMS**
  - **6.NS.8.b** *Find the distance between two points when ordered pairs have the same x-coordinates or same y-coordinates.*
  - **6.NS.8.c** *Relate finding the distance between two points in a coordinate plane to absolute value using a number line.*
  - **6.NS.6.d** *Plot rational numbers on number lines and ordered pairs on coordinate planes.*
  - **6.NS.8.a** *Plot points in all four quadrants to represent the problem.*
  - **6.GM.3.b** *Find the length of an edge if the vertices have the same x-coordinates or same y-coordinates.*

6. NUMERICAL AND ALGEBRAIC EXPRESSIONS

- **EXPONENTS**
  - **6.EEI.1** *Write and evaluate numerical expressions involving whole-number exponents and positive rational number bases using the Order of Operations.*
  - **6.EEI.2.c** *Evaluate real-world and algebraic expressions for specific values using the Order of Operations. Grouping symbols should be limited to parentheses, braces, and brackets. Exponents should be limited to whole-numbers.*
  - **6.EEI.2.a** *Translate between algebraic expressions and verbal phrases that include variables.*
  - **6.EEI.9.c** *Translate among graphs, tables, and equations.*

- **WRITING EXPRESSIONS**
  - **6.EEI.2.a** *Translate between algebraic expressions and verbal phrases that include variables.*
  - **6.EEI.6** *Write expressions using variables to represent quantities in real-world and mathematical situations. Understand the meaning of the variable in the context of the situation.*

- **UNDERSTANDING PARTS OF EXPRESSIONS**
  - **6.EEI.2.a** *Translate between algebraic expressions and verbal phrases that include variables.*
  - **6.EEI.2.b** *Investigate and identify parts of algebraic expressions using mathematical terminology, including term, coefficient, constant, and factor.*

- **EVALUATING EXPRESSIONS**
  - **6.EEI.1** *Write and evaluate numerical expressions involving whole-number exponents and positive rational number bases using the Order of Operations.*
  - **6.EEI.2.c** *Evaluate real-world and algebraic expressions for specific values using the Order of Operations. Grouping symbols should be limited to parentheses, braces, and brackets. Exponents should be limited to whole-numbers.*

- **EQUIVALENT EXPRESSIONS**
  - **6.EEI.2.c** *Evaluate real-world and algebraic expressions for specific values using the Order of Operations. Grouping symbols should be limited to parentheses, braces, and brackets. Exponents should be limited to whole-numbers.*
  - **6.EEI.3** *Apply mathematical properties (e.g., commutative, associative, distributive) to generate equivalent expressions.*
  - **6.EEI.4** *Apply mathematical properties (e.g., commutative, associative, distributive) to justify that two expressions are equivalent.*

7. EXPRESSIONS AND EQUATIONS

- **WRITING EXPRESSIONS TO SOLVE PROBLEMS**
  - **6.EEI.2.a** *Translate between algebraic expressions and verbal phrases that include variables.*
  - **6.EEI.6** *Write expressions using variables to represent quantities in real-world and mathematical situations. Understand the*

meaning of the variable in the context of the situation.

- ○ **6.EEI.2.c** *Evaluate real-world and algebraic expressions for specific values using the Order of Operations. Grouping symbols should be limited to parentheses, braces, and brackets. Exponents should be limited to whole-numbers.*
- ○ **6.EEI.9.a** *Write an equation that models a relationship between independent and dependent variables.*

- **INDEPENDENT AND DEPENDENT VARIABLES**
  - ○ **6.EEI.2.a** *Translate between algebraic expressions and verbal phrases that include variables.*
  - ○ **6.EEI.6** *Write expressions using variables to represent quantities in real-world and mathematical situations. Understand the meaning of the variable in the context of the situation.*
  - ○ **6.EEI.9.a** *Write an equation that models a relationship between independent and dependent variables.*
  - ○ **6.EEI.9.b** *Analyze the relationship between independent and dependent variables using graphs and tables.*

- **MULTIPLE REPRESENTATIONS: TABLES, GRAPHS, AND EQUATIONS**
  - ○ **6.EEI.9.b** *Analyze the relationship between independent and dependent variables using graphs and tables.*
  - ○ **6.EEI.9.c** *Translate among graphs, tables, and equations.*
  - ○ **6.EEI.6** *Write expressions using variables to represent quantities in real-world and mathematical situations. Understand the meaning of the variable in the context of the situation.*

8. SOLVING EQUATIONS AND INEQUALITIES

- **SOLUTIONS OF EQUATIONS AND INEQUALITIES**
  - ○ **6.EEI.5** *Understand that if any solutions exist, the solution set for an equation or inequality consists of values that make the equation or inequality true.*
  - ○ **6.EEI.8.b** *Recognize that inequalities have infinitely many solutions.*

- **SOLVING ADDITION EQUATIONS**
  - ○ **6.EEI.5** *Understand that if any solutions exist, the solution set for an equation or inequality consists of values that make the equation or inequality true.*
  - ○ **6.EEI.7** *Write and solve one-step linear equations in one variable involving nonnegative rational numbers for real-world and mathematical situations.*

- **SOLVING MULTIPLICATION EQUATIONS**
  - ○ **6.EEI.5** *Understand that if any solutions exist, the solution set for an equation or inequality consists of values that make the equation or inequality true.*
  - ○ **6.EEI.7** *Write and solve one-step linear equations in one variable involving nonnegative rational numbers for real-world and mathematical situations.*

- **SOLVING INEQUALITIES**
  - ○ **6.EEI.5** *Understand that if any solutions exist, the solution set for an equation or inequality consists of values that make the equation or inequality true.*
  - ○ **6.EEI.8.b** *Recognize that inequalities have infinitely many solutions.*
  - ○ **6.EEI.8.a** *Write an inequality of the form $x > c$ or $x < c$ and graph the solution set on a number line.*
  - ○ **6.EEI.2.a** *Translate between algebraic expressions and verbal phrases that include variables.*

9. GEOMETRY

- **AREA**
  - ○ **6.GM.1** *Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.*

- **VOLUME**

- **6.GM.2** *Use visual models (e.g., model by packing) to discover that the formulas for the volume of a right rectangular prism (V = lwh, V = Bh) are the same for whole or fractional edge lengths. Apply these formulas to solve real-world and mathematical problems.*

- ### COORDINATE GEOMETRY
  - **6.NS.6.b** *Understand that the signs of the coordinates in ordered pairs indicate their location on an axis or in a quadrant on the coordinate plane.*
  - **6.NS.6.d** *Plot rational numbers on number lines and ordered pairs on coordinate planes.*
  - **6.NS.8.a** *Plot points in all four quadrants to represent the problem.*
  - **6.NS.8.b** *Find the distance between two points when ordered pairs have the same x-coordinates or same y-coordinates.*
  - **6.GM.3.a** *Given coordinates of the vertices, draw a polygon in the coordinate plane.*
  - **6.GM.3.b** *Find the length of an edge if the vertices have the same x-coordinates or same y-coordinates.*
  - **6.NS.8.c** *Relate finding the distance between two points in a coordinate plane to absolute value using a number line.*

- ### SOLID FIGURES
  - **6.GM.4** *Unfold three-dimensional figures into two-dimensional rectangles and triangles (nets) to find the surface area and to solve real-world and mathematical problems.*

10. INTRODUCTION TO STATISTICS

- ### STATISTICAL QUESTIONS AND DATA DISTRIBUTIONS
  - **6.DS.1** *Differentiate between statistical and non-statistical questions.*
  - **6.DS.2** *Use center (mean, median, mode), spread (range, interquartile range, mean absolute value), and shape (symmetrical, skewed left, skewed right) to describe the distribution of a set of data collected to answer a statistical question.*
  - **6.DS.3** *Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.*
  - **6.DS.5.c** *Give measures of center (median, mean).*
  - **6.DS.5.g** *Describe the impact that inserting or deleting a data point has on the measures of center (median, mean) for a data set.*

- ### MEASURES OF CENTER AND VARIABILITY
  - **6.DS.2** *Use center (mean, median, mode), spread (range, interquartile range, mean absolute value), and shape (symmetrical, skewed left, skewed right) to describe the distribution of a set of data collected to answer a statistical question.*
  - **6.DS.3** *Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.*
  - **6.DS.5.c** *Give measures of center (median, mean).*
  - **6.DS.5.g** *Describe the impact that inserting or deleting a data point has on the measures of center (median, mean) for a data set.*

- ### BOX PLOTS
  - **6.DS.4** *Select and create an appropriate display for numerical data, including dot plots, histograms, and box plots.*
  - **6.DS.2** *Use center (mean, median, mode), spread (range, interquartile range, mean absolute value), and shape (symmetrical, skewed left, skewed right) to describe the distribution of a set of data collected to answer a statistical question.*

- ### DOT PLOTS AND HISTOGRAMS
  - **6.DS.4** *Select and create an appropriate display for numerical data, including dot plots, histograms, and box plots.*

11. SUMMARIZING DATA

- ### COLLECTING DATA
  - **6.DS.5.a** *State the sample size.*
  - **6.DS.5.b** *Describe the qualitative aspects of the data (e.g., how it was measured, units of measurement).*

- **6.DS.2** *Use center (mean, median, mode), spread (range, interquartile range, mean absolute value), and shape (symmetrical, skewed left, skewed right) to describe the distribution of a set of data collected to answer a statistical question.*

- **SUMMARIZING DATA USING MEASURES OF CENTER AND VARIABILITY**
  - **6.DS.5.d** *Find measures of variability (interquartile range, mean absolute deviation) using a number line.*
  - **6.DS.2** *Use center (mean, median, mode), spread (range, interquartile range, mean absolute value), and shape (symmetrical, skewed left, skewed right) to describe the distribution of a set of data collected to answer a statistical question.*
  - **6.DS.3** *Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.*
  - **6.DS.5.c** *Give measures of center (median, mean).*
  - **6.DS.5.g** *Describe the impact that inserting or deleting a data point has on the measures of center (median, mean) for a data set.*

- **CHOOSING APPROPRIATE MEASURES TO SUMMARIZE DATA SETS**
  - **6.DS.2** *Use center (mean, median, mode), spread (range, interquartile range, mean absolute value), and shape (symmetrical, skewed left, skewed right) to describe the distribution of a set of data collected to answer a statistical question.*
  - **6.DS.3** *Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.*
  - **6.DS.5.c** *Give measures of center (median, mean).*
  - **6.DS.5.f** *Justify the choices for measure of center and measure of variability based on the shape of the distribution.*
  - **6.DS.5.g** *Describe the impact that inserting or deleting a data point has on the measures of center (median, mean) for a data set.*