Tennessee Tutorials are designed specifically for the Tennessee Academic Standards to prepare students for the Tennessee Comprehensive Assessment Program (TCAP) and the TNReady assessments.

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: Ratio and Rates

- **RATIOS**
  - 6.RP.A.1: Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. Make a distinction between ratios and fractions.
  - 6.RP.A.3a: Use ratio and rate reasoning to solve real-world and mathematical problems (e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations). Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.
- **RATES AND UNIT RATES**
  - 6.RP.A.2: Understand the concept of a unit rate / associated with a ratio : with 0. Use rate language in the context of a ratio relationship.
  - 6.RP.A.3b: Use ratio and rate reasoning to solve real-world and mathematical problems (e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations). Solve unit rate problems including those involving unit pricing and constant speed.

Unit 2: Percents and Conversions

Copyright© Edmentum Inc. All Rights Reserved.

- **SOLVING PERCENT PROBLEMS**
  - 6.RP.A.3c: Use ratio and rate reasoning to solve real-world and mathematical problems (e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations). Find a percent of a quantity as a rate per 100 (e.g., 30 of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.
- **UNIT CONVERSIONS**
  - 6.RP.A.3d: Use ratio and rate reasoning to solve real-world and mathematical problems (e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations). Use ratio reasoning to convert customary and metric measurement units (within the same system); manipulate and transform units appropriately when multiplying or dividing quantities.

Unit 3: Dividing Fractions

- **DIVIDING FRACTIONS**
  - 6.NS.A.1: Interpret and compute quotients of fractions, and solve real-world and mathematical problems involving division of fractions by fractions (e.g., connecting visual fraction models and equations to represent the problem is suggested).
- **SOLVING PROBLEMS BY DIVIDING FRACTIONS**
  - 6.NS.A.1: Interpret and compute quotients of fractions, and solve real-world and mathematical problems involving division of fractions by fractions (e.g., connecting visual fraction models and equations to represent the problem is suggested).

Unit 4: Number Sense

- **DIVIDING MULTI-DIGIT WHOLE NUMBERS**
  - 6.NS.B.2: Fluently divide multi-digit numbers using a standard algorithm.
- **DECIMAL OPERATIONS**
  - 6.NS.B.3: Fluently add, subtract, multiply, and divide multi-digit decimals using a standard algorithm and making connections to previous conceptual work with each operation.
- **GREATEST COMMON FACTOR AND LEAST COMMON MULTIPLE**
  - 6.NS.B.4: Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1100 with a common factor as a multiple of a sum of two whole numbers with no common factor.

Unit 5: Signed Numbers

- **SIGNED NUMBERS**
  - 6.NS.C.5: Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation as well as describing situations in which opposite quantities can combine to make 0.

Copyright© Edmentum Inc. All Rights Reserved.

- 6.NS.C.6c: Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
- 6.NS.C.6a: Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself.

- **INEQUALITIES AND COMPARISON**
  - 6.NS.C.7a: Understand ordering and absolute value of rational numbers. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.
  - 6.NS.C.7b: Understand ordering and absolute value of rational numbers. Write, interpret, and explain statements of order for rational numbers in real-world contexts.
- **ABSOLUTE VALUE**
  - 6.NS.C.7c: Understand ordering and absolute value of rational numbers. Understand the absolute value of a rational number as its distance from 0 on the number line and distinguish comparisons of absolute value from statements about order in a real-world context.
  - 6.NS.C.7b: Understand ordering and absolute value of rational numbers. Write, interpret, and explain statements of order for rational numbers in real-world contexts.

Unit 6: The Coordinate Plane

- **PLOTTING POINTS IN THE COORDINATE PLANE**
  - 6.NS.C.6c: Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
  - 6.NS.C.8: Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
  - 6.NS.C.6b: Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
- **QUADRANTS AND AXES**

Copyright© Edmentum Inc. All Rights Reserved.

- 6.NS.C.6c: Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
- 6.NS.C.8: Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
- 6.NS.C.6b: Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.

- **USING GRAPHS TO SOLVE PROBLEMS**
  - 6.NS.C.8: Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
  - 6.G.A.3: Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side that joins two vertices (vertical or horizontal segments only). Apply these techniques in the context of solving real-world and mathematical problems.

Unit 7: Formulating and Simplifying Expressions

- **EXPONENTS**
  - 6.EE.A.1: Write and evaluate numerical expressions involving whole-number exponents.
- **WRITING EXPRESSIONS**
  - 6.EE.A.2a: Write, read, and evaluate expressions in which variables stand for numbers. Write expressions that record operations with numbers and with variables.
  - 6.EE.B.6: Use variables to represent numbers and write expressions when solving real-world and mathematical problems; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
  - 6.EE.A.2b: Write, read, and evaluate expressions in which variables stand for numbers. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.
- **WRITING EXPRESSIONS TO SOLVE PROBLEMS**
  - 6.EE.A.2c: Write, read, and evaluate expressions in which variables stand for numbers. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

Copyright© Edmentum Inc. All Rights Reserved.

- 6.EE.B.6: Use variables to represent numbers and write expressions when solving real-world and mathematical problems; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
- 6.EE.A.2a: Write, read, and evaluate expressions in which variables stand for numbers. Write expressions that record operations with numbers and with variables.

Unit 8: Algebraic Expressions

- **UNDERSTANDING PARTS OF EXPRESSIONS**
  - 6.EE.A.2b: Write, read, and evaluate expressions in which variables stand for numbers. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.
- **EVALUATING EXPRESSIONS**
  - 6.EE.A.2c: Write, read, and evaluate expressions in which variables stand for numbers. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).
- **EQUIVALENT EXPRESSIONS**
  - 6.EE.A.4: Identify when expressions are equivalent (i.e., when the expressions name the same number regardless of which value is substituted into them).
  - 6.EE.A.3: Apply the properties of operations (including, but not limited to, commutative, associative, and distributive properties) to generate equivalent expressions.

Unit 9: Solving Equations and Inequalities 1

- **SOLUTIONS OF EQUATIONS AND INEQUALITIES**
  - 6.EE.B.5: Understand that a solution to an equation or inequality is the value(s) that makes that statement true. Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
  - 6.EE.B.7: Solve real-world and mathematical problems by writing and solving one-step equations of the form + = , = , = , and / = for cases in which , , and are all nonnegative rational numbers and 0.
  - 6.EE.B.6: Use variables to represent numbers and write expressions when solving real-world and mathematical problems; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
- **SOLVING ADDITION EQUATIONS**
  - 6.EE.B.7: Solve real-world and mathematical problems by writing and solving one-step equations of the form + = , = , = , and / = for cases in which , , and are all nonnegative rational numbers and 0.

Unit 10: Solving Equations and Inequalities 2

- **SOLVING MULTIPLICATION EQUATIONS**

Copyright© Edmentum Inc. All Rights Reserved.

- 6.EE.B.7: Solve real-world and mathematical problems by writing and solving one-step equations of the form + = , = , = , and / = for cases in which , , and are all nonnegative rational numbers and 0.

- **SOLVING INEQUALITIES**
  - 6.EE.B.8: Interpret and write an inequality of the form , , , or which represents a condition or constraint in a real-world or mathematical problem. Recognize that inequalities have infinitely many solutions; represent solutions of inequalities on number line diagrams.

Unit 11: Expressions and Equations

- **INDEPENDENT AND DEPENDENT VARIABLES**
  - 6.EE.C.9b: Use variables to represent two quantities in a real-world problem that change in relationship to one another. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.
  - 6.EE.C.9a: Use variables to represent two quantities in a real-world problem that change in relationship to one another. Write an equation in the form of = where , , and are all non-negative and 0, to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable.
  - 6.EE.C.9a: Use variables to represent two quantities in a real-world problem that change in relationship to one another. Write an equation in the form of = where , , and are all non-negative and 0, to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable.
- **MULTIPLE REPRESENTATIONS: TABLES, GRAPHS, AND EQUATIONS**
  - 6.EE.C.9b: Use variables to represent two quantities in a real-world problem that change in relationship to one another. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.
  - 6.EE.C.9a: Use variables to represent two quantities in a real-world problem that change in relationship to one another. Write an equation in the form of = where , , and are all non-negative and 0, to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable.

Unit 12: Area and Volume

- **AREA**
  - 6.G.A.1: Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; know and apply these techniques in the context of solving real-world and mathematical problems.
- **VOLUME**
  - 6.G.A.2: Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas = and = where is the area of the base to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

Copyright© Edmentum Inc. All Rights Reserved.

Unit 13: Geometry

- **COORDINATE GEOMETRY**
  - 6.NS.C.8: Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
  - 6.G.A.3: Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side that joins two vertices (vertical or horizontal segments only). Apply these techniques in the context of solving real-world and mathematical problems.
- **SOLID FIGURES**
  - 6.G.A.4: Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

Unit 14: Introduction to Statistics

- **STATISTICAL QUESTIONS AND DATA DISTRIBUTIONS**
  - 6.SP.A.1: Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.
  - 6.SP.A.2: Understand that a set of data collected to answer a statistical question has a distribution which can be described by its measures of center (mean, median, mode), measures of variation (range only), and overall shape.
- **MEASURES OF CENTER AND VARIABILITY**
  - 6.SP.A.3: Recognize that a measure of center (mean, median, mode) 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.SP.A.2: Understand that a set of data collected to answer a statistical question has a distribution which can be described by its measures of center (mean, median, mode), measures of variation (range only), and overall shape.
  - 6.SP.B.5c: Summarize numerical data sets in relation to their context. Give quantitative measures of center (median and/or mean) and variability (range) as well as describing any overall pattern with reference to the context in which the data were gathered.

Unit 15: Statistical Displays

- **BOX PLOTS**
  - 6.SP.B.5c: Summarize numerical data sets in relation to their context. Give quantitative measures of center (median and/or mean) and variability (range) as well as describing any overall pattern with reference to the context in which the data were gathered.
  - 6.SP.B.4: Display a single set of numerical data using dot plots (line plots), box plots, pie charts and stem plots.
- **DOT PLOTS AND HISTOGRAMS**

Copyright© Edmentum Inc. All Rights Reserved.

- 6.SP.B.4: Display a single set of numerical data using dot plots (line plots), box plots, pie charts and stem plots.

Unit 16: Summarizing Data

- **COLLECTING DATA**
  - 6.SP.B.5a: Summarize numerical data sets in relation to their context. Report the number of observations.
  - 6.SP.B.5b: Summarize numerical data sets in relation to their context. Describe the nature of the attribute under investigation, including how it was measured and its units of measurement.
- **SUMMARIZING DATA USING MEASURES OF CENTER AND VARIABILITY**
  - 6.SP.A.3: Recognize that a measure of center (mean, median, mode) 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.SP.B.5c: Summarize numerical data sets in relation to their context. Give quantitative measures of center (median and/or mean) and variability (range) as well as describing any overall pattern with reference to the context in which the data were gathered.
- **CHOOSING APPROPRIATE MEASURES TO SUMMARIZE DATA SETS**
  - 6.SP.B.5c: Summarize numerical data sets in relation to their context. Give quantitative measures of center (median and/or mean) and variability (range) as well as describing any overall pattern with reference to the context in which the data were gathered.
  - 6.SP.B.5d: Summarize numerical data sets in relation to their context. Relate the choice of measures of center to the shape of the data distribution and the context in which the data were gathered.
  - 6.SP.A.3: Recognize that a measure of center (mean, median, mode) 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.

Copyright© Edmentum Inc. All Rights Reserved.