ROBERTSON COUNTY SCHOOLS

MASTERY GUIDE

FIFTH GRADE

FIRST NINE WEEKS

MATH

Numbers and Operations

5.1.1a. Read and write numbers from thousandths to millions.
5.1.1b. Name the place value of a given digit from thousandths to millions.
5.1.1c. Use various models to show relationships among whole numbers, fractions, mixed numbers, and decimals (e.g., number lines, base ten blocks, Venn diagrams, hundred boards).
5.1.1d. Communicate using mathematical language and symbols.

5.1.2a. Use commutative, associative, and identity properties.
5.1.2b. Explain and demonstrate the inverse nature of addition and subtraction.

5.1.3b. Explain why one form of a number might be more useful for computation than another form.
5.1.3d. **Add, subtract, multiply, and divide whole numbers** and decimals.

Fractions and Decimals

5.1.1e. Model proper fractions, improper fractions, and mixed numbers.
5.1.1g. Recognize and generate equivalent forms of commonly used fractions, decimals, and percents (e.g., 1/10, 1/4, **1/2**, 3/4).

Data Analysis

5.5.1d. Interpret data displayed in pictographs, bar graphs, tables, circle graphs, and line graphs.

Algebra

5.2.3a. Apply commutative, associative, zero, distributive, and identity properties.
5.2.4a. Investigate how a change in one variable relates to a change in a second variable.

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SECOND NINE WEEKS

MATH

Fractions and Decimals

5.1.1f. Show the relationship between improper fractions and mixed numbers.

5.1.1g. Recognize and generate equivalent forms of commonly used fractions, decimals, and percents (e.g., **1/10, 1/4**, 1/2, **3/4**).

5.1.1h. Recognize relationships among commonly used fractions and decimals.

Numbers and Operations

5.1.2c. Explain and demonstrate the inverse nature of multiplication and division.

5.1.2d. Communicate the effects of addition, subtraction, multiplication, and division on size and order of numbers.

5.1.3d. **Add, subtract, multiply, and divide** whole numbers and **decimals**.

5.1.3f. Identify missing information and / or too much information in real-world problems.

5.1.3h. Solve real-world problems using **decimals**, fractions, and percents.

Algebra

5.2.2a. Demonstrate understanding that an equation is a number sentence stating two quantities are equal.

5.2.2b. Solve open sentences using informal methods and knowledge of operations.

5.2.2c. Represent the idea of a variable as an unknown quantity using a letter or a symbol.

5.2.3b. Show that division is not commutative.

5.2.4b. Use a variety of methods to compare and describe situations involving constant and /or varying rates of change.

THIRD NINE WEEKS

MATH

Numerical Operations

5.1.3c. Recognize reasonable estimates for operations.

Fractions and Decimals

5.1.3.e. Use models, benchmarks, and equivalent forms to add and subtract commonly used fractions with like and unlike denominators.

5.1.3h. **Solve real-world problems using** decimals**, fractions**, and percents.

Algebra

5.2.1a. Generalize and extend geometric and numerical patterns.

5.2.1b. Represent and analyze patterns and functions using words, tables, and graphs.

5.2.1c Apply basic function rules.

5.2.2d. Express mathematical relationships using equations.

Data Analysis

5.5.1a. Collect data using observations, surveys, and experiments.

5.5.1b. Understand how data-collection methods affect the nature of the data set.

5.5.1c. Represent data using pictographs, bar graphs, tables, circle graphs, and line graphs.

5.5.2a. Use measures of central tendency (i.e., mean, median, mode).

5.5.2b. Relate mean, median, and mode to a visual representation of a data set.

5.5.2c. Find the range of a data set.

5.5.3a. Make predictions and justify conclusions based on data.

5.5.3b. Design investigations to address a question.

5.5.3c. Examine various representations of data to evaluate how accurately the data is depicted.

5.5.3d. Explain the importance of sample size in investigations.

Geometry

5.3.1a. Identify, compare, and analyze attributes of two- and three-dimensional figures.

5.3.1b. Use the attributes of geometric figures to develop definitions.

5.3.1c. Draw points, lines, line segments, rays, and angles.

5.3.1d. Identify and describe the attributes of a circle using appropriate mathematical language (e.g., radius, diameter, center).

5.3.1e. Use properties to classify geometric figures.

5.3.1f. Investigate and describe the results of subdividing and combining geometric figures.

5.3.1g. Compare and contrast congruent and symmetrical geometric figures.

5.3.1h. Describe characteristics of lines and angles (e.g., parallel, perpendicular, intersecting, right, acute, obtuse).

5.3.1i. Make and test hypothesis about geometric properties.

5.3.1j. Explore similarity.

5.3.2a. Describe location and movement using appropriate mathematical language.

5.3.2b. Find and specify points in Quadrant I of a coordinate system.

FOURTH NINE WEEKS

MATH

Operations

5.1.3a. Select appropriate methods and tools for computations (e.g., mental computations, estimation, calculators, paper and pencil).

5.1.3g. Solve multi-step real-world problems.

5.1.3h. **Solve real-world problems using** decimals**,** fractions, and **percents**.

Geometry

5.3.3a. Investigate, predict, and describe the results of transformations of two-dimensional figures (i.e., slides, flips, turns).

5.3.3b. Describe line and rotational symmetry in two-dimensional figures.

5.3.3c. Describe a motion or a series of motions that will show that two shapes are congruent.

5.3.4a. Construct and draw two- and three-dimensional geometric figures.

5.3.4b. Create and describe mental images of objects, patterns, and paths.

5.3.4c. Build a three-dimensional object from a two-dimensional representation (nets) of that object.

5.3.4d. Use visualization and spatial reasoning to solve real-world problems.

Measurement

5.4.1a. Demonstrate understanding of the concepts of length, perimeter, circumference, area, weight, capacity, volume, elapsed time, and angle measure.

5.4.1b. Demonstrate understanding that measurements are approximations.

5.4.1c. Understand how differences in units affect precision.

5.4.1d. Demonstrate understanding of the relationships among the units within the same system of measurements.

5.4.1e. Explore what happens to measurements of a two-dimensional shape when the shape is changed in some way (e.g., perimeter, area).

5.4.2a. Apply and explain appropriate estimation strategies using standard units of measure.

5.4.2b. Select and apply appropriate standard units to measure length.

5.4.2c. Select and use appropriate tools for measuring in real-world situations.

5.4.2d. Solve read-world problems involving measurement and elapsed time.

5.4.2e. Read and record temperature using Fahrenheit and Celsius scales.

5.4.2f. Develop, understand, and use formulas to find the area of parallelograms and triangles.

5.4.2g. Explain and demonstrate how scale in maps and drawings shows relative size and distance.

5.4.2h. Develop informal strategies to determine the surface area and volume of rectangular solids.

Probability

5.5.4a.	Describe the likelihood or chance of events as likely, unlikely, certain, equally likely, or impossible.
5.5.4b.	Use a sample space to predict the probability of an event.
5.5.4c.	Understand that the measure of the likelihood of an event can be represented as a number from 0-1.