**Course Description:**
Semester B begins with students continuing to work with fractions. The first lesson focuses on ratios and challenges students to solve word problems using fractions and ratios in practical life situations. Learners continue to strengthen their math skills by studying mixed and fraction products, and fraction application, models, and division. The third critical area that students will focus on in Grade 5 Math is volume. Students will receive lessons in measurement of length, weight, and volume. They will end the course with a focus on geometry. Varied types of instruction are used to enhance their learning, including video and real life applications, activities, and creative projects.

| Module | Lesson Title | Objectives |
|---|---|---|
| **Module 7: Fractions** | Ratios | • Express comparisons in ratio form. |
| | Fractions as Division | • Interpret a fraction as division of the numerator by the denominator.<br>• Convert fractions into decimals using division. |
| | Fraction Models | • Interpret a fraction as division of the numerator by the denominator. |
| | Fraction Word Problems | • Use equations to solve word problems involving division to represent the problems with fractions in the answer. |
| | Fractions on the Number Line | • Locate fractions on a number line. |
| | Comparing Fractions on the Number Line | • Compare fractions using a number line. |
| | Estimating Sums and Differences | • Use a benchmark fraction to estimate and examine the reasonableness of answers. |

| Module | Lesson Title | Objectives |
|---|---|---|
| | Introduction to Fraction Multiplication | • Use visual models to represent the multiplication of a fraction by a fraction. |
| | Multiplying Fractions with Fractions | • Multiply a fraction by a fraction. |
| | Fraction Multiplication Word Problems | • Use visual fraction models to solve word problems involving fractions. |
| **Module 8: Multiplying Fractions** | Multiplying Improper Fractions | • Multiply a whole number by a fraction.<br>• Multiply mixed numbers.<br>• Convert between mixed numbers and improper fractions. |
| | Creating and Solving Word Problems | • Use the steps of problem-solving to solve one- and two-step word problems.<br>• Use fractions and math operations to solve word problems. |
| | The Commutative Property | • Apply the commutative property to mixed products. |
| | Area of Squares and Rectangles | • Use tiles to find the area and perimeter of a rectangle with fractional side-lengths. |
| | Area by Multiplication | • Use formulas to solve area word problems involving mixed numbers and fraction products. |
| | Perimeter | • Use tiles to find perimeter.<br>• Calculate the perimeter of shapes with fractional sides. |

| Module | Lesson Title | Objectives |
|---|---|---|
| | Identity Property of Multiplication | • Define the identity property of multiplication.<br>• Apply the identity of multiplication to fractions. |
| | Multiplying Fractions Less than One and Greater than One | • Recognize that multiplying a whole number by a fraction less than 1 results in a product smaller than that whole number.<br>• Recognize that multiplying a whole number by a fraction greater than 1 results in a product greater than that whole number. |
| | Inequalities | • Identify the solution sets of inequalities.<br>• Graph the solution sets of inequalities on a number line. |
| | Comparing the Products of Fractions | • Compare the products of two multiplication sentences to determine which is greater. |
| **Module 9: Dividing Fractions** | Fraction Multiplication Review | • Solve real-world problems involving multiplication of fractions and mixed numbers by using visual fraction models.<br>• Solve real-world fraction multiplication problems using equations. |
| | Fraction Multiplication and Word Problems | • Solve real-world problems involving multiplication of fractions and mixed numbers by using equations. |
| | Explanations of Word Problems | • Explain in writing the process of how to solve real-world problems involving multiplication of fractions and mixed numbers. |
| | Unit Fractions | • Define and identify unit fractions.<br>• Use visual models to represent unit fractions. |
| | Visual Division with Unit Fractions | • Create a visual model to represent the quotient of a unit fraction divided by a whole number greater than 0. |

| Module | Lesson Title | Objectives |
|---|---|---|
| | Dividing and Multiplying with Unit Fractions | • Explain the relationship between multiplication and division, in order to interpret division of a whole number by a unit fraction and the division of a unit fraction by a non-zero whole number. |
| | Dividing by Unit Fractions | • Create a visual fraction model to represent the quotient of a whole number divided by a unit fraction. |
| | Reciprocals | • Find the reciprocals of fractions and whole numbers. |
| | Dividing by Whole Numbers | • Divide a unit fraction by a whole number.<br>• Solve word problems by dividing unit fractions by non-zero whole numbers. |
| | Division by Unit Fractions using Reciprocals | • Divide whole numbers by fractions.<br>• Divide fractions using reciprocals.<br>• Divide fractions using common denominators. |
| **Module 10: Measurements & Volume** | Length Conversions | • Convert length measurements within the customary system of measurement. |
| | Weight Conversions | • Convert weight measurements within the customary measurement system. |
| | Volume Conversions | • Convert volume measurements within the customary measurement system. |
| | Metric Conversions | • Convert measurements within the metric system.<br>• Solve multistep measurement conversions in real-world problems.<br>• Explain how the base-10 system supports conversions within the metric system. |

| Module | Lesson Title | Objectives |
|---|---|---|
| | Measuring Length | • Measure objects to one-eighth of a unit of length. |
| | Line Plots | • Solve word problems involving information presented in line plots by using operations on fractions.<br>• Evaluate line plots to answer questions.<br>• Find the mean of a data set. |
| | Reading a Scale | • Measure objects to one-eighth of a unit of weight. |
| | Line Plot Problems | • Display a data set of measurements in fractions of a unit of weight on a line plot.<br>• Evaluate line plots to solve real-world problems. |
| | Volume | • Define volume. |
| | Area vs. Volume | • Use models to demonstrate the relationship between area and volume.<br>• Define the standard units for measuring volume.<br>• Identify the dimensions that are used to find solid volume (length, width, height). |
| **Module 11: Volume** | Unit Cubes and Volume | • Use models to demonstrate volume.<br>• Determine volume using cubic units. |
| | Volume Formula | • Find the volume of a rectangular prism using the formula: $V = length \times width \times height$ |
| | Volume vs. Area | • Compare units of area and volume. |

| Module | Lesson Title | Objectives |
|---|---|---|
| | Rectangular Prism Volume | • Identify length, width, and height of a rectangular prism.<br>• Calculate volume of a rectangular prism. |
| | Composite Figures | • Decompose 2-D and 3-D composite shapes into separate smaller shapes.<br>• Find the area of 2-D composite figures.<br>• Find the volume of 3-D composite figures.<br>• Identify and classify three-dimensional figures into categories based on their attributes. |
| | Solving for Missing Dimensions | • Identify missing dimensions of a rectangular prism.<br>• Calculate the missing dimensions of a rectangular prism given the volume and two of the dimensions. |
| | Real-World Volume Applications | • Apply the volume of rectangular prisms in real-world scenarios. |
| | The Coordinate Plane | • Define and draw the first quadrant of the coordinate plane using a pair of perpendicular lines, or axes, that intersect at the zero point of each line. |
| | Locating Coordinate Points | • Identify ordered pairs on the coordinate plane. |
| | Plotting Ordered Pairs | • Explain how to plot an ordered pair on the coordinate plane. |
| **Module 12: Geometry** | Graphing on the Coordinate Plane | • Graph ordered pairs to create geometric figures in the first quadrant of the coordinate plane. |
| | Identifying Points on a Coordinate Plane | • Identify the missing ordered pairs in geometric figures. |
| | Problem Solve using the Coordinate Plane | • Graph points in the first quadrant to represent real-world problems. |

| Module | Lesson Title | Objectives |
|---|---|---|
| | Classifying Quadrilaterals | • Define and describe attributes of quadrilaterals. |
| | Common Quadrilateral Attributes | • Classify quadrilaterals according to shared attributes through the use of reasoning. |
| | Symmetry | • Identify lines of symmetry in quadrilaterals. |
| | Polygons | • Define prefixes and their meaning as related to polygons:<br>• tri-, quad-, pent-, hex-, hept -, oct-.<br>• Identify polygons based on the number of sides each has. |
| | Hierarchy of Quadrilaterals | • Create a hierarchy diagram of quadrilaterals. |
| | Regular and Irregular Polygons | • Compare and contrast the attributes of regular and irregular polygons. |
| | Lines of Symmetry | • Identify lines of symmetry in polygons. |