5th Grade Math in Focus

Chapter 1: Whole Numbers and the 4 Operations Key Learning Objectives		
Numbers to 10,000,000	**Multiplying by Tens, Hundreds, Thousands, and Powers of 10**	**Dividing by Tens, Hundreds, and Thousands**
In Section 1, students read and write numbers to 10,000,000 in expanded form, standard form, and word form. Students should use place-value chips to help them visualize the numbers they are working with.	In Section 2, students use patterns to multiply numbers by multiples of 10, 100, or 1,000 and use multiples of powers of 10 to multiply. Students will use place-value chips to help them visualize the multiplication pattern.	In Section 3, students use patterns to divide numbers by multiples of 10, 100, or 1,000. Students will use place-value chips to help them visualize the division pattern.
Multiplying and Dividing by a 2-Digit Number Fluently	**Order of Operations**	**Real-World Problems: Four Operations of Whole Numbers**
In Section 4, students multiply and divide by a 2-digit number various ways such as using the standard algorithm and place-value. They will also explore how estimation plays a part in this section.	In Section 5, students explore using connecting cubes to represent the information in real-world problems to visualize the correct order of operations to number sentences that involve the four operations and parentheses.	In Section 6, students use their knowledge of addition, subtraction, multiplication and division operations of whole numbers, the order of operations, and apply different strategies to solve multi-step problems.

Chapter 2: Fractions and Mixed Numbers Key Learning Objectives		
Fractions, Mixed Numbers, and Division Expressions	**Adding and Subtracting Unlike Fractions and Mixed Numbers**	**Real-World Problems: Fractions and Mixed Numbers**
In Section 1, students will extend their understanding of fractions and mixed numbers and relate this understanding to express fractions and mixed numbers as division expressions. They will use concrete manipulatives and pictorial representations to help them visualize the fractions as divisions.	In Sections 2 and 3, students will extend their knowledge of adding and subtracting like fractions and mixed numbers to unlike fractions and mixed numbers. They will use their knowledge of equivalent fractions to help them add or subtract.	In Section 3, students will learn to solve real-world problems involving writing fractions and mixed numbers as division expressions as well as adding and subtracting unlike fractions and mixed numbers. They will apply the various methods and strategies of addition and subtraction learned in Section 2, and use concrete manipulatives or bar models to help them represent and visualize the real-world problems.

Chapter 3: Multiplying and Dividing Fractions and Mixed Numbers Key Learning Objectives		
Multiplying Fractions and Whole Numbers	**Multiplying Proper Fractions**	**Real World Problems: Multiplying Proper Fractions**
In Section 1, students multiply proper fractions by whole numbers and improper fractions by whole numbers. This concept is sometimes referred to as finding the fraction of a set which is an extension of Grade 4.	In Section 2, students multiply proper fractions through the use of fraction models and the traditional algorithm.	In Section 3, students apply their knowledge of multiplying proper fractions to real-world problems.
Multiplying Improper Fractions	**Multiplying Mixed Numbers and Whole Numbers**	**Real World Problems: Multiplying Mixed Numbers**
In Section 4, students extend their knowledge of multiplying fractions to include multiplying improper fractions by proper fractions and improper fractions by improper fractions. This section begins with visual models and progresses quickly to the use of the abstract method.	In Section 5, students multiply a mixed number by a whole number, multiply two mixed numbers and compare the size of a product and its factors. This section uses area models to help students decompose mixed numbers.	In Section 6, students apply their knowledge of multiplying mixed numbers and whole numbers to real-world problems using bar models.
Dividing Fractions and Whole Numbers	**Real World Problems: Multiplying and Dividing with Fractions**	
In Section 7, students learn the principles of dividing fractions by whole numbers and whole numbers by fractions. They learn the term “reciprocal” and study the relationship between multiplication and division as it applies to fractions.	In Section 8, students apply their knowledge of the four operations of fractions to solve real-world problems.	

Chapter 4: Decimals Key Learning Objectives		
Understanding Thousandths	**Comparing, Ordering, and Rounding Decimals**	**Decimals, Fractions, and Mixed Numbers**
In Section 1, students will extend their understanding of decimals to thousandths. Students will read and write thousandths in decimal and fractional form.	In Section 2, students will compare and order decimals to 3 decimal places. They will extend their understanding of rounding to the nearest whole number and tenths place to rounding to the nearest hundredth.	In Section 3, students will rewrite three-place decimals as fractions or mixed numbers in simplest form and vice versa.

Chapter 5: Four Operations of Decimals
Key Learning Objectives

Add and Subtract Decimals Without and With Regrouping	Multiply Decimals	Divide Decimals
In Sections 1 and 2, students use concrete materials to form decimal numbers and then add or subtract decimals, with and without regrouping. Students will use place-value chips to visualize the decimals.	In Sections 3 and 4, students use concrete materials to form decimal numbers up to 3 decimal places and then multiply the decimals by 1-digit whole numbers and multiples and powers of 10. They will explore different ways to use a place-value chart to multiply decimals by 10, 100, and 1,000, and then look for patterns.	In Sections 5 and 6, students use concrete materials to form decimal numbers and then divide them by a 1-digit whole number and by multiples of 10 to find quotients. They will explore different ways to use a place-value chart to divide decimals by 10, 100, and 1,000, and then look for patterns.
Estimate Decimal Sums, Differences, Products, and Quotients	**Convert Metric Units**	**Real World Problems: Four Operations of Decimals**
In Section 7, students use different methods to estimate the answers to questions that involve adding, subtracting, multiplying, and dividing decimals.	In Section 8, students express measurements in larger or smaller units using metric conversions. Students use the conversions to solve real-world problems.	In Section 9, students use models to solve multi-step real-world problems involving all four operations of decimals.

Chapter 6: Volume
Key Learning Objectives

Building Solids Using Unit Cubes	Understanding and Measuring Volume	Real World Problems: Volume of Rectangular Prisms
In Section 1, students will use unit cubes to build solids, determine the number of unit cubes in irregular solids, and recognize that the volume of a solid is the amount of space it occupies.	In Section 2, students will find the volume of a solid made up of unit cubes and find the volume of cubes and rectangular solids.	In Section 3, students will use a formula to find the volume of a rectangular prism, find the capacity of a rectangular container, and solve real-world problems on volumes of rectangular prisms and liquids.

Chapter 7: Line Plots and the Coordinate Plane
Key Learning Objectives

Making and Interpreting Line Plots	Graphing on a Coordinate Plane	Number Patterns and Graphs
In Section 1, students will make and interpret line plots with fractional data. They will use the information gathered to solve problems related to the data.	In Section 2, students will read and plot points on a coordinate plane. They will use data from a table to plot ordered pairs, draw line graphs, and then interpret the line graphs.	In Section 3, students will identify and extend number patterns. They will identify the relationship between two sets of numbers and apply rules to complete number patterns, generate patterns, and draw graphs.

Chapter 8: Polygons
Key Learning Objectives

Classifying Triangles	Classifying Polygons
In this section, students will learn to identify right, isosceles, equilateral, and scalene triangles as well as to classify them by their side lengths and angle measures.	In this section, students will learn to identify and classify polygons by their number and length of sides, number of angles, angle measures, and number of parallel sides. They will classify polygons using a hierarchy and understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.

Chapter 9: Ratio
Key Learning Objectives

Finding Ratio	Equivalent Ratios
In Section 1, students will use ratios to compare two quantities. They will learn that ratios may not indicate the actual quantities being compared and that the quantities of a ratio must have the same unit of measure. They will use a comparison bar model to express part-part, part-whole, and whole-part relationships using ratios. Finally, they will solve problems involving ratio using part-whole bar models.	In Section 2, students will find equivalent ratios. They will learn to find equivalent ratios by regrouping the items into equal groups of another size. They also learn that equivalent ratios show the same comparisons of numbers or quantities and that the quantities in a ratio can be multiplied or divided by the same number to find equivalent ratios. Students will find the missing term in a pair of equivalent ratios and relate simplifying fractions to simplifying ratios.
Comparing Three Quantities	**Real World Problems**
In Section 3, students will learn that a ratio can be used to compare three quantities or sets of items. They will learn to write a given ratio involving three quantities in simplest form. Students will find the missing term in a pair of equivalent ratios involving three quantities.	In Section 4, students solve up to two-step real-world problems involving ratios with two or three quantities.

Chapter 10: Percent Key Learning Objectives	
Percent	**Fractions, Decimals, and Percents**
In Section 1, students will relate percent to parts of a whole where the whole is made up of 100 equal parts.	In Section 2, students will express percents as fractions in their simplest form and as decimals. They will also express fractions and decimals as percents.
Percent of a Quantity	**Real World Problems**
In Section 3, students will find the percent of a quantity given the amount and the percent.	In Section 4, students will solve real-world problems involving percent, including concepts such as sales tax, meals tax, discount, and interest.