

**Course Description:**

Grade 4 math uses a varied amount of instructional material to reinforce and teach new math skills to the 4th grade learners. Instruction includes creative videos, mathematical storytelling, practical math applications and repetition to reinforce skills throughout the course. Three areas are focused on and students will finish the course with a strong knowledge in these content areas. The first is developing an understanding and fluency with multi-digit multiplication, and developing the understanding of dividing to find quotients involving multi-digit dividends. The second is developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions with whole numbers. The third will be addressed in semester B.

**Materials Needed:** Scissors, Graph paper, Markers, Ruler

Module	Lesson Title	Objectives
1	Writing Multiplication	<ul style="list-style-type: none"><li>Identify and write multiplicative equations.</li></ul>
	Multiplication Comparison	<ul style="list-style-type: none"><li>Make multiplicative comparisons.</li></ul>
	Solving Basic Equations	<ul style="list-style-type: none"><li>Solve basic multiplication equations for an unknown.</li></ul>
	Parts of a Word Problem	<ul style="list-style-type: none"><li>Identify the known and unknown parts of a word problem.</li></ul>
	Translation into Equations	<ul style="list-style-type: none"><li>Translate comparative situations into equations with an unknown and solve.</li></ul>
	Interpretation	<ul style="list-style-type: none"><li>Interpret word problems.</li></ul>
	Estimation Strategies	<ul style="list-style-type: none"><li>Use acceptable estimation strategies and justify the solution.</li></ul>
	Remainders	<ul style="list-style-type: none"><li>Add two multi-digit whole numbers with accuracy, efficiency and flexibility.</li></ul>
	Module 1 Exam	

Module	Lesson Title	Objectives
2	Factoring	<ul style="list-style-type: none"> <li>Find factors of whole numbers.</li> </ul>
	Prime Numbers	<ul style="list-style-type: none"> <li>Use factoring rules to classify numbers as prime and justify answer.</li> </ul>
	Common Multiples	<ul style="list-style-type: none"> <li>Find multiples of whole numbers.</li> </ul>
	Composite Numbers	<ul style="list-style-type: none"> <li>Use factoring rules to classify numbers as composite, and justify answers.</li> </ul>
	Basic Patterns	<ul style="list-style-type: none"> <li>Identify attributes that determine a pattern.</li> </ul>
	Arithmetic Number Patterns	<ul style="list-style-type: none"> <li>Identify number patterns.</li> </ul>
	T-Charts	<ul style="list-style-type: none"> <li>Use a t-chart to identify number patterns.</li> </ul>
	Rounding	<ul style="list-style-type: none"> <li>Round numbers to the nearest tens and hundreds place.</li> </ul>
	Estimating	<ul style="list-style-type: none"> <li>Use rounding to make estimates.</li> </ul>
	Place Value	<ul style="list-style-type: none"> <li>Identify place value in multi-digit whole numbers.</li> </ul>
	Multiplying by 10 and 100	<ul style="list-style-type: none"> <li>Multiply by 10 and 100.</li> </ul>
	Module 2 Exam	
3	Expanded Form	<ul style="list-style-type: none"> <li>Read and write numbers using expanded form.</li> </ul>
	Rounding to Hundreds and Thousands	<ul style="list-style-type: none"> <li>Using a number line, round answers to the nearest 100 and 1000 place.</li> </ul>
	Hundreds Chart	<ul style="list-style-type: none"> <li>Using a hundreds chart, round answers to the nearest 100 and 1000 place.</li> </ul>

Module	Lesson Title	Objectives
	Comparison	<ul style="list-style-type: none"> <li>Compare two multi-digit whole numbers.</li> </ul>
	Adding Two Whole Numbers	<ul style="list-style-type: none"> <li>Add two multi-digit whole numbers with accuracy, efficiency and flexibility.</li> </ul>
	Adding Several Whole Numbers	<ul style="list-style-type: none"> <li>Add several multi-digit whole numbers with accuracy, efficiency and flexibility.</li> </ul>
	Re-grouping	<ul style="list-style-type: none"> <li>Add multi-digit whole numbers using a re-grouping strategy.</li> </ul>
	Subtraction Skills	<ul style="list-style-type: none"> <li>Subtract multi-digit whole numbers with accuracy, efficiency and flexibility.</li> </ul>
	Subtraction with Zeros	<ul style="list-style-type: none"> <li>Subtract multi-digit whole numbers with accuracy, efficiency and flexibility.</li> <li>Apply knowledge of subtraction to solve word problems.</li> </ul>
	Module 3 Exam	
4	Clustering	<ul style="list-style-type: none"> <li>Multiply numbers using clustering.</li> <li>Multiply two whole numbers using models or equations based on the distributive property.</li> </ul>
	Regrouping Multiplication	<ul style="list-style-type: none"> <li>Multiply numbers using re-grouping.</li> </ul>
	Multiplying with Arrays	<ul style="list-style-type: none"> <li>Multiply numbers using the arrays model.</li> </ul>
	Applications of Multiplication	<ul style="list-style-type: none"> <li>Apply any of the multiplication strategies to solve real-life problems.</li> </ul>
	Long Division	<ul style="list-style-type: none"> <li>Divide numbers using a traditional algorithm.</li> </ul>
	Dividing Using Grouping	<ul style="list-style-type: none"> <li>Divide numbers using groups for the divisor.</li> </ul>
	Area Model	<ul style="list-style-type: none"> <li>Divide numbers using area models.</li> </ul>
	Application of Division Strategies	<ul style="list-style-type: none"> <li>Apply any of the division strategies to solve real-life problems.</li> </ul>

Module	Lesson Title	Objectives
	Fraction Parts	<ul style="list-style-type: none"> <li>Define fraction, numerator, denominator, fraction bar.</li> </ul>
	Fraction Shape	<ul style="list-style-type: none"> <li>Identify the number of shaded parts and the number of equal parts in a shape (circle, rectangle).</li> </ul>
	Writing Fractions	<ul style="list-style-type: none"> <li>Write a fraction using mathematical notation and using words.</li> </ul>
5	Dividing Number Lines	<ul style="list-style-type: none"> <li>Divide a number line into parts (fractions).</li> </ul>
	Identifying Fractions on a Number Line	<ul style="list-style-type: none"> <li>Locate fractions on a number line.</li> </ul>
	Equivalent Fractions	<ul style="list-style-type: none"> <li>Find equivalent fractions using models.</li> <li>Find equivalent fractions using multiplication.</li> <li>Find equivalent fractions using division.</li> </ul>
	Common Denominators	<ul style="list-style-type: none"> <li>Create common denominators by multiplication to form equivalent fractions.</li> </ul>
	Greatest Common Factor	<ul style="list-style-type: none"> <li>Determine the greatest common factors of whole numbers.</li> </ul>
	Least Common Multiple	<ul style="list-style-type: none"> <li>Determine the least common multiple of whole numbers.</li> </ul>
	Module 5 Exam	
6	Adding Like Fractions	<ul style="list-style-type: none"> <li>Add like fractions.</li> </ul>
	Adding Mixed Numbers	<ul style="list-style-type: none"> <li>Add mixed numbers.</li> </ul>
	Improper Fractions in Mixed Numbers	<ul style="list-style-type: none"> <li>Add improper fractions in mixed numbers.</li> </ul>
	Adding Unlike Fractions	<ul style="list-style-type: none"> <li>Add unlike fractions.</li> </ul>

Module	Lesson Title	Objectives
	Subtracting Like Fractions	<ul style="list-style-type: none"><li>Subtract like fractions.</li></ul>
	Subtracting Unlike Fractions	<ul style="list-style-type: none"><li>Subtract unlike fractions.</li></ul>
	Subtracting Mixed Numbers	<ul style="list-style-type: none"><li>Subtract mixed numbers.</li></ul>
	Subtracting Improper Fractions	<ul style="list-style-type: none"><li>Subtract improper fractions.</li></ul>
	Dividing Fractions Using Reciprocals	<ul style="list-style-type: none"><li>Divide fractions using reciprocals.</li></ul>
	Dividing Fractions Using Modeling	<ul style="list-style-type: none"><li>Divide fractions using models.</li></ul>
	Dividing Whole Numbers into Fractions	<ul style="list-style-type: none"><li>Divide whole numbers and fractions.</li></ul>
	Dividing Mixed Numbers	<ul style="list-style-type: none"><li>Divide whole numbers and mixed numbers.</li></ul>
	Module 6 Exam	