

Grade 2 Mathematics	Unit 13 – Multiplication and Fractions
Big Idea/Rationale:	Unit 13 addresses a variety of mathematical concepts that allow children to explore multiplication and fractions. Children solve multiplication problems first with repeated addition and familiar count-bys, then with arrays, and finally with the standard multiplication equation. Children expand their understanding of comparison language by applying terms such as half, double, twice, and equal shares. They explore shares, the concept of division, symmetry, fractions, and basic probability concepts.
Enduring Understandings:	<ul style="list-style-type: none"> • Multiplication is an essential skill that provides a quicker way of adding resulting in the ability to function efficiently in everyday life and solve real problems. • Fractions represent parts of a whole. • Both the number of parts, and the fact that they are equal parts, constitute the concept of a fraction. • Many shapes that exist in the world can be divided to create two or more identical shapes. These shapes have identifiable lines of symmetry. • The likelihood of an event depends on the possible outcomes.
Essential Questions:	<ul style="list-style-type: none"> • How can skip counting help you add? • Can you think of two different ways to solve this problem: “I have 5 plates with 3 pieces of candy on each? How many pieces of candy are there in all? • How are the numerator and denominator related? • What does “equal parts” mean? • How do you identify equal and unequal parts? • If I share my pizza with 4 people, what fraction of the pizza am I eating? • How you could decide what fraction of a shape is named? • Names some shapes that are symmetrical? • Do all shapes have a line of symmetry? • Draw a line of symmetry for a given shape? • How do you know if an event is more likely, equally likely, or less likely to happen? • How can possible outcomes of an event be determined?
Lesson Objectives:	<ul style="list-style-type: none"> • Recognize that multiplication is counting by a number. • Relate repeated addition and multiplication. • Solve multiplication problems • Count by 2’s. • Recognize that multiplication is counting by a number. • Count by 3’s. • Recognize that multiplication is counting by a number. • Count by 4’s. • Recognize that multiplication is counting by a number. • Count by 5’s.

	<ul style="list-style-type: none"> • Use the array model for multiplication. • Use count-bys and arrays to solve multiplication problems. • Use the comparative terms half, double, twice, and equal shares appropriately. • Read information in a graph. • Understand the meaning of division as equal shares and as repeated subtraction. • Use models to solve simple division problems. • Find lines of symmetry. • Recognize and draw symmetrical shapes. • Find symmetry in everyday objects. • Identify and represent one half, one third, one fourth, two thirds, and three fourths in geometrical shapes. • Understand what numerator and denominator signify. • Compare fractions using fraction strips. • Write money amounts as fractions. • Describe events as possible, or certain. • Discuss whether a game is fair or unfair. • Predict the results of a probability experiment and then do the experiment to check the prediction. • Identify all possible outcomes for a probability experiment and decide which is most likely and least likely to happen. Then do the experiment to check the predictions. • Use numbers to describe the probability of an event. • Find all the possible combinations for a given situation. • Solve a variety of problems using mathematical concepts and skills. • Use mathematical processes in the context of problem solving, connections, reasoning and proof, communication, and representation.
<p>Common Core State Standards:</p>	<p>2.OA.C.4: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns: write an equation to express the total as a sum of equal addends.</p> <p>2.NBT.A.2: Count within 1000; skip-count by 5s, 10s, and 100s.</p> <p>2.G.A.1: Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.</p> <p>2.G.A.3: Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words <i>halves</i>, <i>thirds</i>, <i>half of</i>, <i>a third of</i>, <i>etc.</i>, and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.</p> <p>Mathematical Practices</p>
<p>Materials and Resources:</p>	<p>Grade 2 Math Expressions, Math Journals, manipulatives, IXL Mathematics</p>