Grade 2 Mathematics	Unit 10 – Shapes and Patterns
Big Idea/Rationale:	In this unit, children continue to develop their knowledge of 2-dimentsional shapes. Activities include identifying congruent shapes and similar shapes, composing and decomposing shapes, and grouping shapes according to sorting rulers. Children are introduces to slides, flips, and turns of geometric figures and they use these transformations to extend geometric patterns. The unit concludes with an introduction to finding area.
Enduring Understandings:	Students will understand that: • Changing the position of an object does not affect its attributes. • Two-dimensional objects can be described, classified, and analyzed by their attributes. • Objects in space can be transformed in an infinite number of ways, and those transformations can be described and analyzed mathematically. • The area of a plane figure can be measured in square units.
Essential Questions:	• What strategies can you use to check for shapes that congruent? • What strategies can you use to check for shapes that are similar? • How can shapes be combined to make new shapes? • How can you measure how much space a shape occupies? • How can you figure out what would come next in a pattern? • In what ways can a shape be moved?
Lesson Objectives:	• Identify congruent figures. • Identify similar figures. • Use a sorting rule to group 2-D figures. • Combine two-dimensional shapes to make new shapes. • Predict the results of combining two-dimensional shapes. • Predict the results of cutting apart two-dimensional shapes. • Recognize transformations, flips and turns. • Extend geometric patterns that use transformations. • Represent and analyze patterns. • Create and extend growing and motion patterns. • Find area by covering and counting non-standard square units. • Calculate area by counting square centimeters. • Estimate the area of figures on centimeter grid paper.
Common Core State Standards:	**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. **2.G.A.2:** Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. **Mathematical Practices**
Materials and Resources:	Grade 2 Math Expressions, Math Journals, manipulatives, IXL Mathematics