Grade: 3 Subject: Mathematics	Unit 6: Patterns
Big Idea/Rationale	• This unit continues to develop students'' algebraic thinking through patterning. The activities in this unit give student's opportunity to identify, extend, and create repeating number patterns, repeating geometric patterns, growing and shrinking number patterns, and growing and shrinking geometric patterns. Students also explore transformations: flip, slides, and turns, and create motion geometry pattern with flips. Students apply their patterning skills to solve problems by using strategies of solving a simpler related problem.
Enduring Understanding (Mastery Objective)	Students will understand that: • Objects in space can be transformed in an infinite number of ways and those transformations can be described and analyzed mathematically. • Some patterns consist of shapes or numbers arranged in a unit that repeats. • Some numerical sequences have a rule that tells how to generate more numbers in the sequence. • Some sequences of geometric objects grow in predictable ways that can be described using a mathematical rule.
Essential Questions (Instructional Objective)	• In what ways can a shape be moved? • What is a pattern? • How can you continue a repeating pattern?
Content (Subject Matter)	• Recognize and describe slides, flips, and turns. • Recognize slides, flips and turns in geometric patterns and create patterns. • Identify and continue a repeating number pattern. • Identify and continue a repeating geometric pattern. • Identify and continue a number pattern that grows or shrinks. • Identify and continue a geometric pattern that grows or shrinks.
Skills/ Benchmarks (CCSS Standards)	• **3.OA.D.9:** Identify arithmetic patterns(including patterns in the addition table or multiplication table), and explain them using properties of operations. • **3MD.C.7.A:** Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. • **Mathematical Practices**
Materials and Resources	• Math Expressions, Student Journals, Manipulatives, Math themed literature, BrainPop, IXL Mathematics