



## **Patterns Learning Objectives**

### **Concept 1: Numerical Patterns**

1. Students identify patterns in numerical sequences.
2. Students analyze numerical patterns.
3. Students extend/expand numerical patterns and geometric representations of patterns.
4. Students understand and can write the recursive rule in words.

### **Concept 2: Patterns Describing Relationships**

5. Students examine/analyze a t-chart describing a functional relationship arising from a geometric/graphic representation.
6. Students complete and create an input/output table based on geometric representations of a pattern.
7. Students generalize patterns in words and algebraic symbols.
8. Students distinguish between recursive rules and explicit rules to describe patterns.
9. Students examine number sequences or tables containing input and output values showing the relationship of the numbers and recognize a pattern.

### **Concept 3: Connecting Geometric and Algebraic Patterns**

10. Students examine/analyze and describe the connection between a representation of a geometric pattern of growth and the algebraic symbols describing the pattern.
11. Students model figures of the pattern, create/complete tables with the pattern data, determine recursive rules, and generalize the pattern (explicit rule) with algebraic notation and/or words.