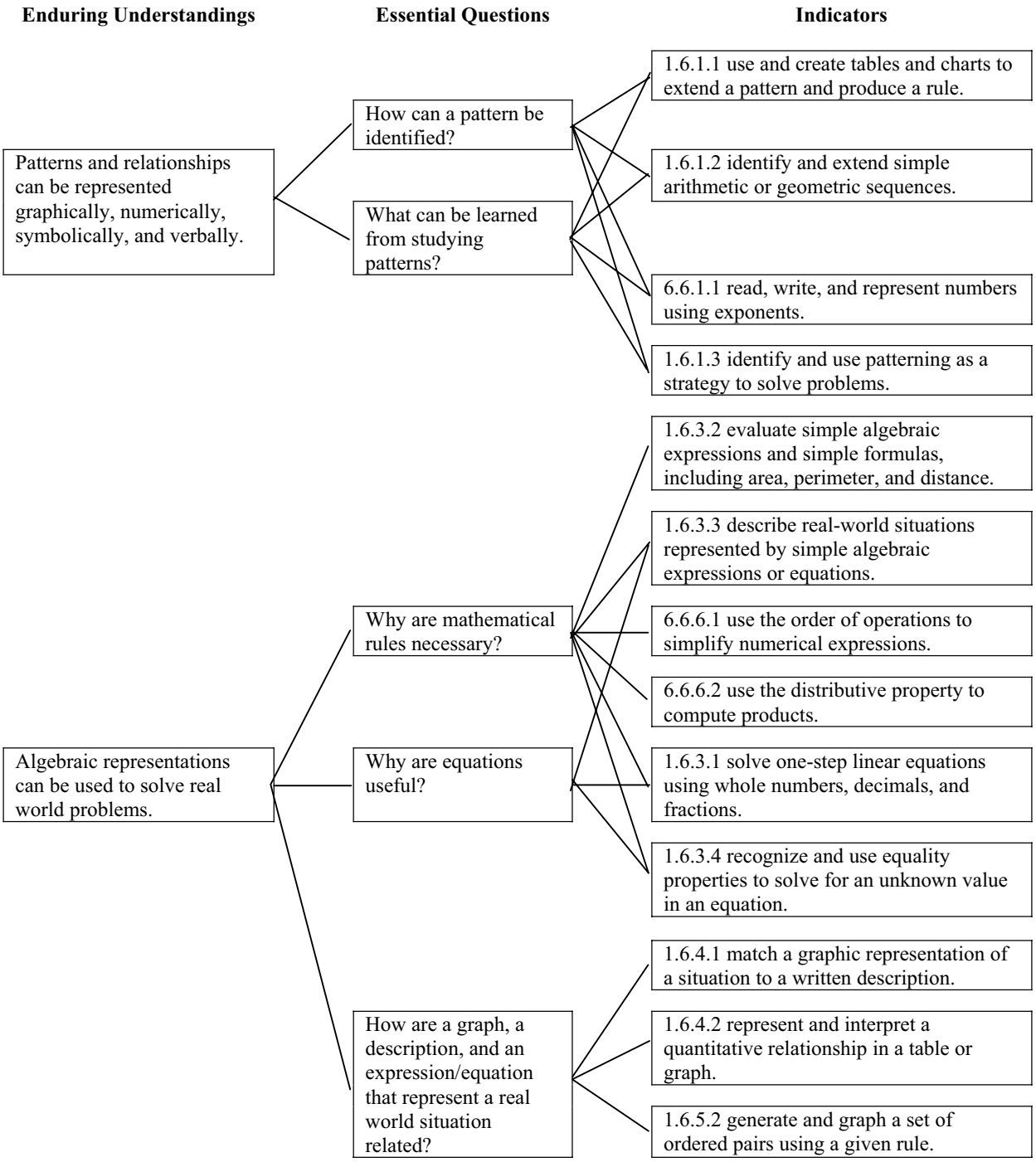
Enduring Understandings
Essential Questions
Indicators
Patterns and relationships can be represented graphically, numerically, symbolically, and verbally.
How can a pattern be identified?
What can be learned from studying patterns?
1.6.1.1 use and create tables and charts to extend a pattern and produce a rule.
1.6.1.2 identify and extend simple arithmetic or geometric sequences.
6.6.1.1 read, write, and represent numbers using exponents.
1.6.1.3 identify and use patterning as a strategy to solve problems.
Algebraic representations can be used to solve real world problems.
Why are mathematical rules necessary?
Why are equations useful?
How are a graph, a description, and an expression/equation that represent a real world situation related?
1.6.3.2 evaluate simple algebraic expressions and simple formulas, including area, perimeter, and distance.
1.6.3.3 describe real-world situations represented by simple algebraic expressions or equations.
6.6.6.1 use the order of operations to simplify numerical expressions.
6.6.6.2 use the distributive property to compute products.
1.6.3.1 solve one-step linear equations using whole numbers, decimals, and fractions.
1.6.3.4 recognize and use equality properties to solve for an unknown value in an equation.
1.6.4.1 match a graphic representation of a situation to a written description.
1.6.4.2 represent and interpret a quantitative relationship in a table or graph.
1.6.5.2 generate and graph a set of ordered pairs using a given rule.

Enduring Understandings	Essential Questions	Indicators
Functional relationships can be expressed verbally, graphically, numerically, and symbolically.	How can a function be identified?	1.7.1.1 describe, extend, analyze, and represent a wide variety of patterns to investigate functional relationships and solve problems.
		1.7.1.2 determine whether functions are linear or nonlinear when given graphic examples.
		1.7.1.3 describe and apply the recursive relationship of simple arithmetic and geometric sequences verbally, in a table, or a graph.
Functions are used to solve real world problems.	What can be learned from studying functions?	1.7.4.1 use coordinate graphs to interpret patterns and relationships.
		1.7.4.2 represent and interpret quantitative relationships in table or graph using rational numbers.
Exponential and scientific notation are efficient ways of expressing numbers.	What is the purpose of exponents?	6.7.1.1 recognize and appropriately use exponential, scientific, and calculator notation.
		6.7.2.1 describe the magnitude of numbers.
Algebraic representations generalize patterns and relationships.	Why are mathematical rules necessary?	1.7.3.4 apply formulas and evaluate algebraic expressions when given variable values.
		1.7.2.1 simplify expressions, using the order of operations, on expressions involving the four operations, exponents, and parentheses.
	Why use variables?	1.7.2.2 simplify expressions by applying the commutative, associative, and distributive properties and justify.
	Why are equations and inequalities useful?	1.7.3.1 use variables and appropriate operations to write expressions.
		1.7.3.2 model, identify, and solve 2-step linear equations and inequalities using concrete and informal methods.
		1.7.3.3 solve one- and two-step linear equations and inequalities in one variable.
		1.7.5.1 solve inequalities and graph the solutions on a number line.