

**Content Standard A4
6th Grade Level
Functions and Relationships**

*A student will understand mathematical facts, concepts, principles, and theories.
They represent, analyze, and use mathematical patterns, relations, and functions using a
variety of representations including tables, equations, and graphs.*

State Mathematics Performance Standards 6 th – 8 th	KGBSD Performance Standards	State Grade Level Expectations (GLE's)
<p>M4.2.1 Use patterns and their extensions to make predictions and solve problems; describe patterns found in the number system including those formed by multiples, factors, perfect squares, and powers of 10.</p> <p>M4.2.2 Generate and solve simple functions by identifying and applying multiplication and division patterns.</p> <p>M4.2.3 Use a calculator to find a missing item in a number sequence.</p> <p>M4.2.4 Use words, lists, and tables to represent and analyze patterns.</p>	<p>1.1 Determine the rule and extend or complete patterns</p> <p>1.2 Extend patterns (found in the number system, formed by multiples, factors, perfect squares up to 100, powers of ten), up to 10 terms, represented in tables, sequences, or in problem situations</p> <p>1.3 Use rules to express the generalization of a pattern using words, lists, or tables, with or without variables</p> <p>2.1 Use a variable to describe simple rules or patterns involving whole numbers</p> <p>3.1 Extend arithmetic sequences</p> <p>4.1 Find unknown quantities. Calculate using simple formulas (area/perimeter)</p>	<p><u>Functions and Relationships: Describing Patterns and Functions</u> <u>The student demonstrates conceptual understanding of functions, patterns, or sequences by</u></p> <p>(6) F & R-1 extending patterns (<u>found in the number system, formed by multiples, factors, perfect squares up to 100, powers of ten</u>), up to 10 terms, represented in tables, sequences, or in problem situations (M4.2.1)</p> <p>(6) F & R-2 using rules to express the generalization of a pattern using words, lists, or tables, <u>with or without variables</u> (M4.2.4)</p> <p>(6) F & R-3 identifying or <u>applying multiplication or division</u> patterns to find missing values in a function (M4.2.2)</p> <p>(6) F & R-4 (using manipulatives, including a calculator, as tools when describing, extending, or representing a number sequence L) (M4.2.1 & M4.2.3)</p> <p><u>Functions and Relationships: Modeling and Solving Equations and Inequalities</u> <u>The student demonstrates algebraic thinking by</u></p> <p>(6) F & R-5 solving for an unknown <u>represented by a letter</u>, (addition, subtraction, multiplication, or division) (e.g., $3 \cdot n = 15$, $n - 5 = 12$) (M4.2.5)</p>

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M4.2.5 Explain the purpose of variables and use them in open sentences to express relationships and describe simple functions.	5.1 Recognize multiple representations of the same relationship using tables or ordered pairs	