

Grade 4 Mathematics Unit Preview

Quarter 1: Algebra, Patterns, and Functions

Objectives: (Your student will be able to)

- **Identify and describe patterns with numbers and symbols.** For example, 4,7,10,13 follows the rule $n+3$ and ★,★,♥,★,★,♥,★,★,♥ follows the rule AABAAB.
- **Generate a rule for a repeating pattern or growing pattern.**
- **Write and identify expressions to represent numeric quantities using operational symbols (+, -, x, ÷) with no remainders.** For example, an expression for 2 more than n is $n + 2$.
- **Find the unknown number.** For example, $n + 5 = 9$, $n = 4$.
- **Complete a Function Table.** For example, the rule for the function table is $+ 4$. What number completes the function table?

Input	Output
2	6
5	9
12	?
16	20

Vocabulary: (Words your student will need to understand)

• Function Table: A table that repeats a rule to produce an outcome based on an input	• Pattern: A repeated design or recurring sequences using symbols or numbers.
• Operation: +, -, x, and ÷.	• Rule: A way to describe how a pattern changes or how an input produces an output
• Expression: A variable or combination of variables, numbers, and symbols that represent a mathematical relationship	

Activities to do with your student (in addition to homework, optional):

- Pick numbers and write an expression that fits the number.
- Draw a picture of a real world pattern and describe it in words.
- Create AB patterns using shapes, pictures, or objects.
- Create patterns using numbers.
- Write a story problem that uses +, -, x, or ÷.
- Create function tables based on one operation.
- Create function tables to describe objects (for example, input: bikes, output: wheels)
- Practice addition and subtraction facts by playing a game.
- Practice multiplication and division facts by playing a game.

