Family Letter

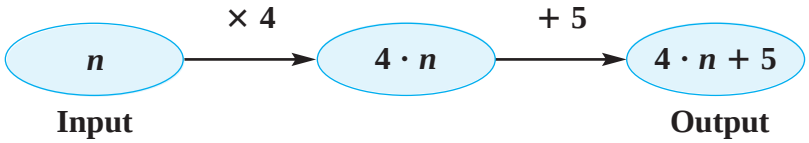
Dear Student and Family Members,

Our next chapter is about solving equations. Don't worry—you've been working with equations for years. An *equation* is a number sentence that includes an equals sign, which means that two expressions have the same value. Here are three examples:

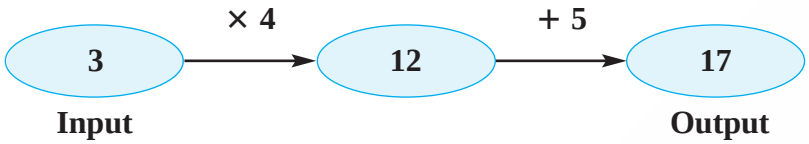
$9 + 6 = 15$ $\qquad$ $9 + 6 = 5 \times 3$ $\qquad$ $7 + 8 = 18 - 3$

However, in this chapter, you will explore equations with variables (quantities that can change), such as $3 \times n = 18$.

You will learn a method called *backtracking* to solve equations. For example, consider the equation $4 \cdot n + 5 = t$. To find an output (t) with this equation, start with an input (n), multiply it by 4, and add 5. The following flowchart shows these steps.



Here's the flowchart for an input of 3:



If you were given an output of 21, you could use the flowchart to work backward and determine that the input was 4.

You'll discover that some equations cannot be solved using backtracking. So, you'll explore another method, *guess-check-and-improve*.

Vocabulary Here's a list of the new vocabulary words associated with solving equations.

backtracking	**guess-check-and-improve**	**open sentence**
equation	**inequality**	**solution**
flowchart		

What can you do at home?

Encourage your student to show you strategies for solving equations. You might even enjoy a game in which you each write a simple equation on a slip of paper, trade papers, and solve one another's equation. Once you have found the solution, talk about what you did to solve it.