

## Chapter 5 Direct and Inverse Proportion

### Dear Family,

In this chapter, your student will learn about direct and inverse proportions. Some of the skills your student will practice are:

- identifying direct and inverse proportion from a table, equation, or graph
- solving real-world direct and inverse proportion problems
- using graphs to interpret direct and inverse proportion

### Activity

Solving direct proportion problems is a skill that students will use in many math and science classes as well as in real life. You can help your student develop this skill with the following activity.

- Collect some food packages that have nutritional information printed on them. Record the size of one serving of each type of food and the number of calories in it in a table.

Food	Serving size	Calories
Dried cranberries	40 g	130
Crackers	16 g	70

- With your student, use proportions to find the size of a 100-calorie serving. You can use an equation:  $\frac{40 \text{ g}}{130 \text{ cal}} = \frac{x \text{ g}}{100 \text{ cal}}$ ; or you can find the constant of proportionality first:  $\frac{40 \text{ g}}{130 \text{ cal}} \approx 0.31$ .
- Find the size of 100-calorie servings for some of the other foods. Which has the most calories per gram? Which has the least?

### Vocabulary to Practice

A **proportion** is an equation that says that two ratios are equivalent.

If two values  $x$  and  $y$  satisfy the equation  $\frac{y}{x} = k$ , and  $k$  is a constant, then  $y$  is **directly proportional** to  $x$ . The number  $k$  is the **constant of proportionality**.

If two numbers  $x$  and  $y$  are related by the equation  $xy = k$ , and  $k$  is a constant, then  $x$  and  $y$  are **inversely proportional**.



#### Online Resources

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