

**CHAPTER**  
**1** **Project**  
**Big as a Whale**

**Activity 1: Room for a Whale** *Use after Lesson 1-5*

The blue whale is the largest animal that has ever lived. Other types of whales are also among the world's largest animals. You can use scientific notation to express measurements that relate to the size of whales.

1. Use the Internet to research the length, weight, girth, and daily food consumption of the whales listed below. Complete the table by writing each measurement in scientific notation. You may not be able to find all of the data for some types of whales.

Whale	Length (m)	Weight (kg)	Girth (cm)	Daily Food Consumption (kg)
Blue	$3.0 \times 10^1$	$1.6 \times 10^5$	$1.4 \times 10^3$	$4.0 \times 10^3$
Humpback				
Right				
Gray				
Orca				

2. A main food source of blue whales is krill, tiny shrimp-like animals about 15 mm in length. About how many times longer is a blue whale than krill?

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3. Approximately how many tons of food must each type of whale consume in one year?

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4. Measure and record the dimensions of your classroom in meters.

Length: \_\_\_\_\_

Width: \_\_\_\_\_

Height: \_\_\_\_\_

5. What types of whales listed in the table would fit in your classroom? Explain and show any calculations you used to determine your answer.

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**CHAPTER** **Project**

**1** **Big as a Whale** continued

**Activity 2: Hugging a Whale** Use after Lesson 1-7

How many people would it take to hug a whale? You can write and use a function to find out.

1. Work with a partner to measure your arm spans with a meterstick or measuring tape. Record your results on the board. Then find the mean arm span in centimeters of the students in your class.

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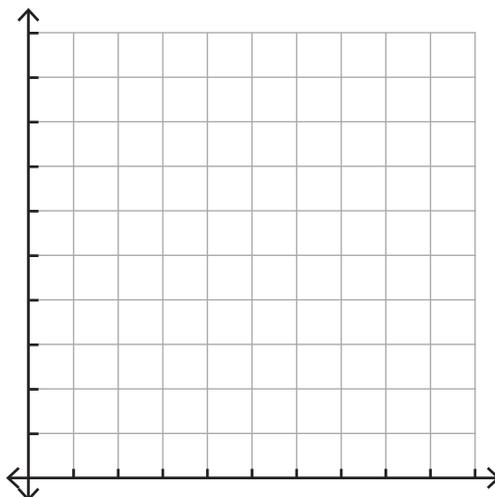
2. Write a function that could be used to estimate the number of students  $y$  needed to hug a whale of girth  $x$  in centimeters. Assume that the students are arranged with their fingertips just touching.

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3. Use your function and data from Activity 1 to complete the table below.

Whale	Girth (cm) $X$	Students Needed to Hug Whale $Y$
Blue		
Humpback		
Right		
Gray		
Orca		

4. Graph the data from the table on the coordinate plane. Use an appropriate scale and label the axes.



5. Use your graph to predict the number of students needed to hug a whale with a girth of 8 m.

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