

Student Guide



Using Coordinates (SG pp. 324–326)

See discussion in the lesson.

Questions 1–3

- 1.* The globe is 3 steps to the left of and 1 step in front of the wastebasket. It is 2 steps to the right of and 6 steps behind the desk.
- 2.* The globe is 5 steps to the right of and 4 steps in front of Mr. Origin.
- 3.* (5, 4)

Using Coordinates

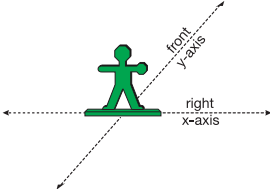



Front View Rear View

This is Mr. Origin.

Does your Mr. Origin look the same as this one? This Mr. Origin has a glove on his right hand. What is special about the right hand of your Mr. Origin?

We can use Mr. Origin to help describe where things are. We can draw a line through Mr. Origin that goes from left to right. We call that the **left/right axis**. (Mr. Origin's hands point in the directions of the left/right axis.) Mathematicians call it the **x-axis**.



Mr. Origin has a button on his front that has a + on it. We can draw a line through Mr. Origin that goes from front to back. We call that the **front/back axis**. Mathematicians call it the **y-axis**.

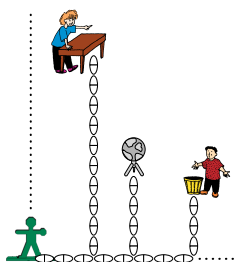
Copyright © Kendall Hunt Publishing Company

324 SG • Grade 3 • Unit 12 • Lesson 1 Using Coordinates

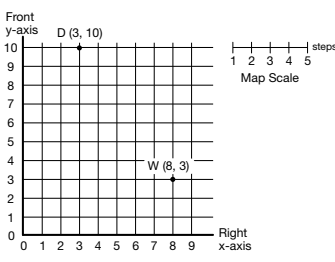
Student Guide - Page 324

Elizabeth and Frank use Mr. Origin to map the positions of the desk and the wastebasket.

The room looks like this.



The map looks like this.



Using Coordinates SG • Grade 3 • Unit 12 • Lesson 1 325

Copyright © Kendall Hunt Publishing Company

Student Guide - Page 325

To be able to use the map, it is necessary to know the units Elizabeth and Frank used to measure.

They measured using steps. They also could have measured with standard units of measure like feet or meters.

Frank's wastebasket is 8 steps to the right of and 3 steps in front of Mr. Origin. The **coordinates** of the wastebasket's location are 8 steps right and 3 steps front. Elizabeth's desk is 3 steps to the right of and 10 steps in front of Mr. Origin. What are the coordinates of Elizabeth's desk?

Mathematicians use pairs of numbers, called **coordinates**, to give locations. They write them inside parentheses like this:

The wastebasket is at (8, 3).
Elizabeth's desk is at (3, 10).

The pairs of numbers are called **ordered pairs** because the order in which they are written is very important. The first number always tells the distance to move along the left/right or x-axis. The second number always tells the distance to move along the front/back or y-axis.

Discuss

Discuss these questions with your class.

1. How can you describe the location of the globe within the classroom?
2. Describe the location of the globe using Mr. Origin as a starting point.
3. Use coordinates to give the location of the globe. What two numbers will you use? In what order?

Use the *Practice with Coordinates* page in the *Student Activity Book* to practice locating points on a map.

Play the *Find the Panda Game* in the *Student Activity Book* to practice using coordinates to locate an object on a map.

Using Coordinates

326 SG • Grade 3 • Unit 12 • Lesson 1 Using Coordinates

Copyright © Kendall Hunt Publishing Company

Student Guide - Page 326

*Answers and/or discussion are included in the lesson.