

**Motion** ▪ *Guided Reading and Study*

## Describing and Measuring Motion

*This section explains how to recognize when an object is in motion and how to determine how fast it is moving.*

### Use Target Reading Skills

*Before you read the section, write what you know about motion in the top box of the graphic organizer. As you read the section, write what you learn about motion in the bottom box. As you fill in the top box, brainstorm and discuss everyday experiences in which you experience motion.*

What You Know
1.
2
3.
4.
5.

What You Learned
1.
2
3.
4.
5.

### Describing Motion

1. An object is in \_\_\_\_\_ when its distance from another object is changing.
2. What is a reference point?

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3. An object is in motion if it changes position relative to a(n) \_\_\_\_\_.
4. Complete the table about SI.

SI	
Question	Answer
What is its whole name?	
What is its basic unit of length?	
What does the prefix <i>milli-</i> mean?	

5. How many centimeters are there in a meter? \_\_\_\_\_
6. How many meters are there in a kilometer? \_\_\_\_\_

**Calculating Speed**

7. What is the formula used to calculate the speed of an object?  
\_\_\_\_\_
8. How would you find the average speed of a cyclist throughout an entire race?  
\_\_\_\_\_  
\_\_\_\_\_

**Describing Velocity**

9. Speed in a given direction is called \_\_\_\_\_.  
\_\_\_\_\_
10. An approaching storm is moving at 15 km/hr. What do you need to know to determine its velocity?  
\_\_\_\_\_  
\_\_\_\_\_

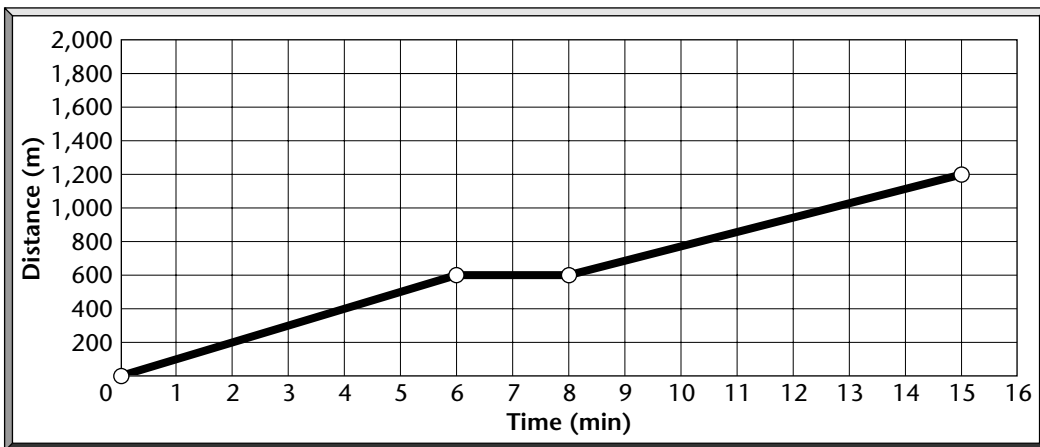
**Graphing Motion**

11. The slant of a line on a graph is called its \_\_\_\_\_.  
\_\_\_\_\_
12. Is the following sentence true or false? The steepness of a motion graph's slope depends on how quickly or slowly the object is moving.  
\_\_\_\_\_

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13. The motion graph above graphs the motion of a jogger on a run one day. How far did the jogger run in 15 minutes? \_\_\_\_\_



14. The motion graph above also shows the motion of a jogger on a run one day. The line is divided into segments. The middle segment is horizontal. What does that tell you about the jogger's progress between minute 6 and minute 8?

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