SECTION 1.2 | SPEED MEASURES HOW FAST POSITION CHANGES.

Reading Study Guide B

BIG IDEA The motion of an object can be described and predicted.

KEY CONCEPT Speed measures how fast position changes.

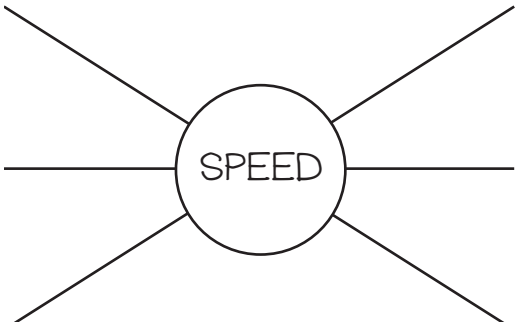
Review

An object in motion changes position with time.

Take Notes

I. Position can change at different rates. (p. 16)

1. Fill in the description wheel for *speed*.



A. Calculating Speed (p. 17)

2. Fill in the following outline.

I. Position can change at different rates.
  A. Calculating speed
    1. Requires both _____ and _____.
    2. Formula is _____.
      a. S stands for _____.
      b. d stands for _____.
      c. t stands for _____.

3. How does the unit for speed (m/s) relate to the formula for speed?

_____

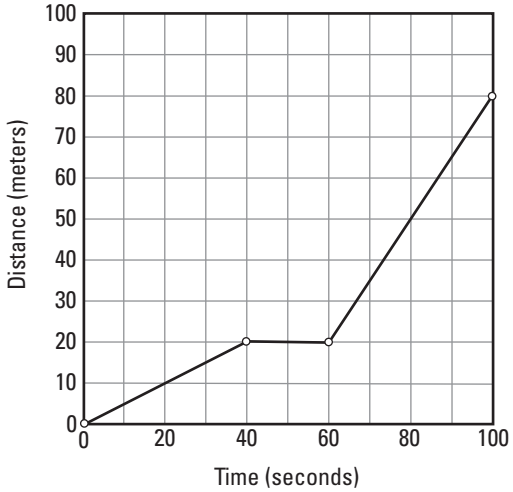
B. Average Speed (p. 19)

4. If someone ran 100 meters in 20 seconds, then ran another 100 meters in 25 seconds, what would the runner's average speed be over the whole 200 meters? Show your work.

_____

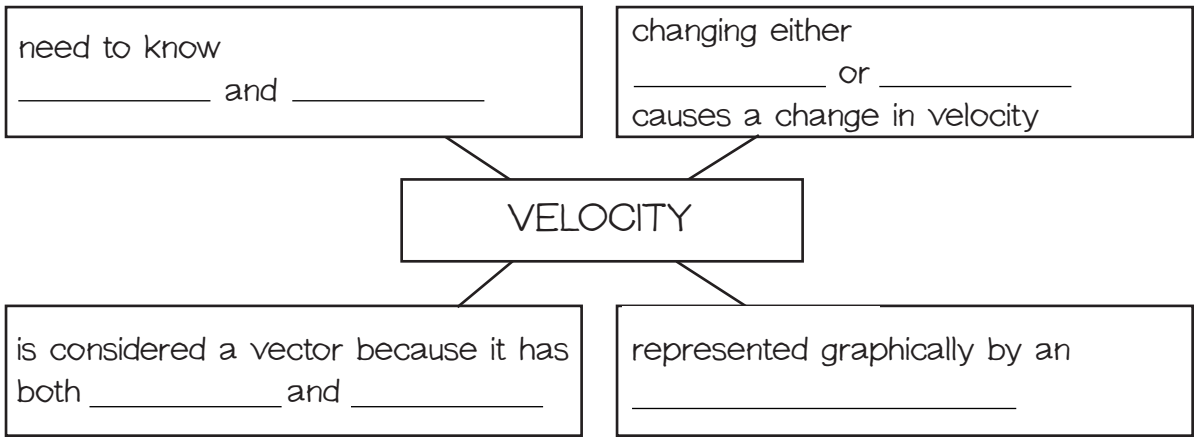
C. Distance-Time Graphs (p. 20)

5. The distance-time graph below shows the motion of a cat. During the 100 seconds shown, the cat was walking, running, and resting. Label each line segment of the graph with a description of the cat's motion. Explain your answers.



II. Velocity includes speed and direction. (p. 22)

6. Complete the main-idea web with information about velocity.



A–B. Velocity, Velocity Versus Speed (pp. 22–23)

7. Explain why velocity is a vector but speed is not.