

Lesson Outline**LESSON 2*****Speed and Velocity*****A. What is speed?**

1. _____ is a measure of the distance an object travels per unit of time.
2. Units of speed are units of _____ divided by units of time.
The SI unit for speed is _____ per second.
3. _____ is the rate of change of position in which the same distance is traveled each second.
4. _____ is speed at a specific instant in time.
5. _____ is the total distance traveled divided by the total time it took to go that distance.
6. The equation for average speed is $v = \frac{d}{t}$, where the symbol v stands for average speed, d stands for total _____, and t stands for total time.

B. Distance-Time Graphs

1. Graphs that compare distance and time are called _____ graphs.
2. Constant speed is shown as a(n) _____ line on a distance-time graph.
3. Distance-time graphs can be used to compare the _____ of two different objects.
4. _____ lines on distance-time graphs indicate faster speeds.
5. Distance-time graphs can be used to _____ the average speed of an object. The difference in _____ between two points is divided by the difference in _____ between the same points.
6. When the slope of a line on a distance-time graph decreases, it means that the speed of the object is _____.
7. A(n) _____ line on a distance-time graph indicates that the motion has stopped.
8. When the slope of a line on a distance-time graph increases, it means that the speed of the object is _____.
9. Even when the speed of an object isn't _____, its average speed can be calculated from a distance-time graph.

Lesson Outline continued

C. Velocity

1. _____ is the speed and the direction of a moving object.
2. The velocity of an object can be represented by a(n) _____.
The length of the arrow indicates the _____. The arrow points in the direction of the object's _____.
3. Velocity _____ when the speed of an object changes, when the direction in which the object is moving changes, or when the speed and the direction change.