

Average Speed Reading Guide

Read [pages 37-42](#) and answer the following questions

Use the [Physics Formula Sheet](#) for help

Vocab Word	Definition	Variable	Unit
Speed			
Constant Speed			
Average Speed			
Instantaneous Speed			
Velocity			

1. Explain how the average speed of a vehicle is different from instantaneous speed.

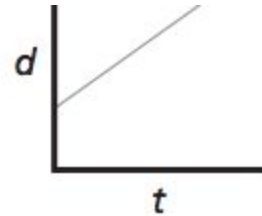
Type response here

2. How are the speed and velocity of an object different?

Type response here

3. If the distance-time graph shows a straight, inclined line, what does that show about an object's motion?

Type response here



4. We will use a strategy called

Want-Given-Equation-Solve+Units when we want to solve math problems in physics. What does each step require you to do? Fill in the table below for reference:

Want	Given	Equation	Solve +Units

5. Now use **WGES+U** to solve this problem from the reading (*hint: the solution is in the book, just put the right values in the right column*). If you drive a distance of 400 miles in 8 hours, what is your average speed?

Want	Given	Equation	Solve +Units

6. We will use equation circles in this class to help us solve math problems using our physics equations. Explain how to use equation circles.

Type response here

7. Now [create a drawing](#) and make a formula circle for one of the equations on our [formula sheet](#).

Insert → drawing → New

A **strobe photo** is a combination of photographs taken at regular time intervals.

A single picture can then show the position of the object over equal time intervals. This



diagram shows a strobe photo of a car traveling at 30 mi/h. The position of the car is shown at the end of every minute.

8. [Create a drawing](#) of a strobe photo, similar to the one above, of a car traveling at 15 mi/h (you may use rectangles instead of cars if you wish).

Insert → drawing → New

9. Were your images farther apart or closer together than they were at 30 mi/h?

Type response here

10. [Create a drawing](#) of a car traveling at 60 mi/h.

Insert → drawing → New

11. Were your images further apart or closer together than they were at 30 mi/h?

Type response here

What Do You Think Now? At the beginning of this section, you were asked the following:

- *What is a safe following distance between cars?*
- *How do race car drivers decide what a safe following distance is?*

How would you answer these questions **now**? Now that you know how speed is related to distance and time, why is it important for professional racecar drivers to pay attention to speed while driving? How does speed impact the distance covered when the driver is trying to avoid a rear-end collision at high speeds?

Type response here