

Name: \_\_\_\_\_ Date: 8/27

Class: Physics Period: \_\_\_\_\_

Unit: U2 Kinematics  
(Unit #, Test #, or Chapter #)

Topic: Speed/Velocity  
(1 Main Idea of this page notes for quick find)

**Notes: Record**

(everything important)

**Scalar**  
mag, no dir

Distance

**Vector**  
mag, + dir

Displacement

Speed  

$$\frac{\text{distance over a period of time}}{t} = s$$

SI Units:  $s = \frac{d}{t}$  in meters  $\frac{m}{s}$  in second  $\frac{m}{s}$

**GUESS Method**

- Given
- Unknown
- Equation write
- Substitute # for variables
- Solve for unknown
- Sense? with units

**How to solve for Velocity (v)**

Calculate the velocity of a Tesla Roadster that travels 6.7km in 60 seconds?  
(is equivalent to 250mph)

$$v = \frac{d}{t} = \frac{6.7 \text{ km}}{60 \text{ s}} = \frac{6700 \text{ m}}{60 \text{ s}} = 111.6 \frac{m}{s}$$

**How to solve for Distance (d)**

How far will the Empress of Science drive to school if she travels at 72.42kph for .217hr?  
(is equivalent to 45mph for 13 minutes)

$$d = s \cdot t = (72.42 \frac{km}{hr}) \cdot (.217 \text{ hr}) = 15.715 \text{ km}$$

**How to solve for Time (t)**

How long will it take to drive to A&M from WHS if you drive 322km at 112kmh?  
(is equivalent to 70mph for 200mi)

$$t = \frac{d}{s} = \frac{322 \text{ km}}{112 \text{ km/hr}} = 2.875 \text{ hr} \approx 2.88 \text{ hr}$$

**Critical Questions:**

**Remember**

(Create your own quiz. List questions here directly opposite the answers in the notes on the left side)

How is speed found?

How is velocity found?

What is the difference between speed and velocity?

(Quiz yourself. Fold this section so you can't see the notes. Ask these questions. Write your answers on the back. Check your answers. Study what you have not yet mastered.)

**Summary: Review**

(Briefly explain the key ideas to study from that answer: why is important, what conclusions possible, how applies to life.)

**Vocab: Recite**

(Quick reference of key terms and definitions)