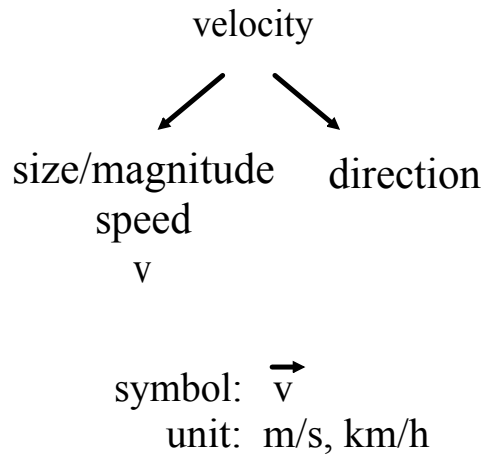Thursday, January 8/15
Science 10

1. Quiz: Chapter 9 - Rewrite - Friday at Noon

2. Check -> 100 Acre Wood

3. Understanding Concepts: Page 416, #1 and 4

4. Velocity

5. Average Velocity

6. Chapter 12: Displacement, Velocity and Acceleration (Page 444)

7. Acceleration

8. Velocity-Time Graphs

Velocity
(Page 432)

Speed Scalar

Velocity is a vector quantity.

velocity

size/magnitude   direction
speed
v

Speed V
Velocity $\vec{V}$

symbol: $\vec{v}$
unit: m/s, km/h

An object with constant speed and direction has constant
velocity. This type of motion is called uniform motion.

Calculating Velocity

$$\vec{v} = \frac{\vec{\Delta d}}{t}$$

$\frac{displacement}{time}$

$\vec{v} \Rightarrow$ velocity $\left(m/s, km/h\right)$

$\vec{\Delta d} \Rightarrow$ displacement $\left(m, km\right)$

$t \rightarrow$ time $\left(s, h\right)$

Use this formula if the velocity is constant.

Average Velocity
(Page 433)

Average velocity is defined as the overall rate of change of position from start to finish.

$$\vec{v}_{av} = \frac{\Delta \vec{d}_r}{t}$$

$\vec{v}_{av}$ → average velocity (m/s, km/h)

* $\Delta \vec{d}_r$ → resultant displacement (m, km)

t → time (s, h)

Use this formula if the velocity is not constant.

resultant displacement

+ 10 m, − 2 m, + 6 m

$\Delta \vec{d}_r = +10m - 2m + 6m$

$\Delta \vec{d}_r = 14m$