Name: ___Key_____   Date: _____

Science 7   Motion

Aim: I can describe motion.

Do Now:

_____

_____

Notes:

Motion:

- A _____Change_____ in position relative to or __measured__ from a ___stationary___ reference point (frame of reference).

How can motion be described?

- Speed: how _____fast_____ something moves; the___rate___ of motion.
- The amount of ____time____ it takes for a ___Change___ in position to take place.

Instantaneous Speed:

- The ___rate___ of motion at any given ___time/instant___ .

Constant Speed:

- A __speed__ that does not change.
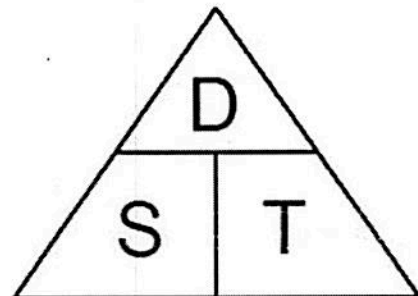- Most things are only traveling for a constant speed for a short period of time.

Average Speed:

- The total ___distance___ traveled divided by the total ___time___ of travel.

Calculating Speed

- Express the relationship between __distance__ , __speed__ and __time__ .

$$speed = \frac{distance}{time}$$

Practice Problems:

1. A lady bug crawls 5 meters in 20 seconds. Calculate the speed at which the lady bug crawled.

Formula	$S = D/t$
Substitution	$S = \dfrac{5m}{20s}$
Final Answer with Units	$S = 0.3 \, m/s$

2. Your neighbor says she can skate at a speed of 4 meters/second. To see if you can skate faster, you have her time you as you skate as fast as you can for 100 meters. Your time is 20 seconds. Who skates faster?

Formula	$S = D/t$
Substitution	$S = \dfrac{100m}{20s}$
Final Answer with Units	$S = 5m/s$

3. Sound travels at a speed of 330 meters/second. If a lightning bolt strikes the ground 1,000 m away from you, how long will it take for the sound to reach you?

Formula	$S = D/t \rightarrow t = D/S$
Substitution	$t = \dfrac{1000m}{330m/s}$
Final Answer with Units	$t = 3.0s$