

Name: _____ Date: _____

Physical Science Notes **6**
Motion and Speed

Motion

- Motion is simply defined as a change in an object's position.
- Most of the time, it is quite easy to see that something has moved as we can see it happening. It is also easy to measure in meters with a tool such as a meter stick or a tape measure.
- Sometimes it is not so easy to see something moving, but we can deduce that it is.

When we are all snug in our seats, are we moving? Yes

- We are moving because the Earth is moving around the Sun. This is called relative motion, because we cannot see or feel it happening, but we know it is, because our position has changed.
- How does one know that a mail truck has moved when you did not actually see it move?

It's position relative to your mailbox has changed.

- We measure motion as the distance that an object has moved. It is usually measured in meters, but in the case of an object moving very far (such as a Ford F-350), we measure distance in kilometers.

Displacement

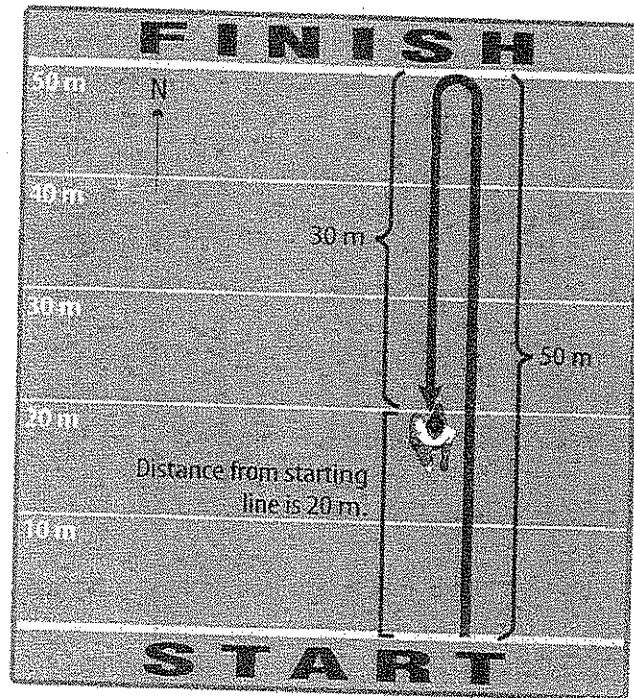
- We have used this term to define an amount of water that is

pushed aside when an object is placed in it.

- In motion, however, it refers to an object in motion that changes its

direction. The displacement is the total distance

that the object has moved after looking at the changes in direction.



Speed

- Speed is simply defined as the distance an object travels per unit of time. An example would be the old-fashioned MPH.

○ Miles is the distance

○ Per hour is the time

- Knowing this, we can calculate the speed of anything as long as we know the distance it traveled and the time it spent traveling.

$$\text{Speed} = \frac{\text{distance}}{\text{time}}$$