

Name: _____ Date: _____

Physical Science Notes 7 Velocity and Acceleration

Velocity

- Velocity has two parts.
 - The first we have been studying: speed of an object in motion.
 - The second part deals with the direction an object is moving in.
- We always express velocity with these two parts. speed + direction
- Is it possible for a car moving 100km/hr to change its velocity without slowing down?

Yes If the car changes direction, its velocity is changing.

Acceleration

- Just like speed is the rate of change in motion, acceleration is the rate of change in velocity.
- Any time an objects velocity changes it is accelerating.
- Because velocity has two parts, acceleration changes any time:
 - speed changes, or
 - direction changes.
- This means that when an object speeds up, it accelerates.
 - This is called positive acceleration.

- This also means that when an object slows down, it accelerates.
 - This is called negative acceleration.

Calculating Acceleration

- Calculating acceleration involves a new formula:

$$\text{Acceleration} = \frac{\text{Change in velocity}}{\text{time}}$$

$$\frac{\text{final velocity} - \text{starting velocity}}{\text{change in vel.}}$$

Practice:

check online for practice.