Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hr. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Acceleration Notes**

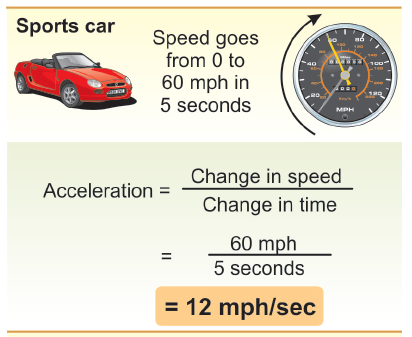
**Acceleration** – the \_\_\_\_\_\_\_\_ at which \_\_\_\_\_\_\_\_\_\_\_ is *changing* over time

Acceleration = change in velocity

time interval

If your speed increases by 1 m/s each second, then your acceleration is 1 m/s per second.

What is the acceleration for the steeper hill?



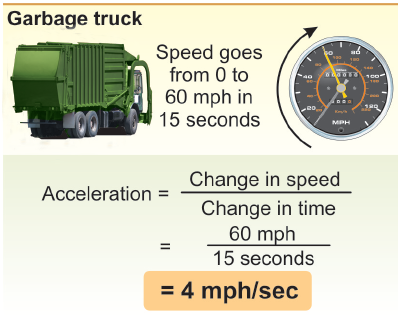
**Speed and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are \_\_\_\_\_\_ the same thing.**

**Acceleration is the \_\_\_\_\_\_\_\_ \_\_\_\_ \_\_\_\_\_\_\_\_\_ divided by the \_\_\_\_\_\_\_\_\_\_\_ \_\_\_ \_\_\_\_\_\_\_\_\_.**



**A sailboat moves at 1 m/s. A strong wind increases its speed to 4 m/s in 3 s. Calculate acceleration.**

1. **Looking for:**
2. **Given:**
3. **Relationships:**
4. **Solution: a =**



An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in m/s/s is often written as \_\_\_/\_\_\_\_ (meters per second squared).

It is better to think about acceleration in units of \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ per \_\_\_\_\_\_\_\_\_\_\_ (that is, meters per second *per second*).

Acceleration is \_\_\_\_\_\_\_\_\_\_ when velocity is \_\_\_\_\_\_\_\_\_\_\_\_, for example when a car is speeding up.

Acceleration is \_\_\_\_\_\_\_\_\_\_\_\_\_ when velocity is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, for example when a car is slowing down. Negative acceleration is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Acceleration can be happening even if the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of an object is \_\_\_\_\_\_ changing.**

**Remember, velocity consists of \_\_\_\_\_\_\_\_\_\_ *and* \_\_\_\_\_\_\_\_\_\_\_\_\_\_. If the \_\_\_\_\_\_\_\_\_\_\_\_\_ of motion is changing but the \_\_\_\_\_\_\_\_\_\_\_ remains the same, the object is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Acceleration occurs whenever there is a change in \_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_, or \_\_\_\_\_\_\_.**



**Practice Problem:**

As a shuttle bus comes to a normal stop, it slows from 9.00m/s to 0.00m/s in 5.00s.

Find the average acceleration of the bus.

**a) A ball is dropped off a bridge**

* + Accelerating? Yes No
  + Speed? Increase / Decrease / Neither

**b) A man is running at a constant speed**

* + Accelerating? Yes No

Speed? Increase / Decrease / Neither

**Homework:**

**Read pg. 15-16;**

**Pg. 25 Review Questions 9-11;**

**Pg. 26 Probs. 27, 28**