Notes: Acceleration

The rate of change in velocity is known as acceleration.

If something is accelerating, it is speeding up, slowing down, or changing direction.

The acceleration of an object can be determined using the following equation…

$$\text{Acceleration} = \frac{\text{Final Velocity} - \text{Original Velocity}}{\text{Time}}$$

The units of measurement for acceleration can be determined using the formula.

Velocity is usually measured in kilometers per hour or meters per second. Time is measure in hours or seconds

$$\frac{\text{km / hour}}{\text{Hour}} \quad \text{or} \quad \frac{\text{m / second}}{\text{second}}$$

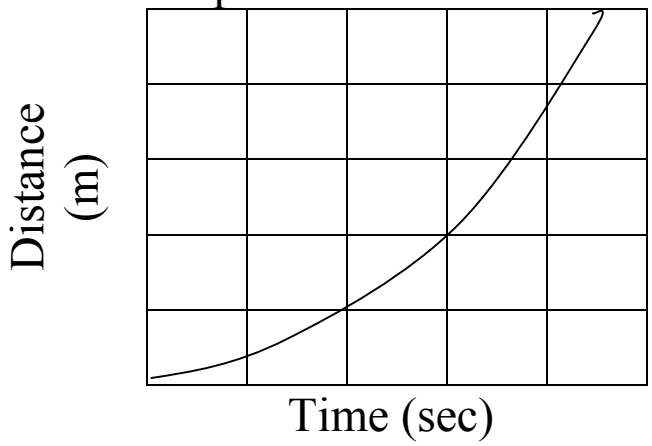
So, the units are expressed as…

km /hour / hour or m / sec / sec

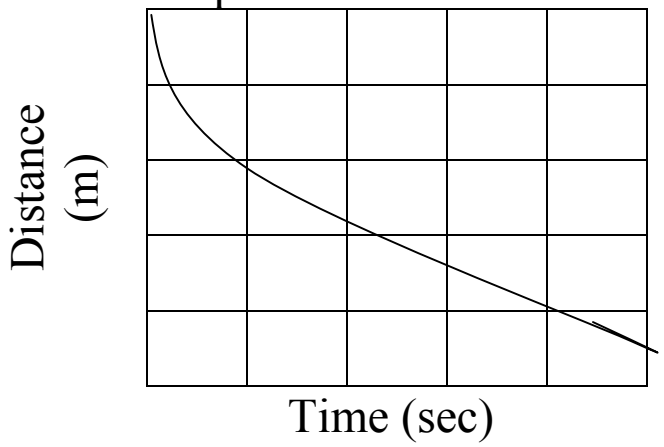
If there is a decrease in velocity, the value of acceleration is negative.

A distance-time graph for acceleration is always a curve…

This is an example of acceleration…



This is an example of deceleration…



Circular Motion

In circular motion, the velocity is continuously changing because direction is continuously changing. An object in circular motion is accelerating even though its speed may be constant.