Motion

An object is in <u>motion</u> if its distance from another object is changing.

A <u>reference point</u> is a place or object used for comparison to determine if something is in motion.

An object is in motion if it changes position relative to a reference point.

The <u>speed</u> of an object is the distance the object travels per unit of time.

Speed = <u>Distance</u>
        Time

To calculate *average speed,* divide the total distance traveled by the total time.

*distance = 32 km (1st 2 hours) and then 13 km (the last hour).

*time: 3 hours

Average speed = <u>45km</u> = 15km/hr
              5hr

<u>Calculating average speed:</u>

Two families meet at the Sports arena at 10:00 AM. Each family uses a different way to get there.
The Stuker family leaves at 9:00 AM and drives 90 km on the highway. The Warnell family leaves at 9:30 AM and rides the train 30km.
1. What is the average speed for each family's trip?
2. Which family travels at the faster speed?

<u>Velocity</u>: speed in a given direction.

<u>Slope</u>: the steepness of a line on a graph

Slope = <u>Rise</u>
       Run

The *slope* tells you how fast one variable changes in relation to the other variable in the graph.