Describing Motion: Speed

Position can change at different rates.

Speed is the measure of what distance something travels in a determined amount of time

Example:

Car travels at 60 miles per hour…that means that every hour the car moves 60 miles

Describing Motion: Speed

Distance and time are related:
If a car moves more miles in an hour than another car…it is going faster

If a car takes less time than another car to get to the same place…it is going faster

Calculating Speed

To calculate speed you need to know two things:

a) DISTANCE TRAVELED

b) Time that it took to travel that distance

Equation for Calculating Speed
Speed= distance/time
S= d/t
Example

$$S = \frac{d}{t}$$

a) Runner: runs 100 m in 10 s.

$$S = \frac{100\,m}{10\,s} = 10\,m/s$$

b) Car: I travel 160 miles in 2 hrs.

$$S = \frac{160\,mi}{2\,hr} = 80\,MPH$$

Units used

$$MPH, KPH, \frac{m}{s}, \frac{cm}{min}$$

When we measure:

Speed:

Units: always a distance unit divided by a time unit. m/s (meters divided by seconds) or km/h (kilometers divided by hours)

BTW: you read the fraction m/s as "meters per second"