We study the order of God's creation when we study velocity and acceleration

Speed-- "how fast" rate of change of position Scalar

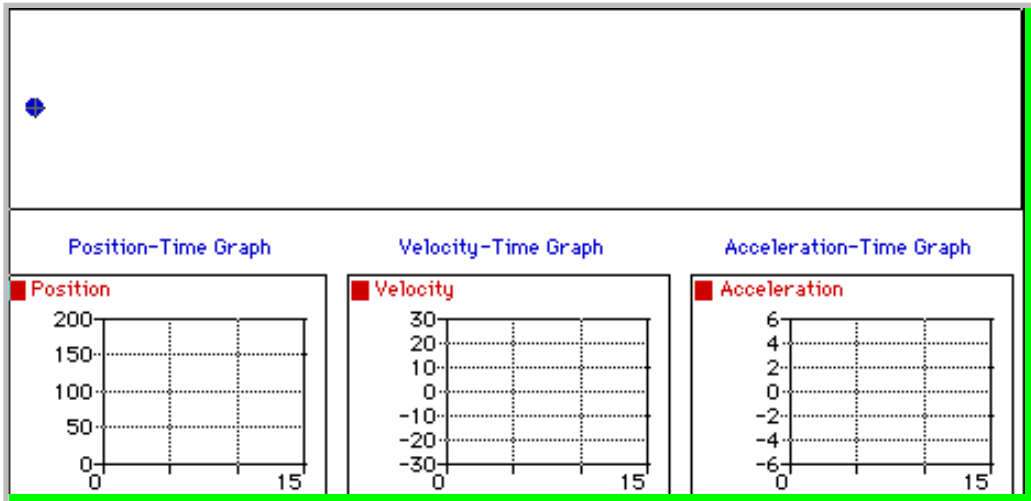
Rate-- Anything that happens over time

Velocity-- rate of change of position AND direction Vector

Average-

Instantaneous-

sim_measurespeed.swf



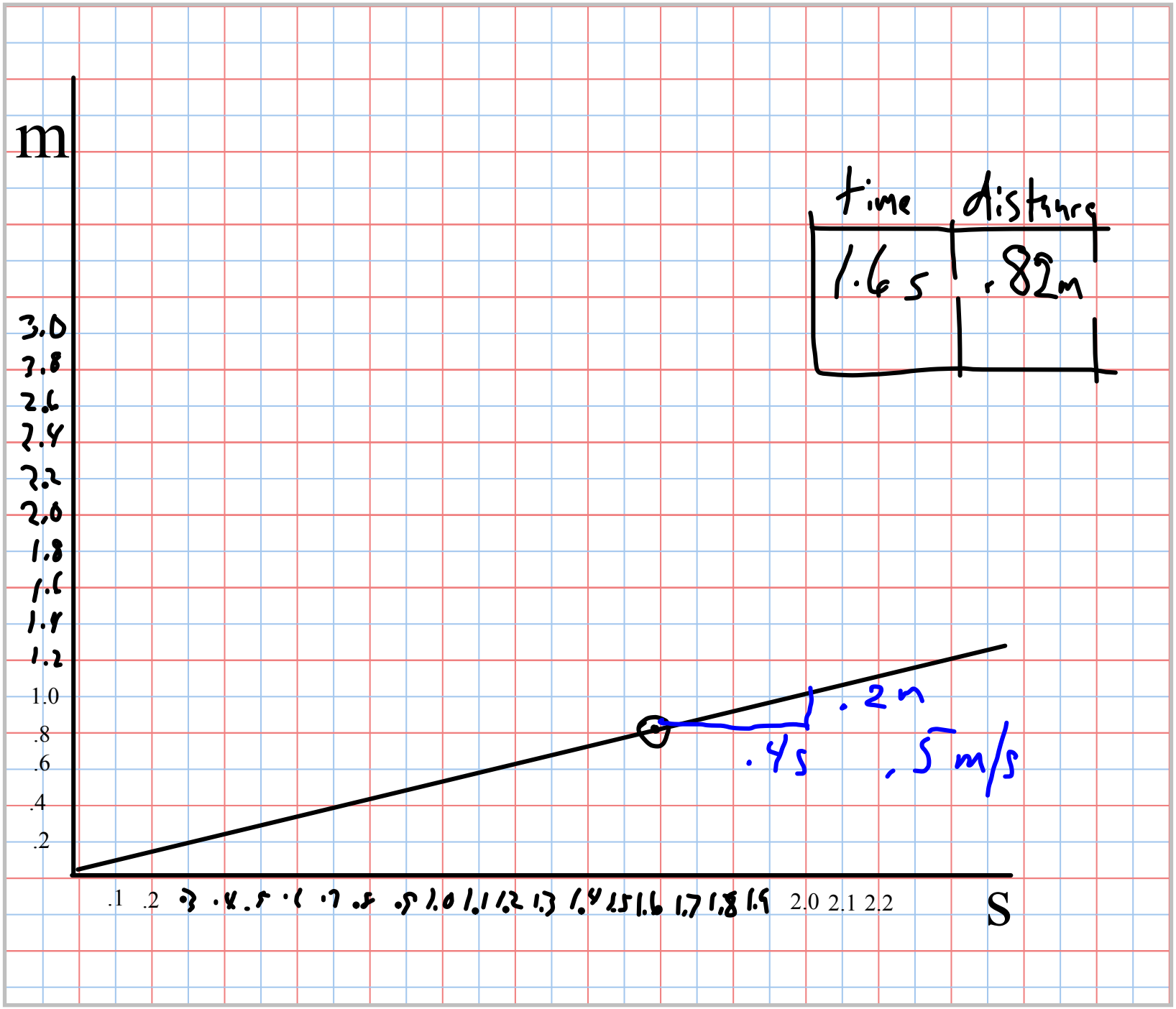
constant
positve
velocity

http://www.physicsclassroom.com/mmedia/kinema/cpv.html

Graphing--

x-axis- time

y-axis-


m
3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
.8
.6
.4
.2
.1 .2 .3 .4 .5 .6 .7 .8 .9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2
S
time
distance
1.6 s
.82m
.2m
.4s
.5 m/s

Calculating velocity

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

v= velocity (m/s)
d= distance (m)
t= time (s)

How fast will a car travel if it goes 300.0 m in 25s? (sig fig)

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

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

$$V = \frac{300.0\ m}{25\ s}$$

$$V = 12$$

$$V = 12\ m/s$$

How fast is a car going if it travels 245 km in 2 hours? (m/s)

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

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

$$V = \frac{245\ km}{2\ hrs}$$

$$V = 122.5$$

$$V = 180\ \frac{km}{hr} \cdot \frac{1000m}{1km} \cdot \frac{1hr}{3600s} = 27.8\ m/s$$

$$30\ m/s$$

A person runs toward the rising sun, If she runs a 400m race in 61.0 s What is the velocity?

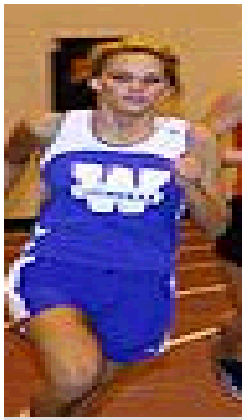
$$V = \frac{d}{t}$$

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

$$V = \frac{400\,m}{61.0\,s}$$

$$V = 6.55737$$

$$V = 6.56\ m/s\ east$$



Do you not know that in a race all the runners run, but only one gets the prize? Run in such a way as to get the prize. I Cor. 9:24