



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

Average-

Instantaneous-

Vector



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Measuring Speed

Sim Objective: Learn how to work out the speed of a moving object and understand how to make calculations using the relationship between speed, distance and time.

This simulation shows the relationship between time, distance and speed. Click on the menus to choose a speed for cars A, B & C.

Press 'Calculate'.

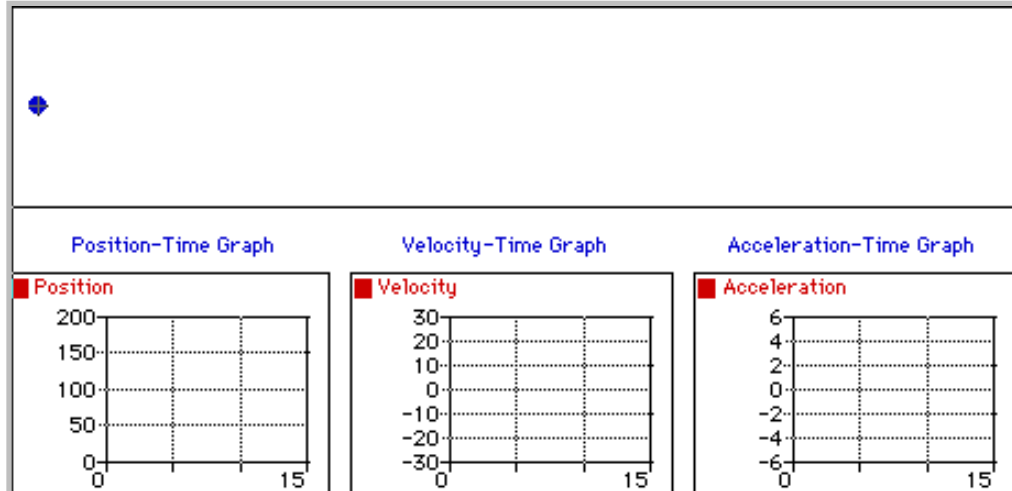
Press 'GO' and watch to see who wins!

Begin

SMART
Supporting Education

Supporting Education intel

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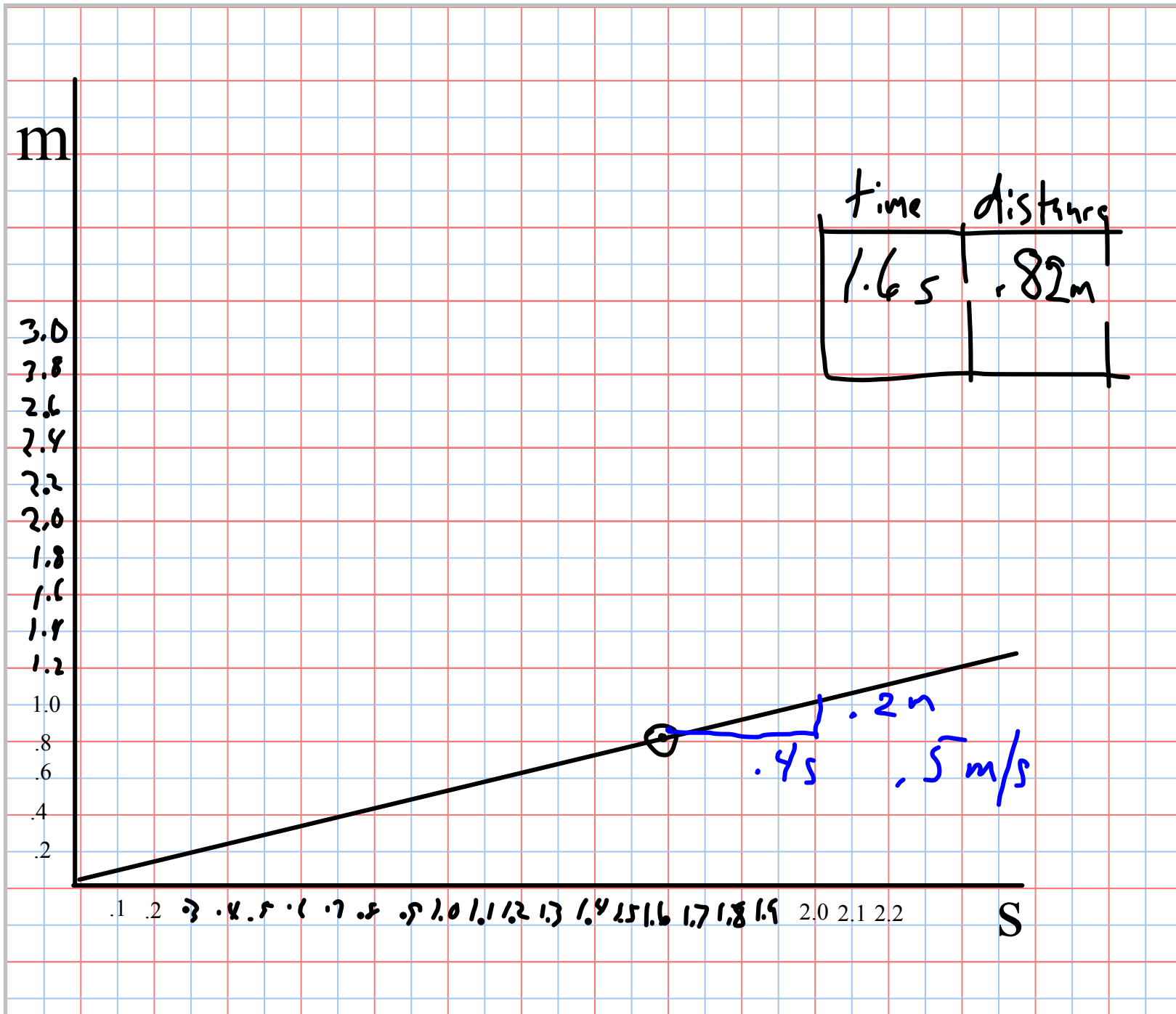


constant
positive
velocity

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



Graphing--
x-axis- time
y-axis-



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)

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

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

$$v = \frac{300.0 \text{ m}}{25 \text{ s}}$$

$$v = 12$$

$$v = 12 \text{ m/s}$$

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

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

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

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

$$V = 122.5$$

$$V = \frac{122.5 \text{ km}}{1 \text{ hr}} \times \frac{1000 \text{ m}}{1 \text{ km}} \times \frac{1 \text{ hr}}{3600 \text{ s}} = 27.8 \text{ m/s}$$
$$30 \text{ m/s}$$

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

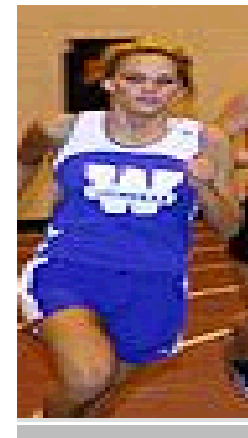
$$V = \frac{d}{t}$$

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

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

$$V = 6.55737$$

$$V = 6.56 \text{ m/s east}$$





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. 1 Cor. 9:24