HUNT FOR ASTEROIDS

THE SCHOOLS' OBSERVATORY

PROUD TO BE PART OF LIVERPOOL JOHN MOORES UNIVERSITY

ASTROLAB
FITS in a browser!

1. Once you've found your asteroid note it's position in image 1:

Pixel position: x = _____ y = _____

2. Did you find any other asteroids? If so, tell us about them:

Measuring distance:

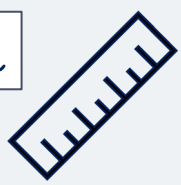
i. Use CONTROL+2 to blink to image 4, showing the final position of the asteroid.
ii. Select the *"Measure Size"* tool in the *"Astro"* menu.
iii. Select the option to *"Add a line".*
iv. Place one end of the line on the pixel position where the asteroid started.
v. Change the size and shape of the line until the other end of the line is on the asteroid's current position.
vi. The "*Measure size"* box will show you the size of the line in pixels.

3. Note down the **line length** value in the Measure Size menu. This is the distance the asteroid has travelled: _____ pixels

4. Now note down the pixel scale underneath this value (each pixel equals…). Note down the **pixel scale** (at the object): _____

5. Now multiply the pixel scale with the pixels your asteroid has travelled to get the **distance** in real units: _____ km

_____	×	_____	=	_____ km
total size		pixel scale		distance



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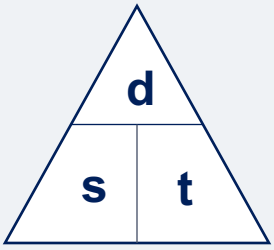
Calculating Speed:

i. We will use the speed-distance-time triangle to work out the speed.



d = distance
s = speed
t = time

ii. We have distance but we still need to know time. To find this go to *"Observation Details"* under the *"Astro"* menu.

iii. Note down the time of observation 1: _____

iv. Note down the time of observation 4: _____

v. Work out the difference in time between images (remember there are 60 seconds in every minute):

_____ minutes = _____ seconds

vii. Now you know the time and distance you can calculate the speed:

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

vii. The approximate speed the asteroid is travelling =

_____ Km/s