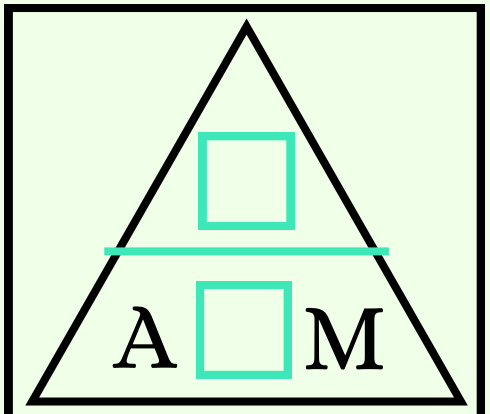
MICROSCOPES

TOP MARKS SCIENCE

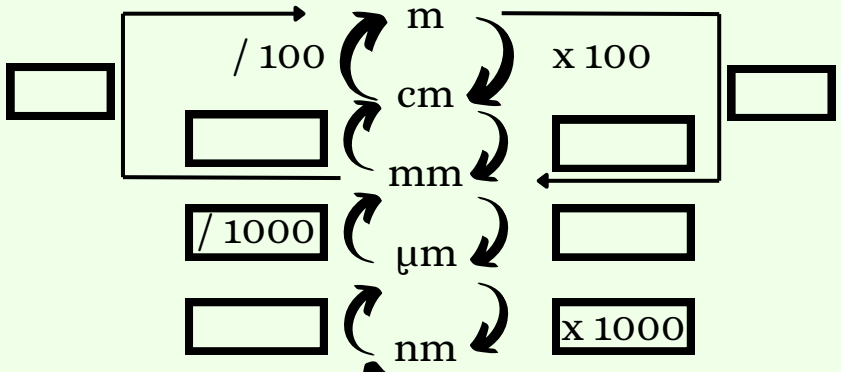
IAM triangle



- _ = Image
- A = _____
- M = _____

Fill the symbol between A & M
What does the line in the middle of the triangle mean?

Units

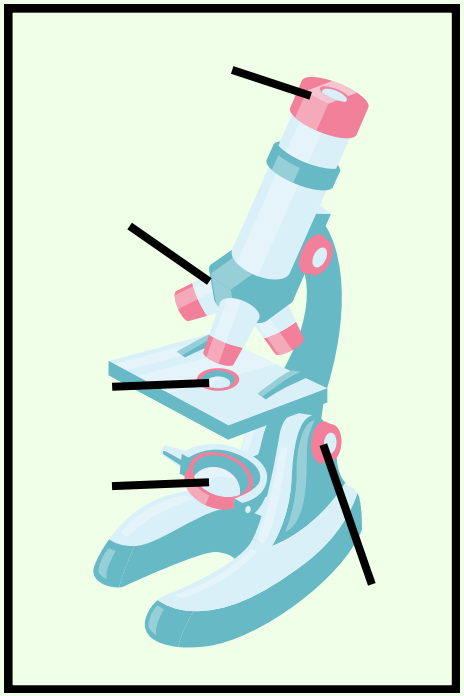


Conversions

1m = _cm
1mm = _µm
5cm = _mm
2µm = _nm
6000nm = _µm
8000µm = _mm

Application

Light microscope



Structure

Related to function. Match up.

1. Coarse focus	A. Sample placed here on a slide
2. Fine focus	B. Large adjustments to focus
3. Objective lens	C. Small adjustments to focus
4. Stage	D. Magnifies the sample

Calculations

Eyepiece x _____ = Total magnification

- If an image of a cell is 20mm across at a magnification of x40, calculate the actual size of the cell.
- The image size of a dividing cell is 100mm. The magnification is 2000x. Calculate the actual size in µm.
- The nucleus in a photograph of a cell measures 0.3cm across. If the magnification in the photograph is × 500, what is the actual size of the nucleus in µm?

Comparison

Definition:
How much a sample has been made to look larger

Definition:

	Light	Electron
Source		
		2000000X
Resolving power	200nm	
Advantages	Cheap(er), used anywhere, live specimens	
		More expensive, large, specific room conditions req.

Beam of electrons	0.2-10nm	Limited detail, magnification&resolution,
Magnification	Beam of light	Drawbacks
Greater detail, mag.&resolution. Organelles.		400-2000X