

Microscopy and measuring cells Define magnification.	Microscopy and measuring cells Define resolution.
Microscopy and measuring cells Approximate resolution of a light microscope?	Microscopy and measuring cells Why does an electron microscope have a higher resolution?
Microscopy and measuring cells Difference between TEM and SEM?	Microscopy and measuring cells What is an artefact?
Microscopy and measuring cells Why are specimens stained?	Microscopy and measuring cells What is used to stain specimens for electron microscopy?

The smallest distance between two points at which they can still be seen as two separate points.

How many times larger the image is than the real object. Magnification = image size $\div$ actual size.

Electrons have a much shorter wavelength than light.

About 200 nm (0.2 μm), limited by the wavelength of light.

A structure seen in the image that is caused by the preparation of the specimen and is not present in the living cell.

TEM: electrons pass through a very thin section, showing internal structure. SEM: electrons scan the surface, giving a 3D image of the surface.

Salts of heavy metals (for example lead or uranium), which scatter electrons.

To increase contrast so that structures can be seen and distinguished from each other.

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Eyepiece graticule or stage micrometer: which has a fixed scale?

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How do you calculate the size of one graticule division?

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Rules for a biological drawing?

Known length of micrometer divisions ÷
number of graticule divisions covering the
same length.

The stage micrometer (divisions of 10 µm).
The graticule units are arbitrary and must
be calibrated.

Sharp pencil, continuous lines, no shading,
ruled label lines, title, magnification or scale
bar.