

Microscopy and measuring cells

What is resolution?

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Why do electron microscopes show more detail than light microscopes?

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How have electron microscopes improved our understanding of cells?

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When should an estimation be used?

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What are milli, micro, nano and pico as powers of ten?

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How do you convert mm to μm , and μm to nm?

Microscopy and measuring cells **Higher tier**

Write 0.000 045 m in standard form

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Magnification equation

They have a higher magnification and higher resolution.

How well a microscope can show two points that are close together as separate points.

To check an answer is sensible, or when an exact value is not needed or cannot be found.

They show sub-cellular structures in detail, so we understand what each structure does.

Multiply by 1000 each time.

milli 10^{-3} , micro 10^{-6} , nano 10^{-9} , pico 10^{-12} .

magnification = size of image $\div$ size of real object.

4.5×10^{-5} m.

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**Rearrange the magnification equation
to find real size**

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**Why is the coverslip lowered at an
angle?**

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Rules for a scientific drawing

To avoid trapping air bubbles over the specimen.

real size = image size $\div$ magnification.

Sharp pencil, clear continuous lines, no shading, drawn large, ruled label lines, title and magnification.