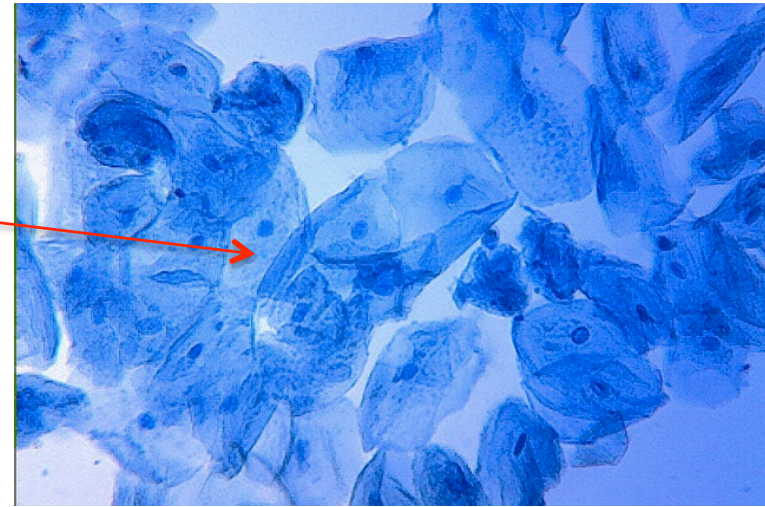
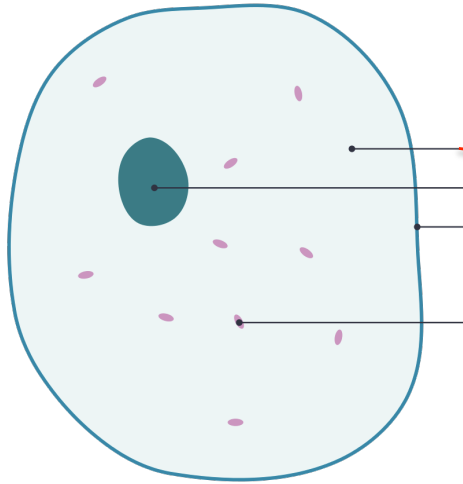
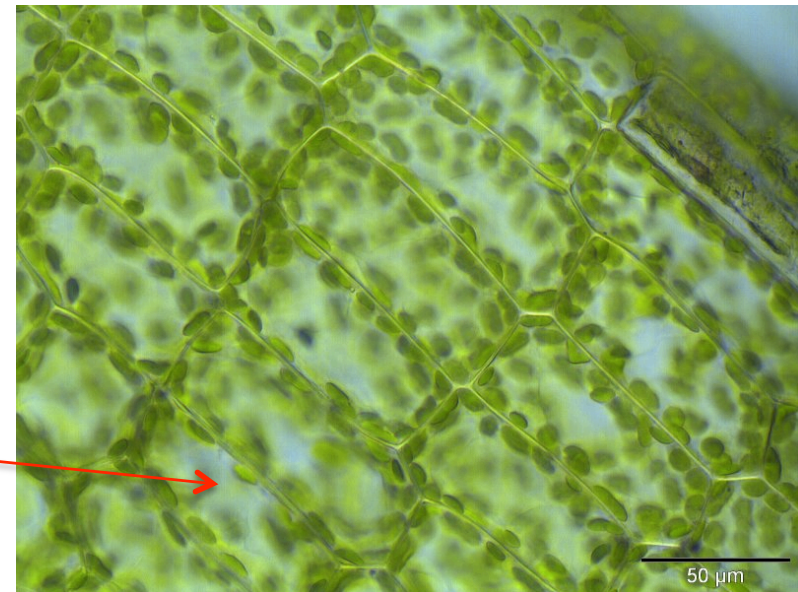
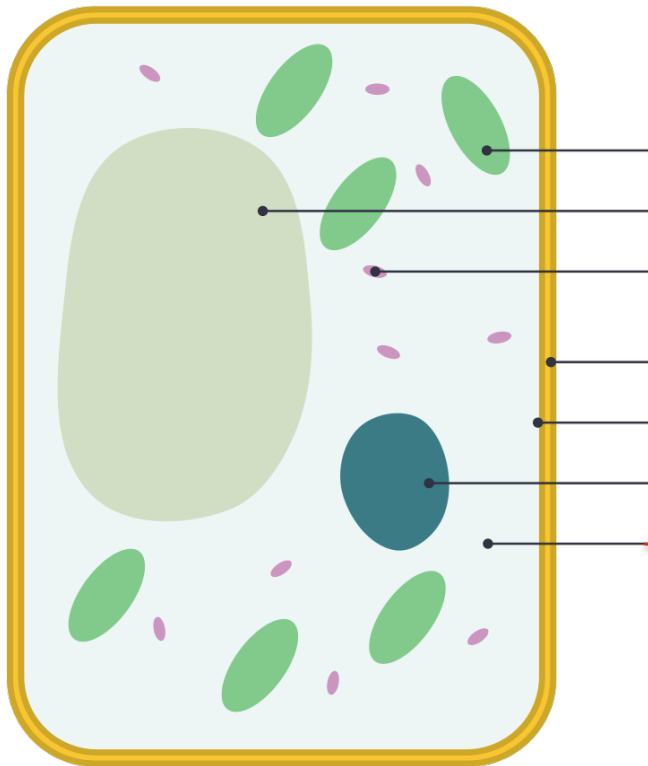


<b>Topic</b>	Labeling animal and plant cells under the electron and light microscopes	<b>Level</b>	GCSE (or any course for students aged 14-16)
<b>Outcomes</b>	To identify organelles in electron micrographs Know that many organelles are too small to be seen under the light microscope Explain the difference between magnification and resolution		
<b>Information for teachers</b>	Use this activity once students have been introduced to the structure of plant and animal cells, as well as the differences between light and electron microscopes. Because tissue is sectioned (cut) before being viewed under an electron microscope, the same organelle may look different, depending on its orientation in the cell at the time of sectioning.  This page provides an excellent summary when explaining the difference between resolution and magnification. <a href="https://courses.lumenlearning.com/boundless-microbiology/chapter/looking-at-microbes/">https://courses.lumenlearning.com/boundless-microbiology/chapter/looking-at-microbes/</a>		
<b>Other resources</b>	Other resources on cell structure are here: <a href="http://thescienceteacher.co.uk/cell-structure/">http://thescienceteacher.co.uk/cell-structure/</a>		

Draw lines to match up parts from the cell model to organelles/structures in the picture.  
If an organelle is not visible do not draw on a line.

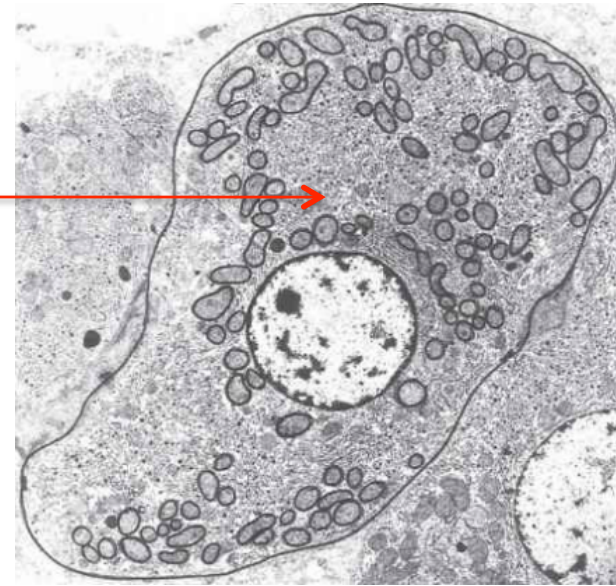
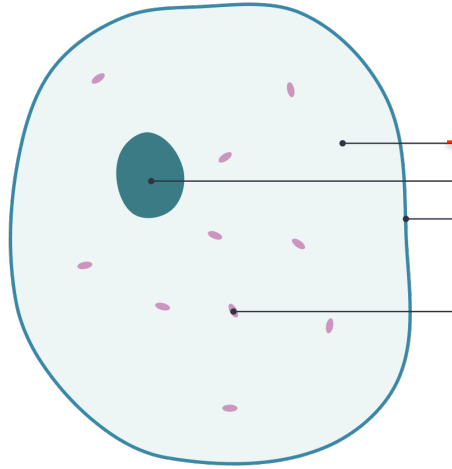


1. Human cheek cells stained with methylene blue seen by a light microscope.

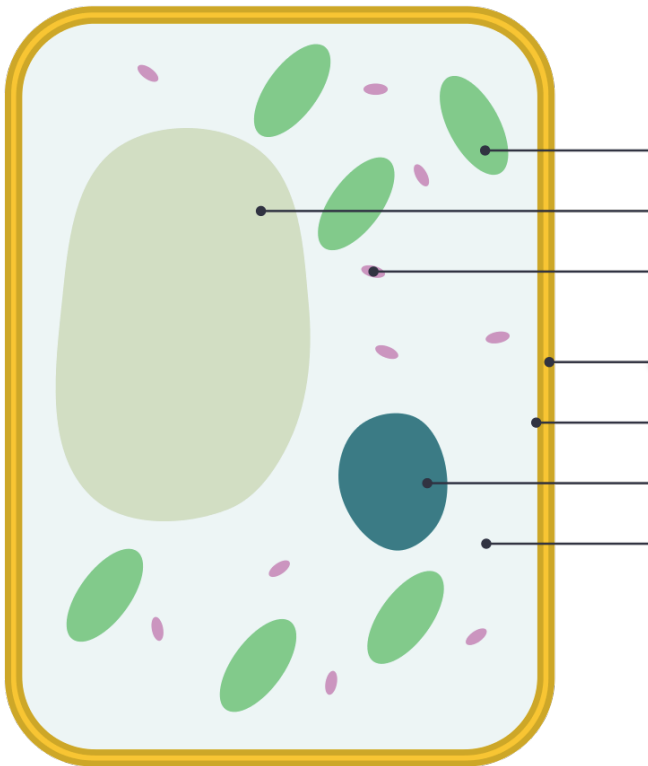


2. Moss cells seen by a light microscope.

Draw lines to match up parts from the cell model to organelles/structures in the picture. If an organelle is not visible do not draw on a line.



3. Animal cell seen using electron microscope.



4. Plant cell seen using an electron microscope.

# Questions to get you thinking

1. Explain why increasing the magnification of a light microscope will still not make it possible to see small organelles.
2. Suggest why we still use light microscopes today, despite their limitations.
3. Explain why the mitochondria in cell three all have different shapes.



