STRATLAB

LABORATORY SUPPLIES

Animal & Plant cells under the microscope

Most living things are made of cells. Cells are a bit like tiny Lego bricks – they can be stuck together to make different animals or plants. There are also some cells which have evolved (changed over a long time) to have particular jobs (like your red blood cells) so they have a different layout to an average cell. This worksheet shows you have to make a slide of a typical plant cell, using an onion and a typical animal cell using a cheek swab

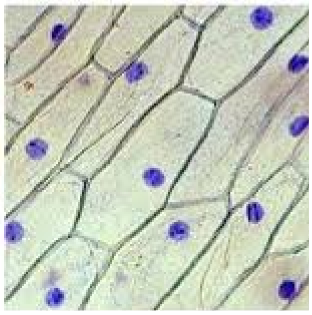
<u>Plant cell preparation</u>

Put a drop of water in the centre of the slide

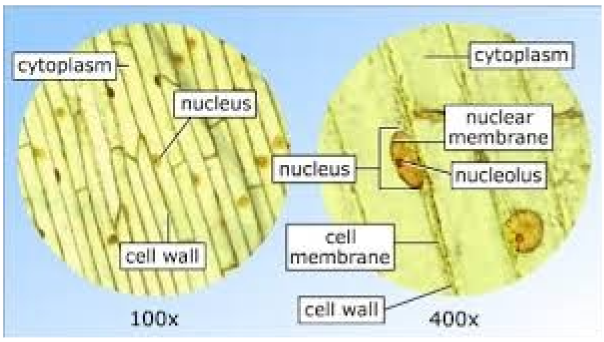
Peel the skin from the non-shiny side of the square of onion. Tweezers may help

Put the skin on the drop of water making sure it is not folded or creased and there are no air bubbles

Look at it under the microscope – use the shortest lens first (lowest power). Put the slide on the stage and turn the focus knob until it is just above the slide (NOT touching). Look through the microscope and turn the knob until the cells are in focus. You should see a pattern like a brick wall.



Swap to a higher power (longer lens) to see more detail.



Things to look for:

Plants don't have a skeleton to hold them up so the cells have a cell wall to give them shape and strength.

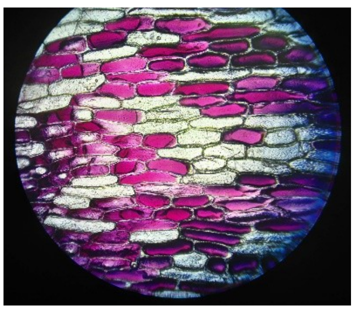


Image taken using the Optika microscope on display and (old) smartphone

Animal & Plant cells under the microscope

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Animal cell preparation

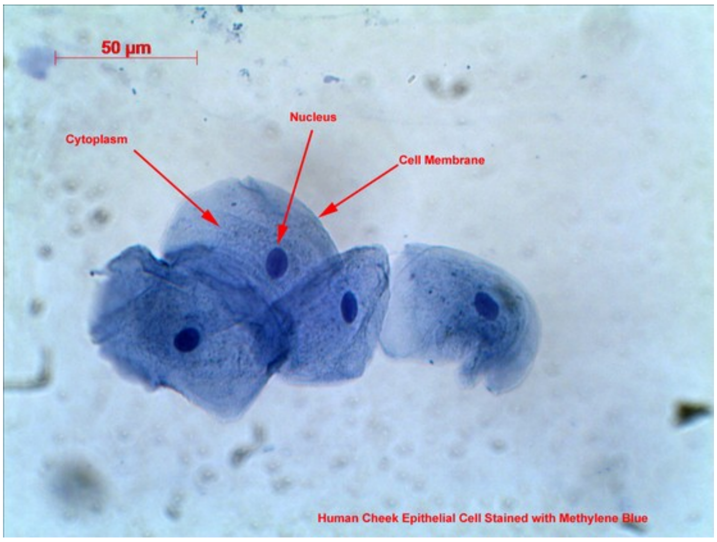
Using the swab/your finger gently scrape the inside of your cheek. The cells here are being shed naturally all the time.

Wipe the cells gently onto the centre of the slide

Place the slide on the microscope stage

Look at it under the microscope – use the shortest lens first (lowest power). Put the slide on the stage and turn the focus knob until it is just above the slide (NOT touching). Look through the microscope and turn the knob until the cells are in focus.

Swap to a higher power (longer lens) to see more detail.



Things to look for:

The spot inside the cell is the nucleus – it contains most of your DNA (the instructions that make you). This is why in police dramas you often see cheek swabs (buccal swabs) used. The DNA is easy to extract and it does not hurt. DNA is unique (unless you are an identical twin).