

Cells

Looking at cells

Aim: To use a microscope to examine cells from our own body.

Important: You need to be shown how to set up and use a microscope properly before you can do this experiment. Microscopes are expensive, precision instruments and you will be in all sorts of trouble if you damage one!



Safety

- Spit contains germs. Keep your own slide to yourself and be sure to put it in disinfectant when you are finished.
- Only use a new wooden ice lolly stick, and put it straight in the bin once you have used it.
- Cover slips are made of thin glass. They are easy to lose and break into sharp pieces. Just take one when you need it, and don't leave it lying around.

Equipment

- optical microscope
- slide
- cover slip
- wooden ice lolly stick
- methylene blue
- disinfectant

What to do:

1. Gently wipe a wooden ice lolly stick against the inside of your cheek. This will remove some of the tiny cells from the lining of your mouth. Don't worry - there are plenty more where these came from!
2. Dab the ice lolly stick onto the middle of a clean microscope slide. **Now put the ice lolly stick in the bin.**
3. Put one drop of methylene blue onto the smear on your slide. This chemical dyes the nuclei of your cheek cells blue, which makes them show up better.
4. Use something like a pencil to lower a glass cover slip gently onto your cheek cells. Do this by putting the edge of the cover slip onto the slide next to the cells, then slowly lower the other edge. This is tricky but important. If you just plonk the cover slip down, you'll trap lots of air bubbles underneath which will spoil your slide.

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5. Clip your slide onto the stage of a microscope. Starting with a low magnification, have a look around your slide until you find some cells. Use a higher magnification to take a closer look.
6. Make a large, clear drawing of a few cells (in pencil). See if you can label the cell membrane, cytoplasm and nucleus.
7. When you are done, put your slide into disinfectant before it is washed up.