

Magnifiers

These magnifiers make objects look 5 times larger.

Using them, you will be able to see details that are barely visible with your eyes.

How to use the magnifier:

1. Hold the magnifier about 5cm (a finger length) above the object you want to look at.
2. Move one eye to 5cm above the magnifier. You may close the other eye if you want.

The magnifier should not be touching either the object or your eye.

3. Move the magnifier very slightly until the object is in focus (you can see it clearly).
4. If it is too dark to see the object properly, move near a brighter light.

Objects to check out:

- your own skin and fingerprints - look for fingerprints and hairs
- cloth, clothing or paper - look for the fibres
- coloured magazine or newspaper printing - look for the coloured dots in images
- natural objects such as feathers and bark - look for new details
- any other objects that you want to look at in more detail

Microscopes

These microscopes make objects look 20 to 40 times larger.

Using them, you will be able to see many details that are invisible with your eyes or even with the magnifiers.

How to use the microscope:

1. Place an object on the flat surface under the big round lens of the microscope.
2. Make sure the light is on, and is shining from above onto the object.
3. Look through the eyepieces on top of the microscope - you might need to move them closer together or further apart so that you can see light through both eyes.
4. Turn the round knobs on the side of the microscope until the object is in focus (you can see it clearly). Move it fast until you start to see details, then move it slowly.
5. To see other details, you may want to move the object around.
6. To change the magnification, move a new lens into position above the object.

Objects to check out:

- your own skin and fingerprints - look for fingerprints and hairs
- cloth, clothing or paper - look for the fibres
- coloured magazine or newspaper printing - look for the coloured dots in images
- make sure you look at feathers, bark, shells and other natural objects you find
- find other objects to put under the microscope - and see a whole new world!

Electron Microscope Images

An electron microscope can show details hundreds to millions times larger than we can see with our eyes.

Check out these books to see a hidden world revealed with an electron microscope.

An electron microscope uses a beam of electrons, instead of light, to “see” an object. The electrons can trace out minute details of the surface of an object.

Objects are only seen in black and white with an electron microscope. Sometimes colour is added to the final images.

Objects to find in these electron microscope books:

- insects - find the mouthparts!
- parts of the body e.g. blood cells
- plants and pollen grains

Transmission Microscopes

These microscopes make objects look 40 to 400 times larger.

Using them, you will be able to see tiny parts of objects, such as cells.

The transmission microscope shines light through the object, so that details inside it can be seen. This means that the object being viewed must be very thin.

How to use the microscope (ask for teacher assistance):

1. Turn the light on.
2. Swing the lowest objective lens into place and set to its lowest position.
3. Place a slide on the stage.
4. Move the focus knob until the slide is in focus, then move the slide to an area of interest.
5. Swing the next-highest power objective into place, and only use the fine focus knob to bring into sharp focus.
6. You may also be able to see details with the highest focus objective.

Objects to check out:

- the prepared slides - they have been stained different colours to show the structures