

Tutorial Notes 4.1.1.5 Microscopy REQUIRED PRACTICAL

*Use a light microscope to observe, draw and label a selection of plant and animal cells.
A magnification scale must be included.*

Apparatus and techniques

In doing this practical students should cover these parts of the apparatus and techniques requirements.

AT 1 – use appropriate apparatus to record length and area.

AT 7 – use a microscope to make observations of biological specimens and produce labelled scientific drawings.

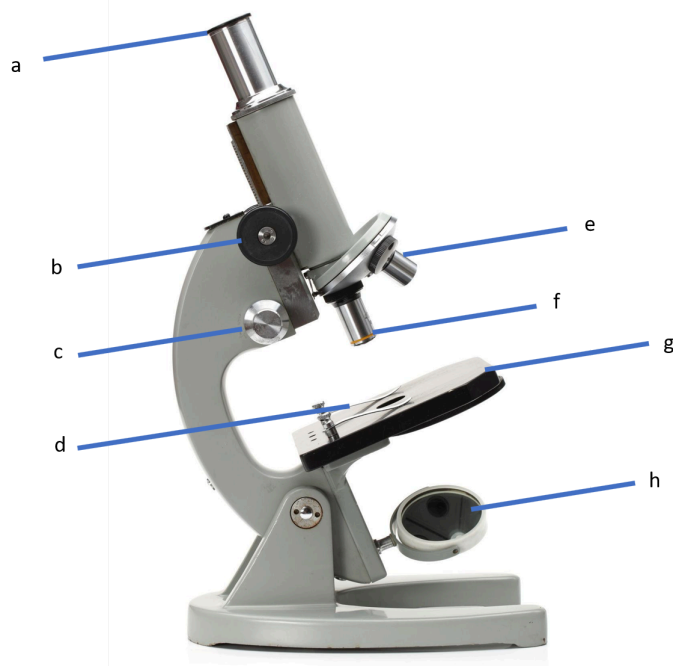
Key opportunities for skills development

In doing this practical there are key opportunities for students to develop the following skills.

– use estimations to judge the relative size or area of sub-cellular structures.

Describe the procedure, step by step

Name the parts of the microscope



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State another name for the eyepiece lens _____

State another name for the turret _____

How should you handle glass slides and what problems does it avoid

What type of tissue was removed from the onion (it was not "skin")

What is the best way to remove this type of tissue from an onion?

What problems might be caused by using a section of this tissue that is too large

Why is iodine added to the specimen before viewing

Why are coverslips slowly lowered into place from one edge

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Why do many scientist avoid using their fingers to lower coverslips into place

What are the benefits of using coverslips

Why is it best practice to move the objective lens away from the specimen when focusing

How is damage to the specimen or the objective lens avoided when changing objective lens

Instead of putting a plastic ruler on the stage a special glass slide with precision markings can be used. It's FAR more accurate, but what is it called?

Instead of filling the entire field of view then dividing by the number of cells it can be better to have a grid pattern built into the eyepiece. The stage micrometer gives the size of the field of view, and the grid allows you to measure what proportion of the field of view is

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occupied by a particular cell - but what is this device in the lens called?

Additional notes
