

WJEC England Biology

GCSE

SP1.1 - Microscopy

Flashcards

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Describe how you would prepare a microscope slide using onion tissue.



Describe how you would prepare a microscope slide using onion tissue.

- Peel off epidermal layer using forceps.
- Place sample on drop of water on microscope slide.
- Add drops of iodine solution to sample.
- Lower cover slip onto sample using mounting needle.



Why is a thin sample of tissue required?



Why is a thin sample of tissue required ?

Allows light to pass through so internal structures can be observed.



Why is water added to the slide before the sample is mounted?



Why is water added to the slide before the sample is mounted?

Allows the sample to be suspended between the slide and the cover slip, and ensures the cover slip stays in place.



Why is iodine solution added to stain the cells?



Why is iodine solution added to stain the cells?

Iodine solution adds contrast - reacts with starch in plant cells and turns blue-black; allows internal structures (e.g. nucleus) to become more visible.



Why is the cover slip lowered using a mounting needle?



Why is the cover slip lowered using a mounting needle?

Ensures that no air bubbles are trapped.



How would you measure the length of a cell viewed under the microscope?



How would you measure the length of a cell viewed under the microscope?

Measure using eyepiece graticule and calibrate with stage micrometer.



How would you calculate the magnification of an image?



How would you calculate the magnification of an image?

Magnification = observed length / actual length.



What safety precautions should be taken during this experiment?



What safety precautions should be taken during this experiment?

Wear safety goggles when handling iodine solution

Be very careful with any broken glass - tell a teacher if your slide breaks.

