



Prepare and Examine One Animal Cell, Unstained and Stained, Using The Light Microscope

Biology – Leaving Cert

Experiments

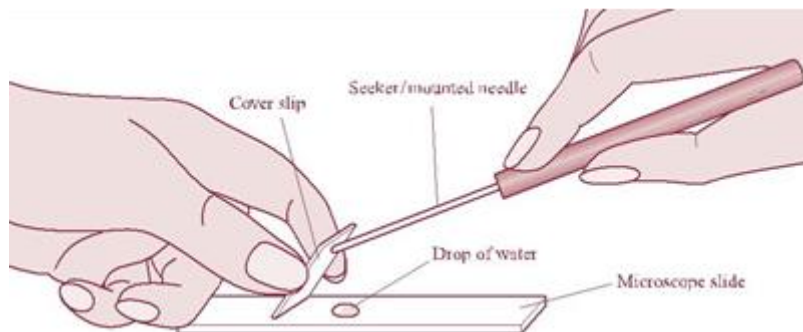
Materials/Equipment

Microscope	Filter paper/absorbent paper
Disinfectant	Disposal jar for inoculating loops/swabs
2 Microscope slides	2 Disposable inoculating loops/mouth swabs
Labels	Methylene blue stain (1%)
2 Cover Slips	Timer
Wash bottle	Seeker/mounted needle
Disposal jar for slides	Disposable gloves

Procedure

Unstained

1. Familiarise yourself with all procedures before starting.
2. Set up the microscope.
3. Swab inside cheek surface with a disposable inoculating loop and transfer the sample to the slide. Put the loop into the disposal jar.
4. Cover the sample with one drop of water.
5. Apply the cover slip to this preparation as follows:
 - a) Place the cover slip at the edge of the water at an angle of 45° to the slide.



- b) Slowly lower the cover slip onto the water, supporting it with the seeker/mounted needle, until it is in place. This helps to avoid trapping air bubbles.
6. Dry the slide if necessary and label it.
 7. Examine under the microscope following the usual procedure.
 8. Draw labelled diagrams of what you see at $\times 100$ and at $\times 400$.

Result

Conclusion

Procedure

Stained

1. Swab inside cheek surface again using a disposable inoculating loop/swab and transfer the sample onto the second slide. Put the loop/swab into the disposal jar.
2. Air dry the slide.
3. Cover the sample with one drop of methylene blue solution.
4. Allow to stand for one minute.
5. Gently, using a wash bottle, wash excess stain from the slide.
6. Apply a cover slip to this preparation as in Fig. 1.
7. Dry the slide carefully with filter paper/absorbent paper and label it.
8. Examine under the microscope following the usual procedure.
9. Draw labelled diagrams of what you see at $\times 100$ and at $\times 400$.

Result

Conclusion

SKILL ATTAINMENT

PREPARE AND EXAMINE ONE ANIMAL CELL, UNSTAINED AND STAINED, USING THE LIGHT MICROSCOPE (· 100, · 400)

Following instructions

Familiarise yourself with all procedures before starting
Follow instructions step by step
Listen to the teacher's instructions

Correct manipulation of apparatus

Use the light microscope effectively
Use the disposable inoculating loop to gather cheek cells
Transfer the sample to the slide
Cover the sample with water
Apply the cover slip
Apply the stain from the dropper
Gently wash excess stain off the sample

Observation

Locate cells
View cells under different magnification
Differentiate between cells and debris
Appreciate the limitation of the unstained preparation
Appreciate the value of the stained preparation

Recording

Write up the procedure
Draw labelled diagrams

Interpretation

Draw reasonable conclusions from your observations and results

Application

Become aware of any other application(s) of what you learned in this activity

Organisation

Exercise caution for your personal safety and for the safety of others Work in an organised and efficient manner
Label as appropriate
Work as part of a group or team Clean up after the practical activity