Activity 3.4
Investigate and describe the effects on plant tissue of immersing them in different solutions

Skills
AO3.1 Using techniques, apparatus and materials
AO3.3 Observing, measuring and recording
AO3.4 Interpreting and evaluating observations and data

Safety
Take care when using a sharp blade to cut the plant tissue.

1. Set up a microscope.
2. Take three clean microscope slides. Label them A, B and C.
3. Put a drop of distilled water onto the centre of slide A.
4. Put a drop of medium concentration sugar solution onto slide B.
5. Put a drop of concentrated sugar solution onto slide C.
6. Peel off a very thin layer of coloured epidermis from a *Rhoeo* leaf, or other leaf, or from a rhubarb petiole. To get good results, it should be as thin as thin as possible (only one cell thick).
7. Cut three squares of this epidermis, each with sides about 5 mm long,
8. Put one square into the drop of solution on each of your three slides.
9. Carefully cover each one with a coverslip. Clean excess liquid from your slides with filter paper.
10. Look at each of your slides under the microscope. Make a labelled drawing of a few cells from each one.

Questions
A1 Which part of the cell is coloured?
A2 What has happened to the cells in pure water? Explain your answer.
A3 What has happened to the cells in medium concentration sugar solution? Explain your answer.
A4 What has happened to the cells in concentrated sugar solution? Explain your answer.