

WJEC Wales Biology

A-level

SP Unit 1 03a - Water Potential

Flashcards



What is the function of calibration curves?



What is the function of calibration curves?

To determine an unknown concentration using a series of standard samples.



State the definition of water potential.



State the definition of water potential.

The tendency of water to move from an area of high water potential to an area of low water potential.



What is water potential determined by?



What is water potential determined by?

The concentration of solutes.



Why is the percentage change in mass calculated instead of the actual change?



Why is the percentage change in mass calculated instead of the actual change?

The potato discs may not have the same starting masses. Using percentage change allows comparison between different discs.



What are the controlled variables of this practical?



What are the controlled variables of this practical?

Volume of sucrose solution

Size of potato chips

Length of time left in solution

Dab each potato disc with paper towels



How is a calibration curve used to find the concentration of plant tissue?



How is a calibration curve used to find the concentration of plant tissue?

Plot a calibration curve of percentage change in mass against concentration. Find the x-intercept where the plant tissue is isotonic to the sucrose solution.



What occurs when plant tissue is placed
in a hypotonic solution?



What occurs when plant tissue is placed in a hypotonic solution?

Water moves into the plant tissue by osmosis, plant tissue increases in mass.



What occurs when plant tissue is placed
in a hypertonic solution?



What occurs when plant tissue is placed in a hypertonic solution?

Water moves out of the plant tissue by osmosis, plant tissue decreases in mass.



Why are the potato discs left in the solution for 20 minutes?



Why are the potato discs left in the solution for 20 minutes?

To allow time for osmosis until the plant tissue reaches equilibrium with its surrounding solution.

