WJEC England Biology A-level

SP CC 03a - Water Potential

Flashcards

What is the function of calibration curves?

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

State the definition of water potential.

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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?

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The concentration of solutes.

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

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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?

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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?

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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?

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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 solution for 20 minutes?

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