Osmosis and Diffusion in Plant and Protist Cells  
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**Reagents**

* 7 test tubes
* Glucose solutions (0.0 M, 0.2 M, 0.3 M, 0.4 M, 0.5 M, 0.6 M, 0.8 M)
* 5 mL re-pipettors
* Cork borer
* Potato samples
* Petri dish
* Paper towels
* Aluminum sheet
* Laboratory balance
* Microscope
* Clean microscope slide
* Coverslip
* Stained amoeba sample

**Experiment Description**

The purpose of this experiment is to observe osmosis and diffusion in plant and protist cells. In the first part of the experiment, potato cylinders are placed in glucose solutions of different concentrations to measure changes in their weight due to water movement. This demonstrates how solute concentration affects osmotic movement in plant cells. The percent change in mass is later analyzed to determine the effects of hypertonic, hypotonic, and isotonic environments.

In the second part, amoebas are observed under a microscope to study osmoregulation, the process by which they control water balance. Stained amoebas are placed on a microscope slide and viewed under high magnification to identify key structures such as the contractile vacuole, nucleus, and pseudopodia. Observations focus on how amoebas maintain homeostasis by actively expelling excess water. This experiment helps illustrate fundamental biological processes that cells use to regulate water movement and maintain stability in different environments.