



Transportation in Plants (pg 133-4; 1,2,4)

1

- a. -2.4%
- b. Osmosis is the process that is causing the change in the masses of the chips.
- c. Solution A as the most mass, water, was lost from the chip and it moved into the sucrose solution.
- d. Solution C as the most mass, water, was gained by the chip from the sucrose solution.
- e. Solution B as the chip experienced the least change in mass.
- f. A partially permeable membrane is a membrane that allows somethings to permeate through it but not all.

2

Explain how each cell is adapted to its function:

Root Hair

Has long, thin outer root projections that penetrate between the soil particles.

Ensures there is a very high concentration of mineral ions in the cell through active transport.

This leads to a low Ψ inside the cell and a high Ψ outside the cell in the soil causing osmosis.

Xylem Vessel

Hollow (no cytoplasm)

Walls contain lignin (woody material)

- Very strong
- Lignin impermeable to water

Guard Cell

Unusual "banana" shape.

Part of the cell wall near the stoma is particularly thick.

Bend outwards when turgid.

Water is drawn in in the light.

4

a. Diagram Key

A. Epidermis

B. Phloem

C. Xylem

b. The red, aqueous, dye would be contained in the Xylem as it would be in the water that travels in them.

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