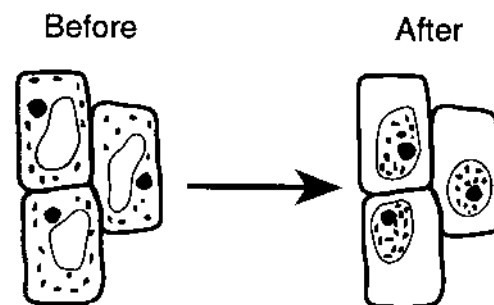


- If the external environment of a living cell has a greater concentration of salt than the cytoplasm within the cell, the cell will tend to
  - divide
  - excrete salt
  - increase its size
  - lose water**
- The net flow of materials through the membrane of a cell against a concentration gradient is known as
  - active transport**
  - passive transport
  - circulation
  - transpiration
- Water and minerals move from the soil into a plant by the process of
  - diffusion, only
  - active transport, only
  - passive transport and hydrolysis
  - both diffusion and active transport**
- Which process would include a net movement of sugar molecules through a membrane from a region of lower concentration to a region of higher concentration?
  - osmosis
  - cyclosis
  - active transport**
  - passive transport
- A red blood cell placed in distilled water will swell and burst due to the diffusion of
  - salt from the red blood cell into the water
  - water into the red blood cell**
  - water from the blood cell into its environment
  - salt from the water into the red blood cell
- Red blood cells contain a higher concentration of potassium than the surrounding blood plasma does. This higher concentration is maintained by the process of
  - cyclosis
  - osmosis
  - simple diffusion
  - active transport**
- Since cyanide is a poison that limits a cell's ability to manufacture ATP, a cell containing cyanide is *least* likely to carry on the process of
  - passive transport
  - osmosis
  - active transport**
  - diffusion

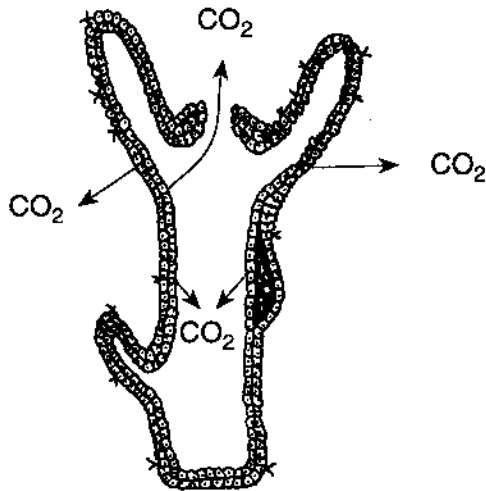
- The process of osmosis would explain the net movement of water into a cell if the percentage of
  - water was 90% inside the cell and 95% outside the cell**
  - protein was 30% inside the cell and 35% outside the cell
  - water was 95% inside the cell and 90% outside the cell
  - water and protein was equal inside and outside the cell
- The end products of digestion enter the cells of vertebrate by the process of
  - absorption**
  - osmosis
  - emulsification
  - egestion
- Human red blood cells placed in a 2 % salt solution appear to shrink, but those placed in a 0.4 % salt solution burst. Which statement best supports these observations?
  - Salt causes cell walls to swell.
  - Salt is actively transported across cell membranes.
  - The nucleus does not regulate water balance in a cell.
  - Osmosis may occur in either direction across the cell membrane.**
- The diagram below represents the change that occurred after a fluid was added to a wet mount of some elodea leaf cells.



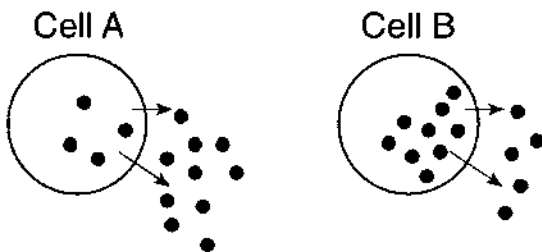
Which fluid was most likely added to the wet mount?

- salt solution**
- tap water
- distilled water
- iodine solution

12. Which statement best explains why gas transport takes place as represented in the diagram below?



- (1) **The carbon dioxide concentration is greater in the cells than in the environment.**  
 (2) The carbon dioxide is absorbed into the environment by active transport.  
 (3) The carbon dioxide concentration in the cells is equal to that in the environment.  
 (4) The carbon dioxide is transported to the environment by a transport system.
13. The arrows in the diagrams below represent the direction of movement of a certain type of molecule through the cell membrane of two different cells. The dots represent the relative concentrations of this molecule.



Which processes are illustrated in the diagrams?

- (1) phagocytosis and diffusion  
 (2) pinocytosis and osmosis  
 (3) **active transport and diffusion**  
 (4) dehydration synthesis and circulation

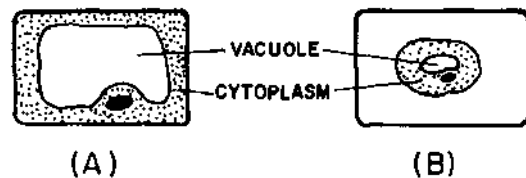
14. After a cookie has been digested, glucose molecules enter the bloodstream by the process of

- (1) phagocytosis (3) ingestion  
 (2) **diffusion** (4) pinocytosis

15. The process in which the net movement of molecules is from a region of lower concentration to a region of higher concentration is known as

- (1) **active transport** (3) osmosis  
 (2) diffusion (4) passive transport

16. A biologist observed a plant cell in a drop of water and illustrated it as in diagram A. He added a 10% salt solution to the slide, observed the cell, and illustrated it as in diagram B.



The change in appearance of the cell resulted from more

- (1) salt flowing out of the cell than into the cell  
 (2) salt flowing into the cell than out of the cell  
 (3) water flowing into the cell than out of the cell  
 (4) **water flowing out of the cell than into the cell**
17. A root hair cell may continue to absorb minerals even though the cytoplasmic concentration of these minerals is greater inside the cell than in the soil. This absorption is accomplished chiefly as a result of
- (1) passive transport (3) diffusion  
 (2) **active transport** (4) osmosis
18. Which process utilizes cellular energy to move particles through a membrane?
- (1) osmosis (3) **active transport**  
 (2) passive diffusion (4) transpiration