

## Pre/Post Test – Osmosis, Diffusion

1. The diffusion of water molecules through a selectively permeable membrane is:  
A. homeostasis B. osmosis C. active transport D. equilibrium
2. All matter is composed of very small particles called:  
A. molecules B. ions C. solutes D. isotopes
3. The movement of molecules from a place where there is a greater/higher concentration to an area where there is lesser/lower concentration is:  
A. homeostasis B. diffusion C. osmosis D. active transport
4. A “steady state” or equilibrium that cells maintain internally is:  
A. homeostasis B. osmosis C. diffusion D. active transport
5. A selectively permeable membrane:  
A. allows all substances to enter and leave B. prevents all substances from entering or leaving  
C. allows certain size substances to enter and leave D. allows only waste materials to leave
6. Hypotonic solution:  
A. has a higher concentration of water and a lower concentration of solutes than another solution  
B. has a higher concentration of solutes and a lower concentration of water than other solutions  
C. has an equal concentration of water and solutes as another solution  
D. has more solutes than solvent than another solution
7. The openings in selectively permeable membranes are called:  
A. homeostatic openings B. perforation C. diffusion holes D. pores
8. A solution in which the concentration of solutes is the same inside and outside of a cell is a \_\_\_\_\_ solution:  
A. hypertonic B. hypotonic C. isotonic D. homeotonic
9. If a red blood cell is placed in a solution that has a concentration gradient higher than the red blood cell, this type of solution is called:  
A. isotonic B. hypotonic C. hypertonic D. homeotonic
10. If a red blood cell is placed in a hypotonic solution, it will eventually:  
A. shrink up B. swell and burst C. no change will occur D. swell and not burst

11. When substances move in and out of cells using only their own kinetic energy this is called:
- A. active transport
  - B. passive transport
  - C. activation energy
  - D. selective transport
12. When placed in a hypotonic solution, plant cells:
- A. will swell and burst
  - B. will shrink and burst
  - C. will cause the plant to wilt
  - D. will increase in turgor pressure
13. Osmosis is sometimes referred to as:
- A. turgor pressure
  - B. homeostasis
  - C. active transport
  - D. specialized diffusion
14. An example of diffusion is:
- A. water molecules moving into a plant cell after rain
  - B. red food coloring moving through water until the water is pink
  - C. water molecules leaving the cells of a fresh water fish, when placed in a salt water tank
  - D. none of the above
15. Dialysis tubing has a similar function as:
- A. a cell membrane
  - B. a selectively permeable membrane
  - C. Both A & B
  - D. neither A nor B
16. An example of an indicator is:
- A. Lugol's solution
  - B. phenolphthalein
  - C. universal indicator solution
  - D. all of the above
17. Which way will water molecules move if a red blood cell is placed in distilled water?
- A. out of the red blood cell
  - B. into the red blood cell
  - C. water molecules will move in and out at the same rate
  - D. no water molecules will move
18. Because the human body is 60% water, an important process which helps humans and all living things maintain a "normal" internal cellular environment even when external surroundings are constantly changing is:
- A. diffusion
  - B. osmosis
  - C. active transport
  - D. carrier transport
19. Molecular movement continues even when there is no overall change in concentration. This is referred to as:
- A. active transport
  - B. passive transport
  - C. homeostasis
  - D. dynamic equilibrium
20. The difference in the concentration of a substance across a space is called:
- A. kinetic energy gradient
  - B. solvent gradient
  - C. concentration gradient
  - D. dynamic equilibrium

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