Osmosis & Diffusion Review Sheet **Name:** _____ **Pd:** _____

Fill in the Blank: Write in the correct answer

away	low	high	hypertonic	hypotonic
diffusion	molecules	osmosis	vacuole	water
solute	permeable	towards	semi-permeable	concentration gradient

1. The cell membrane regulates and controls what kind of _____ move in & out of the cell.

2. When molecules spread from an area of high to low concentration to, it is called _____

3. As molecules diffuse, they create a _____ ,which is a difference in concentrations across space.

4. Cell membranes are _____. This means that they only allow certain things to pass through.

5. A membrane that would allow ANYTHING to pass through it would be called _____.

6. Diffusion is the movement of molecules. Osmosis is the diffusion of _____.

7. _____ is the process of water molecules moving across a cell membrane.

8. The direction that water molecules move is determined by the difference in the concentration of _____ dissolved in the solvent inside and outside the cell.

9. Osmotic pressure, or osmosis, pushes water molecules _____ the area of greater solute concentration.

10. Water molecules are pulled _____ from areas of lower solute concentration.

11. The word hypertonic means _____ concentration of solutes.

12. The word hypotonic means _____ concentration of solutes.

13. A plant cell undergoes plasmolysis, or shrinking of the cell membrane, when it is placed in a solution with a HIGH concentration of solute. What type of solution causes plasmolysis? _____

14. An animal cell undergoes cytolysis, or stretching of the cell membrane, when it is placed in a solution with a very LOW concentration of solute. What type of solution causes cytolysis? _____

15. Turgor pressure is the flow of water into a plant cell that causes the cell membrane to be pushed up against the cell wall and causes the sac in a plant cell to expand. What is this sac that holds this water from the turgor pressure? _____

Isotonic Solutions: Circle the correct answer

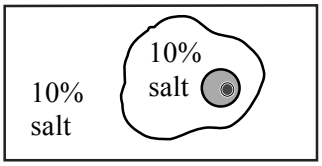
16. The concentration of the solutes inside the cell is _____ to the concentration outside the cell.
(A) less than (B) greater than (C) equal to

17. Water molecules will move:
(A) into the cell faster than out of the cell (B) out of the cell faster than they will move into the cell (C) in and out of the cell at the same rate

18. Turgor Pressure is the pressure that water places on the inside of a PLANT cell. An increase in turgor pressure can cause the cell membrane to press up against the cell wall and a decrease in turgor pressure can cause the cell membrane to shrivel. If the turgor pressure is kept constant, the cell membrane will maintain its shape. In an isotonic solution, the turgor pressure is:
(A) normal (B) decreasing (C) increasing

19. In animal cells, the cell membrane will:
(A) shrivel up (B) be normal (C) expand & possibly burst

20. In the picture to the right, the movement of water across the membrane will be
(A) mostly out (B) mostly in (C) in and out equally



Hypotonic Solutions: Circle the correct answer

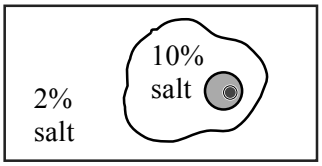
21. The concentration of the solutes inside the cell is_____ to the concentration outside the cell.
(A) less than (B) greater than (C) equal to

22. Water molecules will move:
(A) into the cell faster than out of the cell (B) out of the cell faster than they will move into the cell (C) in and out of the cell at the same rate

23. Turgor Pressure is the pressure that water places on the inside of a PLANT cell. An increase in turgor pressure can cause the cell membrane to press up against the cell wall and a decrease in turgor pressure can cause the cell membrane to shrivel. If the turgor pressure is kept constant, the cell membrane will maintain its shape. In a hypotonic solution, the turgor pressure is:
(A) normal (B) decreasing (C) increasing

24. In animal cells, the cell membrane will:
(A) shrivel up (B) be normal (C) expand & possibly burst

25. In the picture to the right, the movement of water across the membrane will be
(A) mostly out (B) mostly in (C) in and out equally



Hypertonic Solutions: Circle the correct answer

26. The concentration of the solutes inside the cell is _____ to the concentration outside the cell.
(A) less than (B) greater than (C) equal to

27. Water molecules will move:
(A) into the cell faster than out of the cell (B) out of the cell faster than they will move into the cell (C) in and out of the cell at the same rate

28. Turgor Pressure is the pressure that water places on the inside of a PLANT cell. An increase in turgor pressure can cause the cell membrane to press up against the cell wall and a decrease in turgor pressure can cause the cell membrane to shrivel. If the turgor pressure is kept constant, the cell membrane will maintain its shape. In a hypertonic solution, the turgor pressure is:
(A) normal (B) decreasing (C) increasing

29. In animal cells, the cell membrane will:
(A) shrivel up (B) be normal (C) expand & possibly burst

30. In the picture to the right, the movement of water across the membrane will be
(A) mostly out (B) mostly in (C) in and out equally