**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_**

**Study Guide Diffusion, Osmosis, Properties of Water: Ch. 8.1**

**Matching**

\_\_\_\_ 1. Diffusion A. Diffusion of water across a selectively permeable membrane

\_\_\_\_ 2.Passive Transport B. Molecules go from an area of high concentration to an area of low concentration

\_\_\_\_ 3.Dynamic Equilibrium C. Same # of molecules go into cell as come out- no concentration gradient

\_\_\_\_ 4. Hypotonic Solution D. Molecules go in and out of cell with the concentration gradient- no energy used

\_\_\_\_ 5. Hypertonic Solution E. Atoms and molecules move randomly

\_\_\_\_ 6. Brownian Motion F. Concentration of water molecules inside the cell is greater than water molecules outside the cell. Water moves out (cell shrinks).

\_\_\_\_ 7. Osmosis G. Concentration of water inside the cell is less than the water molecules outside the cell. Water moves in (cell swells).

**Fill in the blank. Word Bank: (*Not all words will be used*)**

**Hypertonic**, hypotonic, **concentration gradient**, transpiration, **active transport**, isotonic, **osmosis**, random motion of molecules, **condensation**, selectively permeable, **polar**, non-polar, **universal solvent**

\_\_\_\_ 8. Water moves into a cell placed in a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solution.

\_\_\_\_ 9. Water moves out of a cell if the cell is placed in a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ solution.

\_\_\_\_ 10. When some molecules go through a membrane while others are blocked, the membrane is said to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (2 words)

\_\_\_\_ 11. A cell moves particles from a region of lesser concentration to a region of greater concentration by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (2 words)

\_\_\_\_ 12. If a cell is placed in salt water, water leaves the cell by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

\_\_\_\_ 13. Diffusion continues until there is no \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (2 words).

\_\_\_\_ 14. Brownian motion is evidence of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (>1 word).

\_\_\_\_ 15. Water molecules have a positive side (oxygen) and a negative side (hydrogen). This makes water a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ molecule.

\_\_\_\_ 16. Because water dissolves many substances, like salt (NaCl) and sugar, it is often called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (2 words).

\_\_\_\_ 17. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the evaporation of water from the leaves of plants.

***Using arrows*, show which direction the water will move. *Label* the solution as hypotonic, hypertonic, or isotonic. Will the balloon shrink, swell, or stay the same?**

**** 18. Solution is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

19. Balloon will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

97% water

94% water

20. The balloon represents a \_\_\_\_\_\_\_\_\_\_\_\_\_.