

Name: _____ Date: _____ Period: _____ BIN: _____

Diffusion and Osmosis “Check Your Outline” Worksheet

When providing the best possible answer to the following questions please apply all learned scientific techniques and procedures, do not use abbreviations, use proper scientific terminology, show work for all mathematical calculations, use all significant figure and scientific notation rules, apply S.E.E.C. writing strategies, and note that at all times spelling counts. Your ability to meet these and all established classroom expectations, including labeling of BINs, providing heading information, and your ability to follow directions may be included in computation of grade.

1. What process describes the movement of odors through the air or the movement of food coloring through a glass of water?

2. List two types of passive transport

a. _____

b. _____

3. Define passive transport

4. Define concentration

5. Define concentration gradient

6. Define diffusion

7. Diffusion results from the _____ .

8. What is it called when molecules have evenly spread throughout a solution?

a. _____

9. What is diffusion's role in a cell?

10. What are two examples of molecules that diffuse into the cell?

a. _____

b. _____

11. Define osmosis

12. The _____ the concentration of dissolved particles in a solution, the _____ the concentration of water molecules in the same solution.

13. If I put 1 cup of salt in a bucket of water (bucket A) and 10 cups of salt in a different bucket of water (bucket B)

a. Which would have a higher concentration of water? _____

b. Which would have a higher concentration of solutes? _____

14. A solution is _____ to another solution if it has a higher concentration of dissolved particles.
15. A solution is _____ to another solution if it has the same concentration of dissolved particles.
16. A solution is _____ to another solution if it has a lower concentration of dissolved particles.
17. What will happen to a cell if it is placed in an isotonic solution? (swell, stay the same, shrink)
18. What will happen to a cell if it is placed in a hypertonic solution? (swell, stay the same, shrink)
19. What will happen to a cell if it is placed in a hypotonic solution? (swell, stay the same, shrink)
20. Why can some animals and single-celled organisms survive in a hypotonic environment?
21. What prevents cell from bursting when in a hypotonic environment?
22. What does the root word *tonic* mean? _____
23. What does the prefix *iso* mean? _____
24. What does the prefix *hyper* mean? _____
25. What does the prefix *hypo* mean? _____

26. What will happen to a houseplant if you water it with salt water (a hypertonic solution)?
27. Define facilitated diffusion
28. Is facilitated diffusion passive transport or active transport?
29. Does facilitated diffusion require energy? _____
30. Does facilitated diffusion cause molecules to move down a concentration gradient or up a concentration gradient?
31. How is facilitated diffusion different from regular or simple diffusion?
32. Some transport proteins are simple _____, or _____, others act more like _____ which when bound change _____ allowing the molecule to travel the rest of the way into the cell.
33. What does it mean for a molecule to diffuse down its concentration gradient?

34. A cell is bathed in fluid. However, you notice that water is flowing out of the cell. In what kind of solution is this cell immersed (isotonic, hypotonic, or hypertonic)?
35. When a person becomes dehydrated due to the loss of fluids and solutes, an IV bag containing a saline solution (water and salts) is infused into the bloodstream by medical personnel. Why is saline solution used instead of pure water?
36. When athletes are sweating a lot they are losing a lot of water and salts from inside their cells and they can become dehydrated. Why is Gatorade, which contains sodium, better to drink under these conditions than just water?