

Name _____ Date _____ Class _____

PAP Cell Membrane and Cell Transport WebQuest

Part 1: Prokaryote vs Eukaryote

WEBSITE #1: <http://www.cellsalive.com/cells/3dcell.htm>

1. There are two types of cells.

PROKARYOTIC= _____ Eukaryotic= Plants and _____

2. What types of cells do YOU have? _____

3. Which type of cell is more complex (complicated)? _____

4. Which type of cell is simpler? _____

WEBSITE #2: <http://www.cellsalive.com/cells/bactcell.htm>

This is a picture of 5. _____ which is a type of PROKARYOTIC CELL!

DRAW A ROUGH SKETCH OF IT BELOW:

Label cell wall, cell membrane, cytoplasm, flagella, pili, nucleic acids (nucleoid), and ribosomes



WEBSITE #3: <http://www.scsc.k12.in.us/SMS/Teachers/Martin/replacementlink.htm>

What is a Cell? 6. All _____ things are made up of 7. _____. Each of us has about 50 million cells - an enormous number which is difficult to imagine. Each cell is a sort of bag made from a sort of skin called a 8. _____. The inside of a cell is 9. _____ and 10. _____ like.

Cells are very 11. _____ - you can't see them just using your eyes. You need to use a

12. _____, which makes them look many times bigger that they actually are.

13. If a cell is cut in half, will it survive? _____

14. TRUE or FALSE: Some organisms are made up of only ONE CELL!

15. All cells have a _____ which separates them from the outside world.

16. What is the function of a CELL MEMBRANE! (Name two!)

A. _____

B. _____

Part 2: Cell Membranes

Go to the following website: www.biology4kids.com/files/cell_membrane.html

17. How is the cell membrane similar to a plastic bag with tiny holes? _____

18. What two components make up the cell membrane? _____

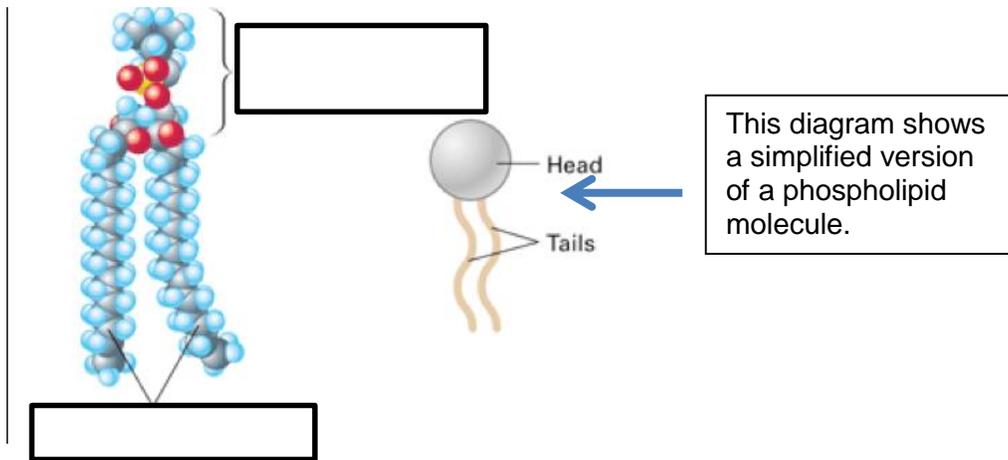
a. What are their functions? _____

19. How many surfaces does a lipid **bilayer** have? _____

20. Sketch a section of the cell membrane, showing both phospholipids and proteins.
Label your drawing.



21. Label the diagram of the phospholipid molecule below with the following terms: *hydrophilic head*, *hydrophobic tail*



Part 3: Membrane Proteins

On the right side of the webpage under Cell Structure, click on "Memb. Proteins."

22. Where, specifically, do you find membrane proteins _____ &

23. What are the two types of proteins in the cell membrane?

_____ & _____

Part 4: Membrane Transport

On the same website, go to the top and click on "Function." (Right after it says Cell Structure & Function) > Click on "Passive Transport" on the right hand side. If you cannot find it, the URL is: www.biology4kids.com/files/cell2_main.html

24. How does passive transport differ from active transport? _____

25. Two types of passive transport (movement of molecules across a membrane that does not require energy) include _____ & _____.

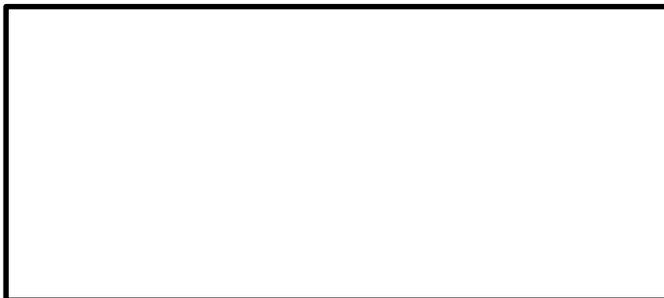
26. What do some proteins act as to aid in moving molecules across a membrane? _____

27. What is facilitated diffusion? _____

Does it require energy to occur? _____ Is it active or passive transport? _____

28. Molecules that move from *high* to *low* concentration are said to be moving down a _____.

29. Make a sketch showing molecules in **high** concentration on the left side of the membrane, and in low concentration on the right side of the membrane and draw the arrow to show movement of molecules down a concentration gradient.



30. What is osmosis? _____

31. For a cell to maintain homeostasis and survive, ion concentrations need to be the _____ on both sides of the cell membrane.

32. What will happen if red blood cells are placed in water? _____

Why does this happen? _____

On the right side of the webpage under Cell Function, click on "Active Transport."

33. What is active transport? _____

34. Which membrane biomolecules do most of the work in active transport? _____

35. Membrane proteins are very _____, meaning that they are designed to move only one or two types of molecules or ions across the membrane.

36. Going AGAINST the concentration gradient means going from an area of _____ to _____ concentration.

37. Sketch a diagram of active transport showing molecules moving (use an arrow) from *low* to *high* concentration.



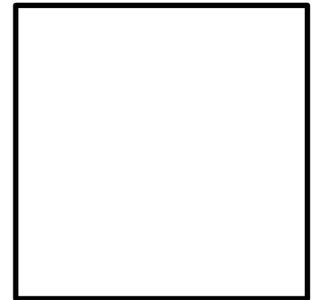
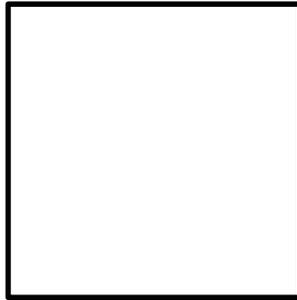
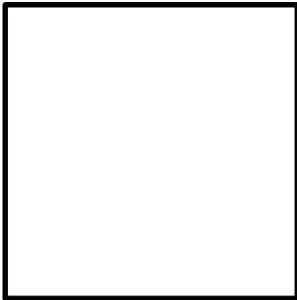
Part 5. Review Osmotic Solutions

Go to the following website: <https://prezi.com/zjldrjpmrs9/3-types-of-osmosis/>

Click on the prezi presentation once it loads.

38. What are the 3 types of osmotic solutions? _____

39. Draw how red blood cells look in each of the osmotic solutions. **Include an arrow to show the direction in which water is moving.



40. What are 2 examples of osmosis taking place? _____

41. Take the Quiz. WRITE THE QUESTION AND THE COMPLETE ANSWER!

Quiz questions 1 _____

Answer: _____

Quiz questions 2 _____

Answer: _____