

Name:

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# CELL TRANSPORT REVIEW

Chapter 7, Section 4

Match the definition on the left with the term on the right.

1. D Release of wastes or cell products from inside to outside a cell
2. e Diffusion of water molecules through a selectively permeable membrane
3. F Loss of water from a plant cell resulting in a drop in turgor pressure
4. C Continuous movement of particles but no overall change in concentration
5. B Movement of particles from an area of higher concentration to one of lower concentration
6. A Structure inside paramecium that collects excess water and squeezes it outside through the membrane

- |                        |
|------------------------|
| a. contractile vacuole |
| b. diffusion           |
| c. dynamic equilibrium |
| d. exocytosis          |
| e. osmosis             |
| f. plasmolysis         |

In the space at the left, write true if the statement is true. If the statement is false, change the italicized term to make the statement true. Write this answer in the blank provided.

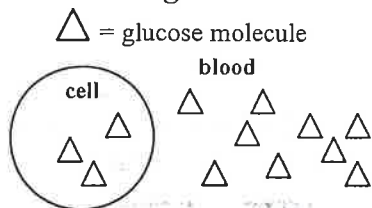
- False 7. A solution in which the concentration of dissolved substances is lower than the concentration inside a cell is *hypertonic*. hypo
- True 8. The internal pressure of a plant cell is called *turgor pressure*.
- False 9. In *passive transport*, the movement of particles across a membrane requires energy. active
- True 10. *Endocytosis* is a process by which a cell membrane surrounds and takes in material from the environment.
- False 11. The passive transport of material across a membrane by means of transport proteins is called *activated diffusion*. facilitated
- True 12. A membrane that allows only some materials to pass through shows *selective permeability*.

Write the letter of the word or phrase that best completes the statement or answers the question.

13. The structure most responsible for maintaining cell homeostasis is the  
A. cytoplasm      B. cell wall      C. mitochondria      D. plasma membrane
14. A plasma membrane is made up of a(n)  
A. cholesterol layer      B. enzyme layer      C. lipid bilayer      D. protein layer
15. Which of the following is not a form of passive transport?  
A. facilitated diffusion      B. diffusion      C. endocytosis      D. osmosis
16. Diffusion continues until  
A. equilibrium is reached      B. turgor pressure is reached      C. one side has more
17. If a cell is placed in salt water, water leaves the cell by  
A. osmosis      B. diffusion      C. active transport      D. phagocytosis
18. If it is not watered, a tulip plant wilts because it  
A. increases active transport      B. loses turgor pressure      C. increases turgor pressure
19. A cell moves particles from a region of lesser concentration to a region of greater concentration by  
A. facilitated diffusion      B. osmosis      C. passive transport      D. active transport

Use the pictures on the left to answer the questions on the right.

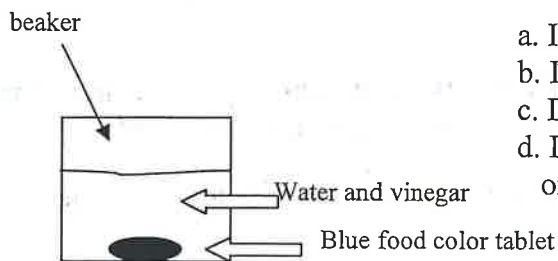
20. After digestion:



- Which side has the higher concentration of glucose? OUT
- Which way will the glucose go? INTO
- Does this require energy? NO
- Is this active or passive transport? passive
- What specific type of transport is this? facilitated diffusion

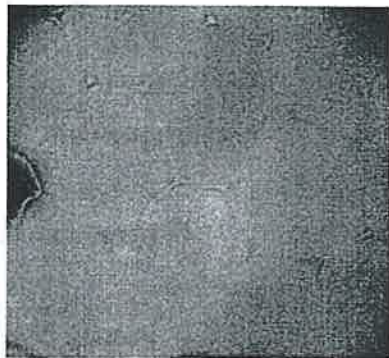
21. Easter egg coloring:

A blue food coloring tablet is placed in a cup of vinegar and water. The blue tablet will dissolve and spread evenly throughout the liquid.



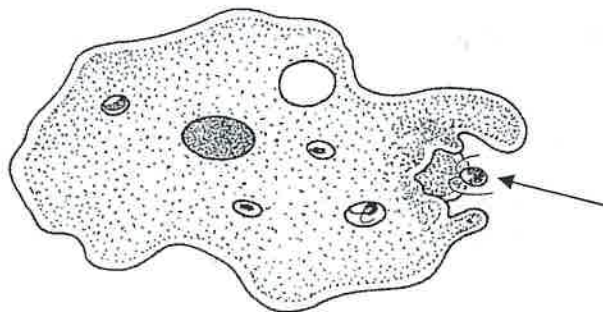
- Is this active or passive transport? passive
- Is this diffusion or osmosis? diffusion
- Does this require energy? NO
- Is the blue dye going from a lower to a higher concentration, or from a higher to a lower concentration? \_\_\_\_\_

22. Plant cell after being over-watered.



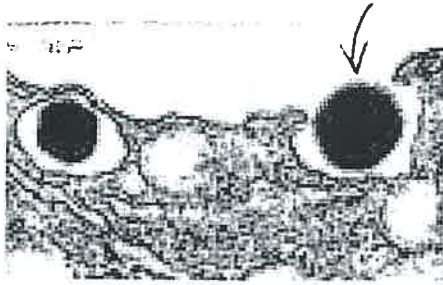
- Water rushes into the plant cell's vacuole. Is this diffusion or osmosis? osmosis
- Is this passive or active transport? PT
- What is keeping these plant cells from bursting? vacuole + cell wall
- Did the turgor pressure increase or decrease? increase
- Is the plant cell in a hypertonic, hypotonic, or isotonic environment? hypo
- What will happen if this plant continues to receive a lot of water - cytolysis or plasmolysis? \_\_\_\_\_

23. An amoeba engulfs a particle of food.



- Does this require energy? yes
- Is this active or passive transport? AT
- Is this endocytosis or exocytosis? endo

24. An amoeba expels waste.



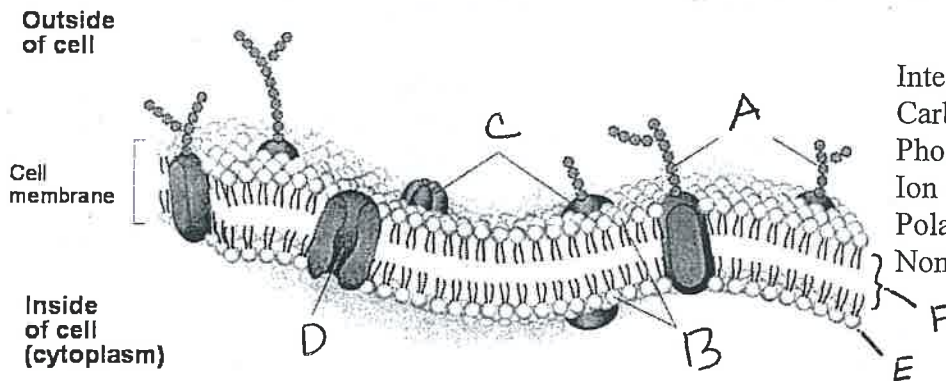
- Does this require energy? Yes
- Is this active or passive transport? AT
- Is this endocytosis or exocytosis? EXO

25. A marine iguana living happily in the Galapagos Islands:



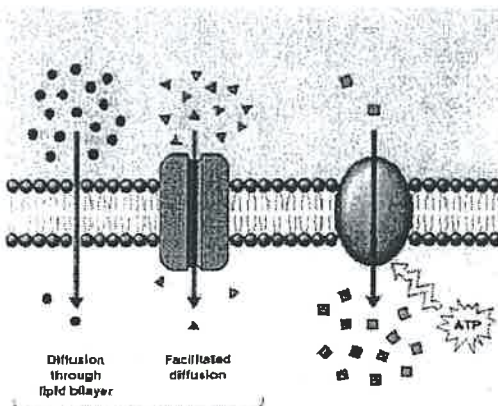
- Marine iguanas gather extra salt in glands located near their noses and sneeze it out in order to rid their bodies of it. How do our cells get rid of excess salt? Sweat, pee
- Is this an active or passive process in our cells? AT
- When you sneeze, would it be comparative to active or passive transport? AT

26. Label the parts of the cell membrane by placing the name of the part next to its letter.



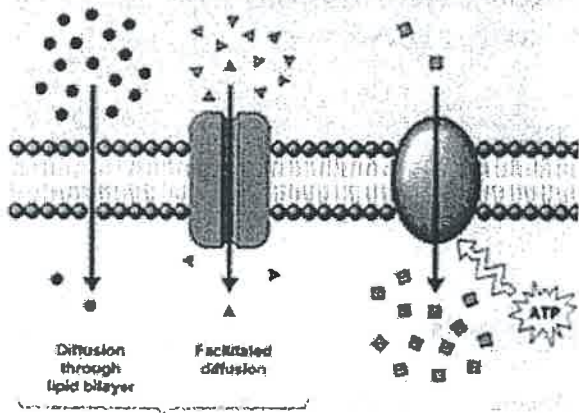
- Integral proteins: CD  
 Carbohydrate chains: A receptor  
 Phospholipids: B  
 Ion channel: CD  
 Polar region: B/E  
 Nonpolar region: F

27. Transport proteins in the cell membrane:



- There are two different types of transport shown in the picture. Which is passive transport? Diff + FD
- Both simple diffusion and facilitated diffusion are shown in the picture, what is the difference between the two? carrier protein
- Identify one substance that uses simple diffusion to cross the cell membrane: O<sub>2</sub> or CO<sub>2</sub>

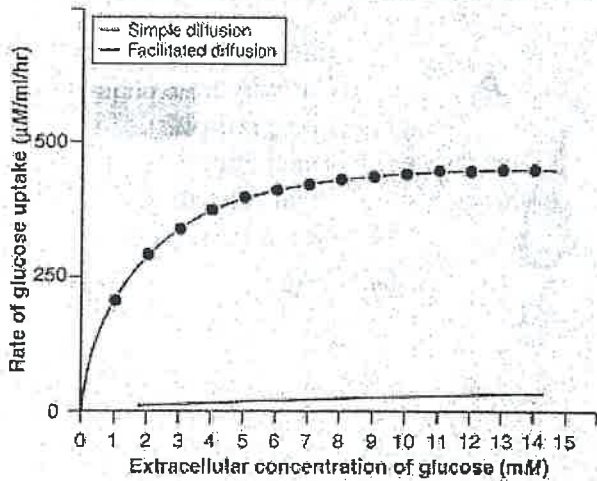
28. Active transport...



- A. What type of energy do cells use? ATP
- B. **Explain** what happens to the concentration gradient during active transport: Does solute go up or down the concentration gradient? up
- C. List two kinds of cells in your body that use active transport: muscles and RBC

29. Rate of diffusion:

Effects of Glucose Concentration on its Uptake



- A. Why does the rate of diffusion taper off with higher amounts of glucose in the bloodstream? max out carrier proteins
- B. What is the relationship between the amount of glucose in the bloodstream and the rate of diffusion? can't until it reaches its max