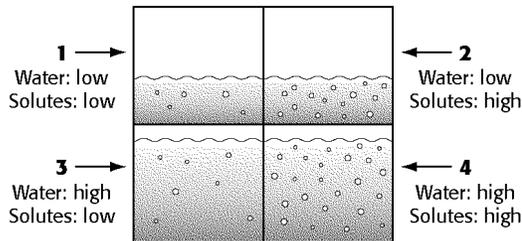


AP Biology - Cell Membrane Take Home Quiz

- _____ 1. As a result of diffusion, the concentration of many types of substances
- always remains greater inside a membrane.
 - eventually becomes balanced on both sides of a membrane.
 - always remains greater on the outside of a membrane.
 - becomes imbalanced on both sides of a membrane.
- _____ 2. Diffusion takes place
- only through a lipid bilayer membrane.
 - from an area of low concentration to an area of high concentration.
 - only in liquids.
 - from an area of high concentration to an area of low concentration.

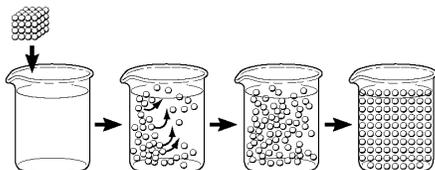
Concentration of Water and Solutes in Four Adjacent Cells



- _____ 3. Refer to the illustration above. Which cell is most likely to lose both water molecules and solute molecules as the system approaches equilibrium?
- cell 1
 - cell 2
 - cell 3
 - cell 4
- _____ 4. Refer to the illustration above. In this system, solute molecules in cell 2 are most likely to
- remain in cell 2.
 - adhere to cell 2's membrane.
 - diffuse into cell 1.
 - diffuse into cell 4.
- _____ 5. Refer to the illustration above. In which direction are water molecules in this system most likely to diffuse?
- from 1 to 2
 - from 2 to 4
 - from 4 to 3
 - from 3 to 1
- _____ 6. The dispersal of ink in a beaker of water is an example of
- diffusion.
 - osmosis.
 - active transport.
 - endocytosis.
- _____ 7. Sugar molecules can enter cells through the process of
- exocytosis.
 - facilitated diffusion.
 - osmosis.
 - ion pumps.
- _____ 8. Channels utilizing facilitated diffusion
- work in two directions.
 - require an electrical signal to function.
 - Both a and b
 - None of the above
- _____ 9. Which of the following is *not* characteristic of facilitated diffusion?
- It requires a carrier protein.
 - It moves substances against a concentration gradient.
 - It requires no energy input.
 - It involves a change in the shape of its carrier.

- ___ 10. Which of the following is true of ions and their transport across cell membranes?
- The “gates” for ion channels are always open.
 - Ion channels always allow any type of ion to pass through them.
 - Electrical or chemical signals may control the movement of ions across cell membranes.
 - Because they are charged particles, the movement of ions across cell membranes requires energy input.
- ___ 11. Which of the following does *not* expend energy?
- diffusion
 - endocytosis
 - active transport
 - a sodium-potassium pump
- ___ 12. Which of the following enters a cell by active transport?
- glucose
 - water
 - lactose
 - potassium ion
- ___ 13. The process by which water passes into or out of a cell is called
- solubility.
 - osmosis.
 - selective transport.
 - endocytosis.

___ 14.



Refer to the illustration above. The process shown is called

- osmosis.
 - facilitated diffusion.
 - active transport.
 - diffusion.
- ___ 15. The sodium-potassium pump usually pumps
- potassium out of the cell.
 - sodium into the cell.
 - potassium into the cell.
 - only a potassium and sugar molecule together.
- ___ 16. Ridding the cell of material by discharging it from sacs at the cell surface is called
- pinocytosis.
 - phagocytosis.
 - exocytosis.
 - endocytosis.
- ___ 17. Molecules that are too large to be moved across a cell membrane can be removed from the cell by
- diffusion.
 - exocytosis.
 - lipid carriers.
 - osmosis.
- ___ 18. Molecules that are too large to be moved through the membrane can be transported into the cell by
- osmosis.
 - endocytosis.
 - lipid carriers.
 - diffusion.
- ___ 19. Placing a plant into a hypertonic environment will
- cause turgor pressure to increase.
 - cause the plant to take in water.
 - have no effect.
 - cause turgor pressure to decrease.
- ___ 20. A calcium ion channel will allow
- any kind of ion to pass through it.
 - only calcium ions to pass through it.
 - positive ions to pass through it.
 - None of the above