

Biology Homework 1-4.2 Cell Transport II

Use your **journal** as a reference tool in addition to the information provided below. Circle your answer choices and justify your answers.

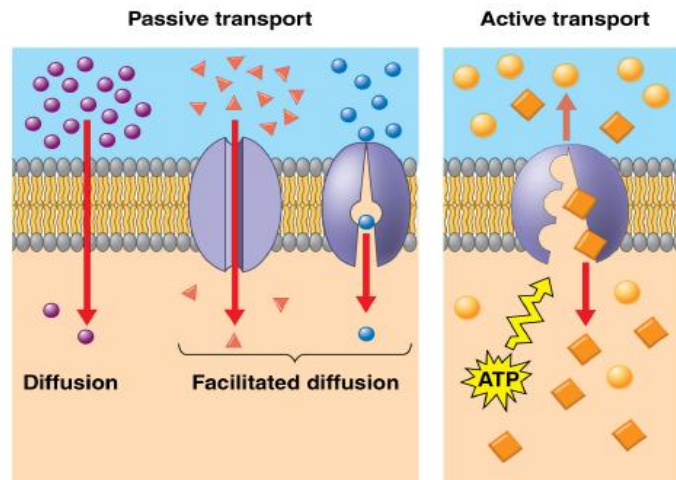
Plasma (cell) membrane – This is the boundary between the cell and its environment. It controls entry of nutrients and removal of wastes and maintains homeostasis.

*****Homeostasis-** *balance; a stable, internal environment* ***

Selective permeability - The cell membrane is picky. Some molecules are allowed to enter a cell while others are kept out.

Passive Transport

Some substances can move without using energy. This is called passive transport. The movement of solute (dissolved substance) from an area of greater concentration to an area of less concentration is called **diffusion**. Water molecules can also diffuse. They move from where there is more water to where there is less water. Diffusion of water is called **osmosis**.



Active Transport

Some molecules are too large to enter or exit the cell, or their charges prohibit them from passing through the plasma membrane. If this is the case, the cell can still move them, but it must use energy. Movement of substances that requires energy is called **active transport**. Sometimes proteins in the plasma membrane are used to pump materials out. Sometimes, materials enter and exit the cell using vesicles (pockets of the cell membrane). **Endocytosis** uses vesicles to bring materials (like nutrients) into the cell. **Exocytosis** uses vesicles to move materials (like waste products) out of the cell.

1. A thermostat maintains an ideal temperature of a room. What cell process is similar to this?

- a. food storage
- b. protein synthesis
- c. active transport
- d. homeostasis

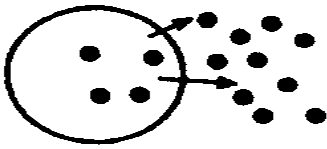
2. Passive transport (circle one) requires energy / does not require energy, while active transport (circle one) requires energy / does not require energy.

3. What process allows large molecules to enter a cell?
- a. endocytosis
 - b. exocytosis
 - c. osmosis
 - d. facilitated diffusion

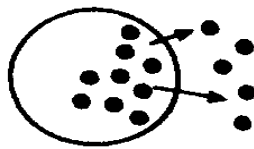
4. Facilitated diffusion is
- a. the same as endocytosis
 - b. a special kind of osmosis
 - c. a process that requires the cell's energy
 - d. a type of passive transport

5. Identify the cell transport in each diagram below as active or passive.

Cell A



Cell B



6. Explain how the cell membrane maintains homeostasis.

7. Which of the following is not a part of a prokaryotic cell?
- a. cytoplasm
 - b. cell membrane
 - c. ribosomes
 - d. DNA
 - e. membrane bound organelles