

Diffusion and Active Transport Note Taking Sheet

Define Terms

ATP: **adenosine triphosphate; a compound that has three phosphate groups and is used by cells to store energy.**

Active Transport: **the movement of a substance across a biological membrane against its concentration gradient; from a less-concentrated area to a more-concentrated area. Active transport requires the input of energy.**

Concentration Gradient: **a difference in the concentration of certain molecules over a distance.**

Diffusion: **the movement of a substance down its concentration gradient from a more-concentrated area to a less-concentrated area.**

Plants love water. In fact, without water and nutrients the plant would not survive. So how does the plant receive the nutrients it needs to survive?

The plants root system. The primary function of the plants root system is to absorb water and nutrients from the soil. The plant's root system is also used for structural support and stability. Roots also serve as a storage organ for starches and sugars, sweet potatoes are an example of a storage root.

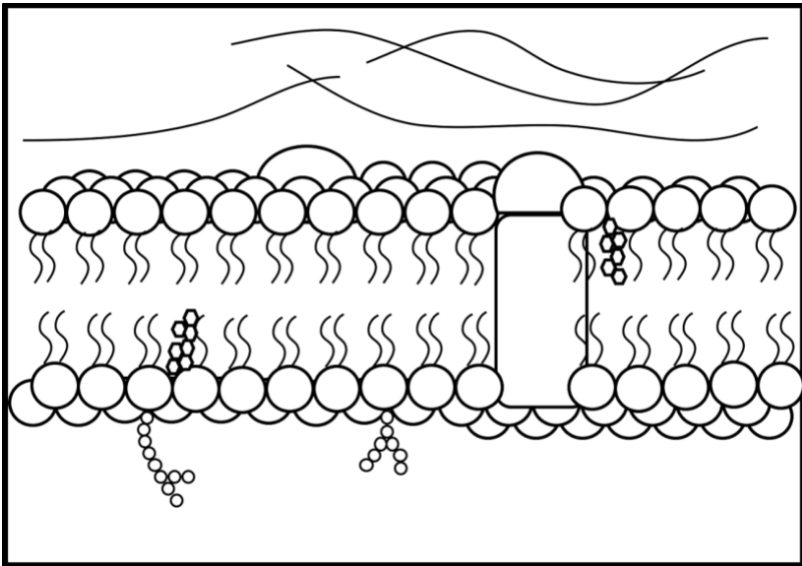


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The function of a cell membrane is to regulate what enters and leaves the cell and also provide protection and support. It is composed of a double lipid bilayer called a lipid bilayer and is semipermeable (only certain things go in and out). The membrane is made of phospholipids, which have a head and a tail.

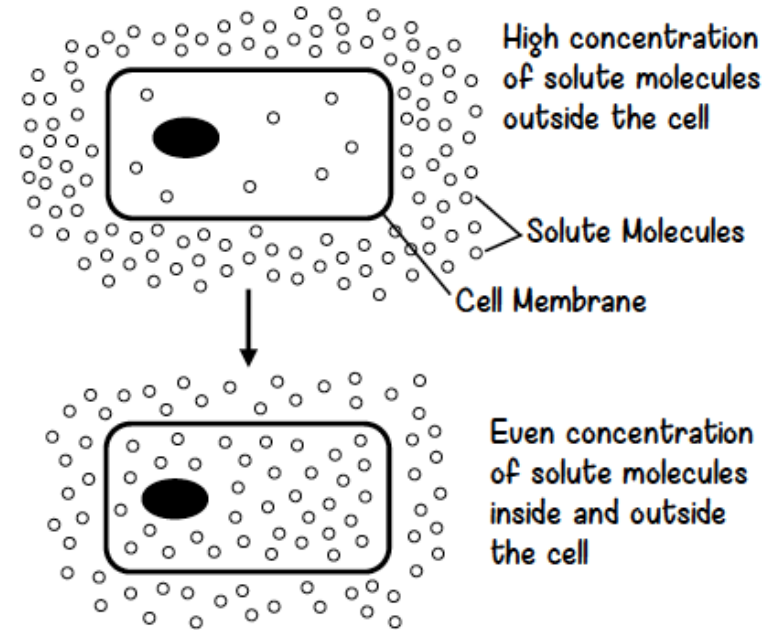
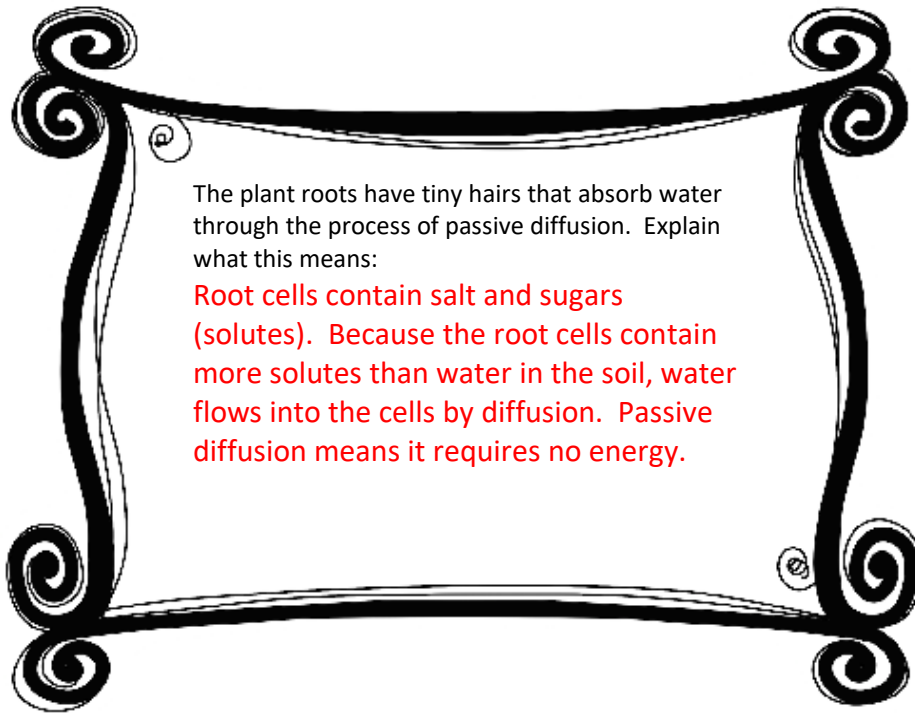


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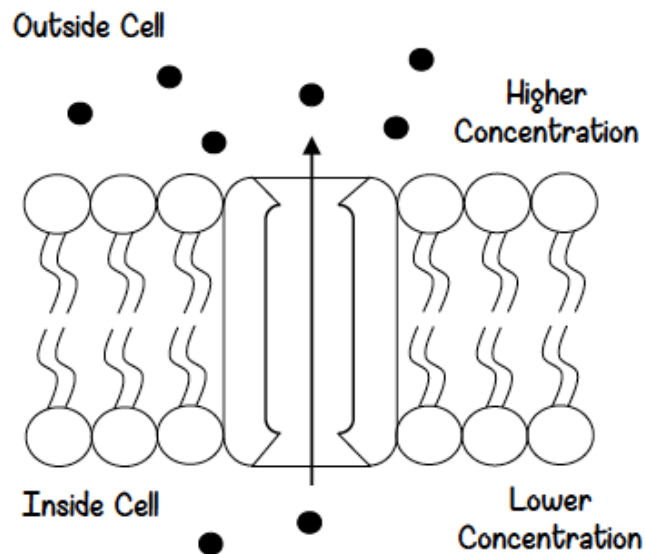
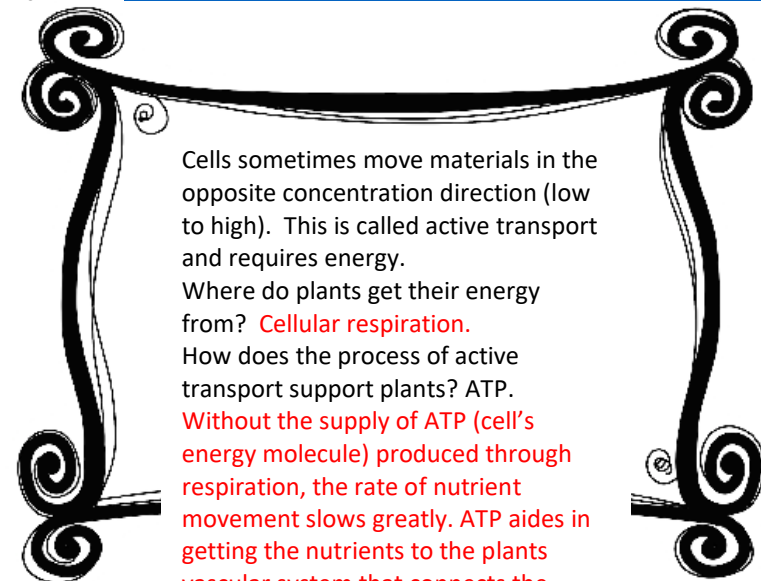


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Cells sometimes move materials in the opposite concentration direction (low to high). This is called active transport and requires energy.

Where do plants get their energy from? **Cellular respiration.**

How does the process of active transport support plants? ATP.

Without the supply of ATP (cell's energy molecule) produced through respiration, the rate of nutrient movement slows greatly. ATP aides in getting the nutrients to the plants vascular system that connects the leaves to the roots.