

The Functioning Cell

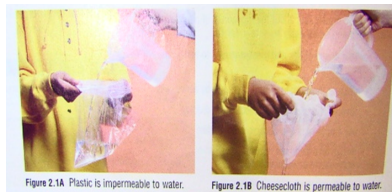
don't copy just discuss

You have learned that you are made of many cells, therefore when you eat, drink or even breath this is keeping you and your cells working.

Recall the cell membrane is the Gate keeper of the cell. It is similar to border between USA and Canada where law officials do not allow certain plants or firearms across.

Definitions:

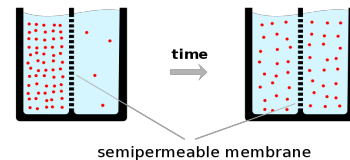
- 1) **Permeable** - allowing materials to pass through.
- 2) **Impermeable** - allowing no materials to pass through.
- 3) **Selectively Permeable** - allowing only certain material to pass through (Ex. Cell membrane)



In the pictures the plastic bag is impermeable to water, while the cheesecloth is permeable to water. This difference is due to the difference in the structure of the materials from which the bags are made of.

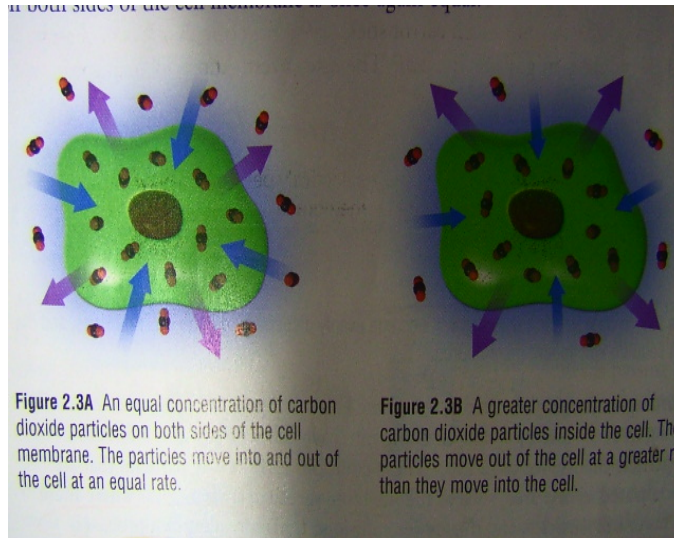
What would happen if I poured water and sane in bot of the above bags?

Definition continued:



4) **Diffusion** - the movement of particles in liquids and gases from an area of higher concentration, to an area of lower concentration. ex) Drop of food coloring in water

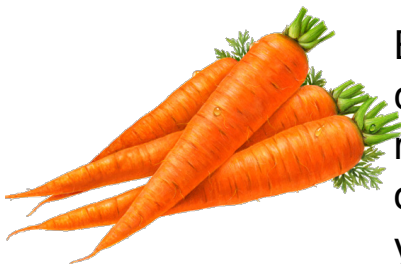
According to the particle theory, the particles in all liquids and gases are always moving in every direction and bumping into each other. This bumping causes the particles to spread out, diffuse.



5) **Osmosis** - The diffusion of a solvent, usually water, through a selectively permeable cell membrane. Ex) Carrot in water



Most cells are made up of about 70% water and most cells die quickly without water. Water molecules are small and can move into and out of cells by osmosis.



Ex) You have seen this by cutting up a fresh carrot. If you place that carrot in the refrigerator, by the next day it has lost some of its moisture and have gone limp. Now if you put the carrots in a glass of water for several hours then they become crisp again.