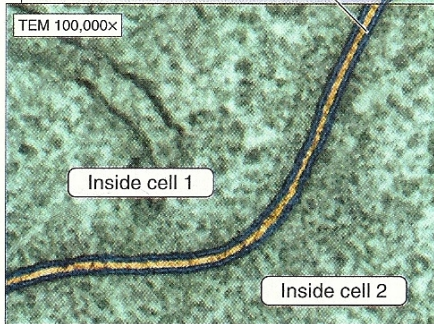


PLASMA MEMBRANE

Plasma membranes are made up of two layers that are filled with a variety of pores, molecules, and channels.

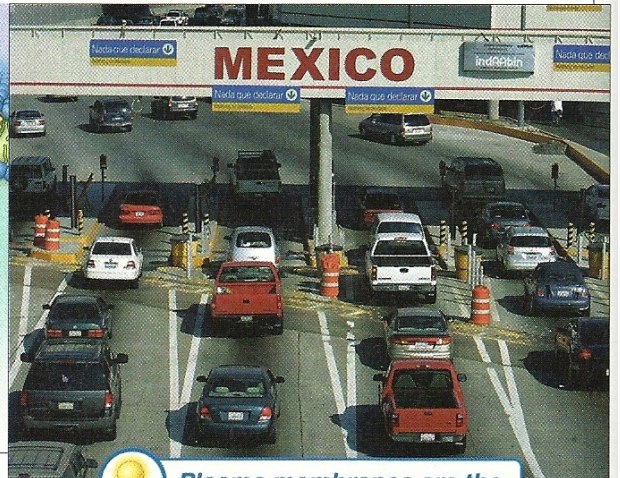
Plasma membrane

TEM 100,000x



FUNCTIONS

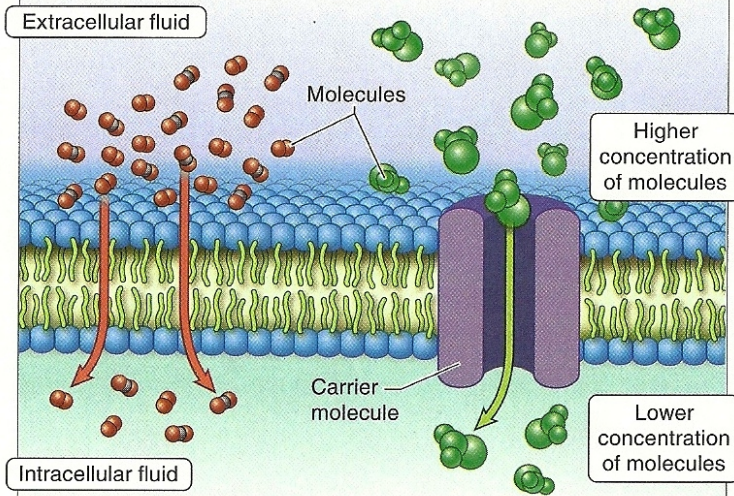
- Holds contents of cell in place
- Takes in food and nutrients
- Builds and exports molecules
- Absorbs and dissipates heat



Plasma membranes are the "gatekeepers" of the cell.

PASSIVE TRANSPORT

Passive transport occurs when molecules move across a membrane without energy input. Molecules move down their concentration gradients.



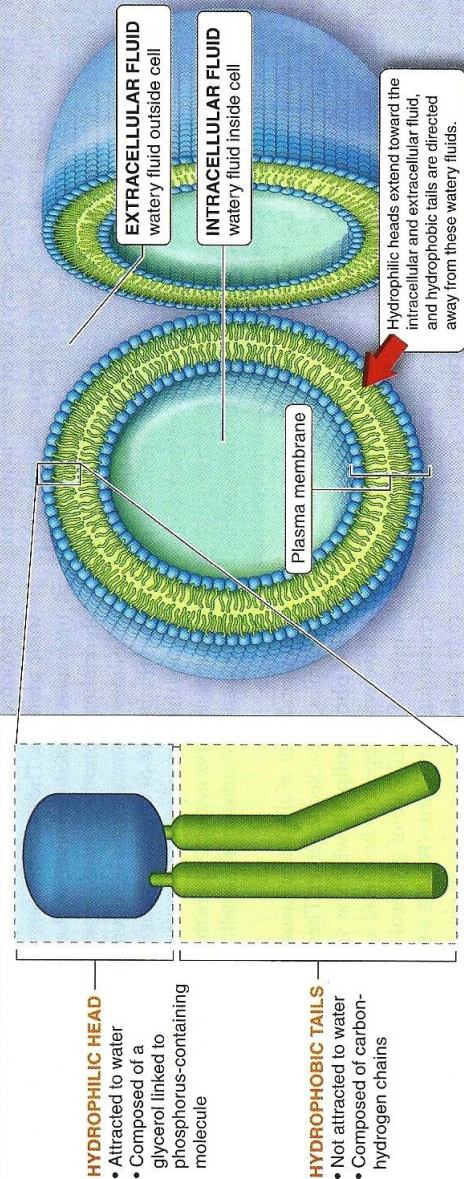
SIMPLE DIFFUSION

Molecules pass directly through the plasma membrane without the assistance of another molecule.

FACILITATED DIFFUSION

Molecules move across the plasma membrane with the help of a carrier molecule.

PHOSPHOLIPID BILAYER: STRUCTURE

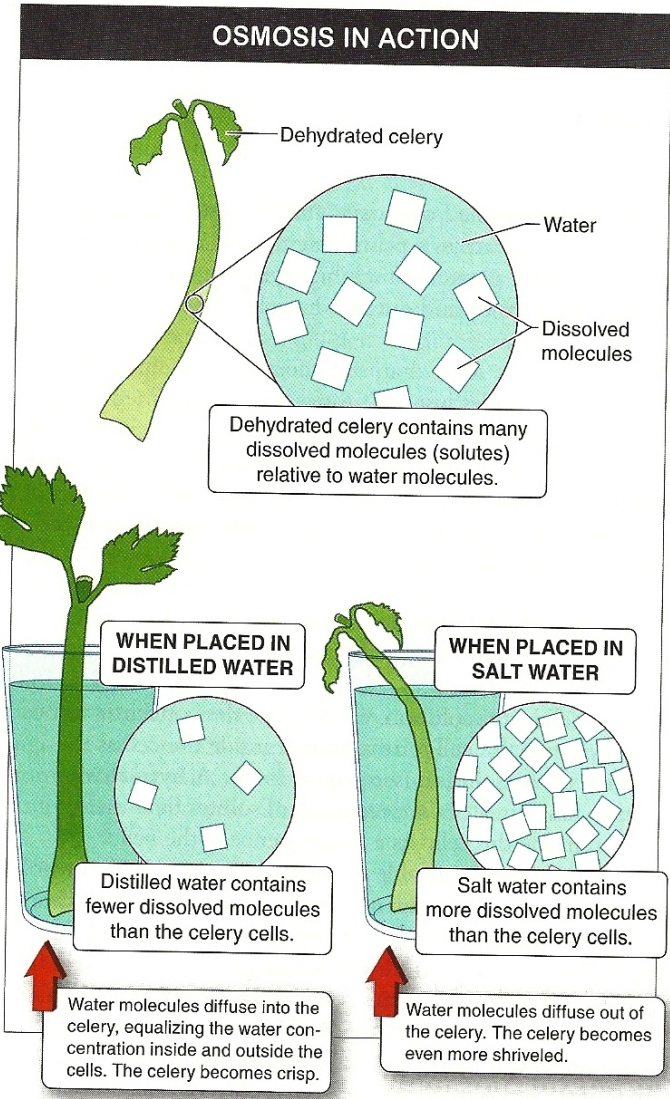
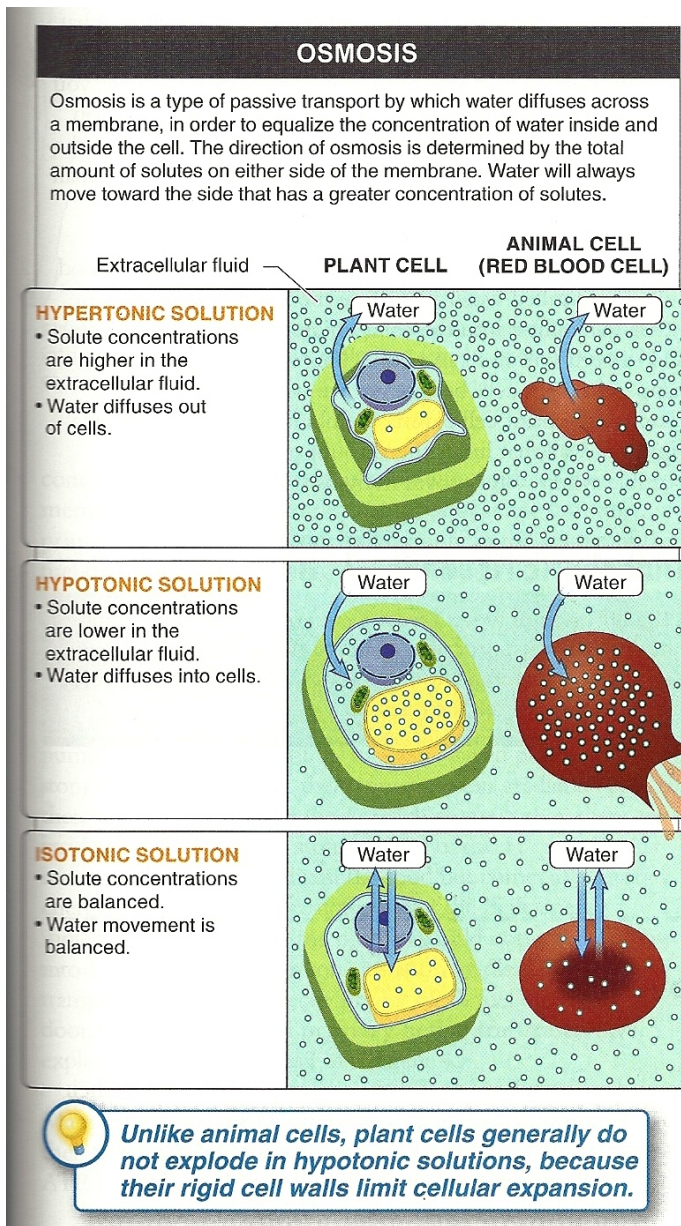
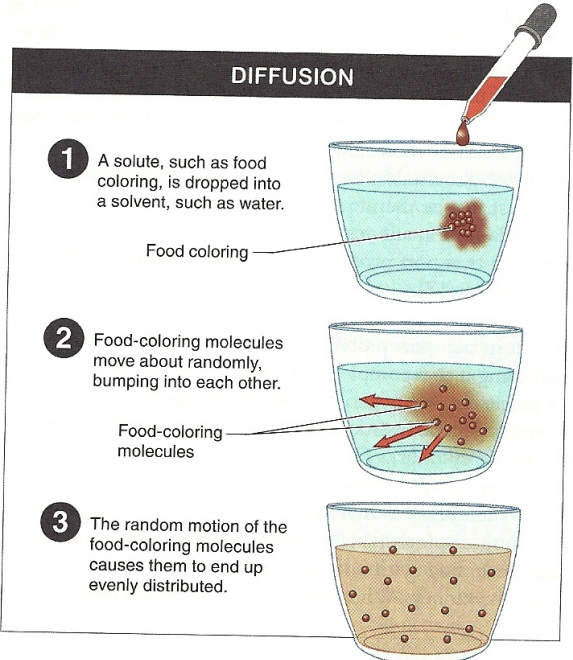


HYDROPHILIC HEAD

- Attracted to water
- Composed of a glycerol linked to phosphorus-containing molecule

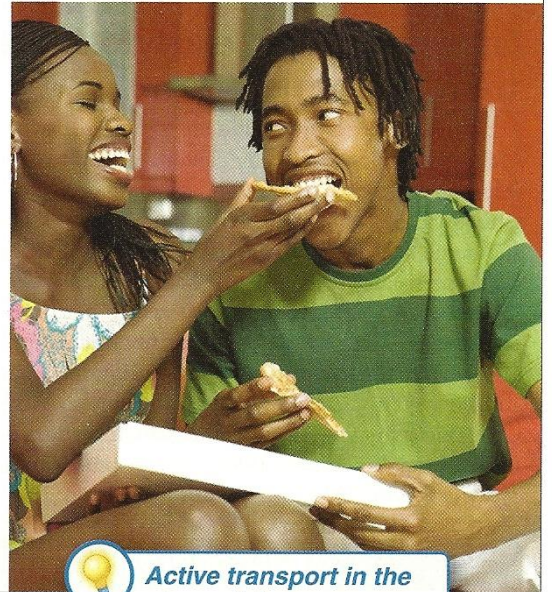
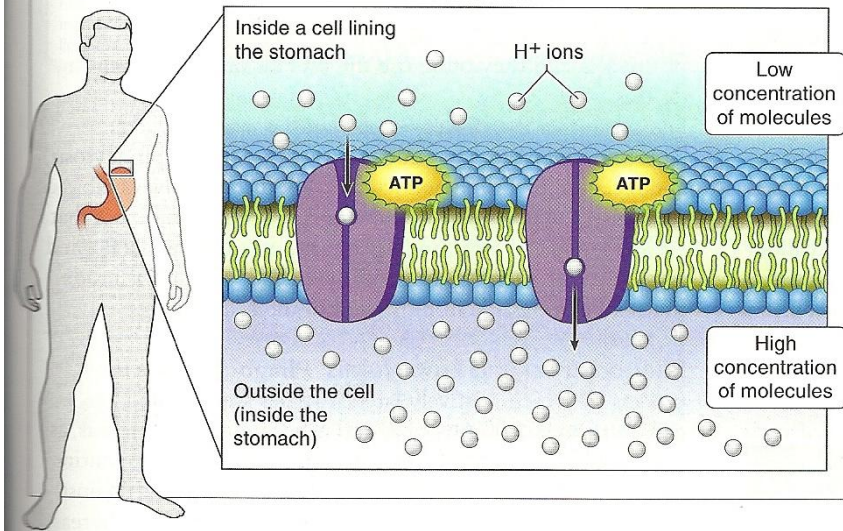
HYDROPHOBIC TAILS

- Not attracted to water
- Composed of carbon-hydrogen chains



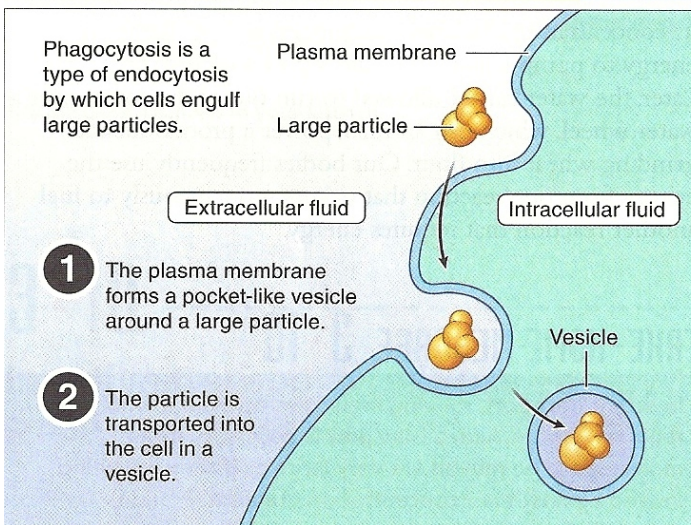
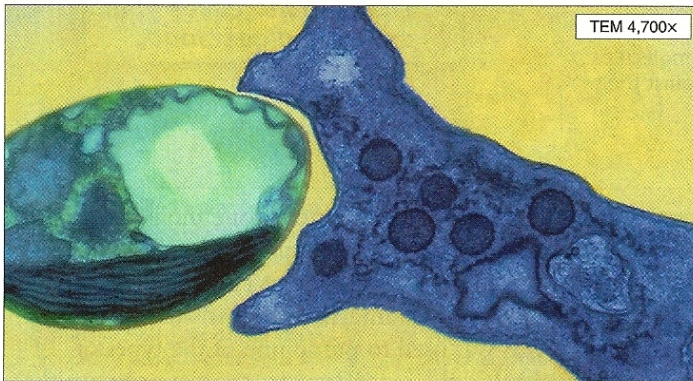
ACTIVE TRANSPORT

Active transport occurs when the movement of molecules into and out of a cell requires the input of energy. For example, in response to eating, the cells lining your stomach use ATP to pump large numbers of H^+ ions into the stomach.



Active transport in the stomach increases your ability to digest food.

PHAGOCYTOSIS



EXOCYTOSIS

Exocytosis is the method by which cells export products for use in another location.

