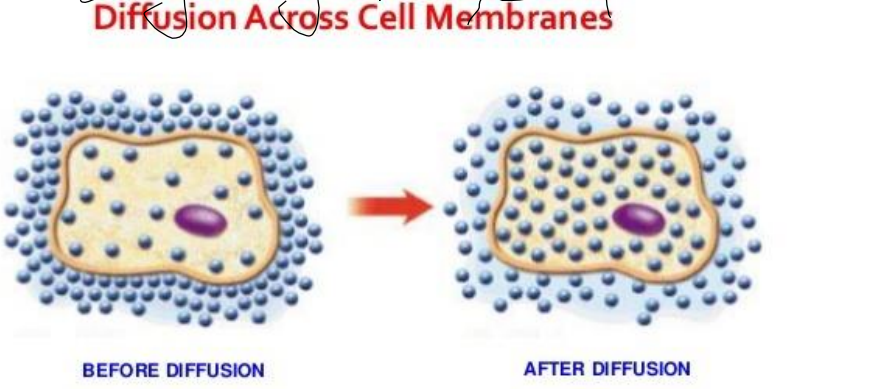
Cell Transport Mechanisms

Biology

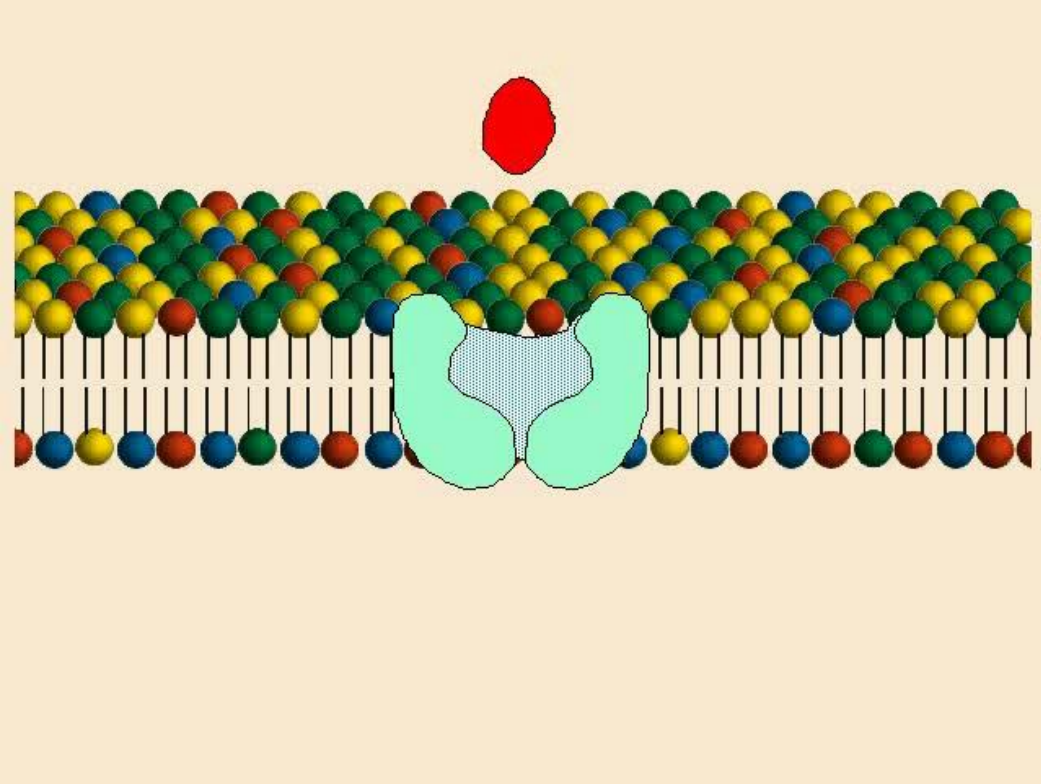
Diffusion (Passive)

- Molecules move from areas of greater concentration to areas of lesser concentration
- Facilitated diffusion uses special proteins that target specific molecules

MOST SUBSTANCES don't diffuse... only very small, nonpolar

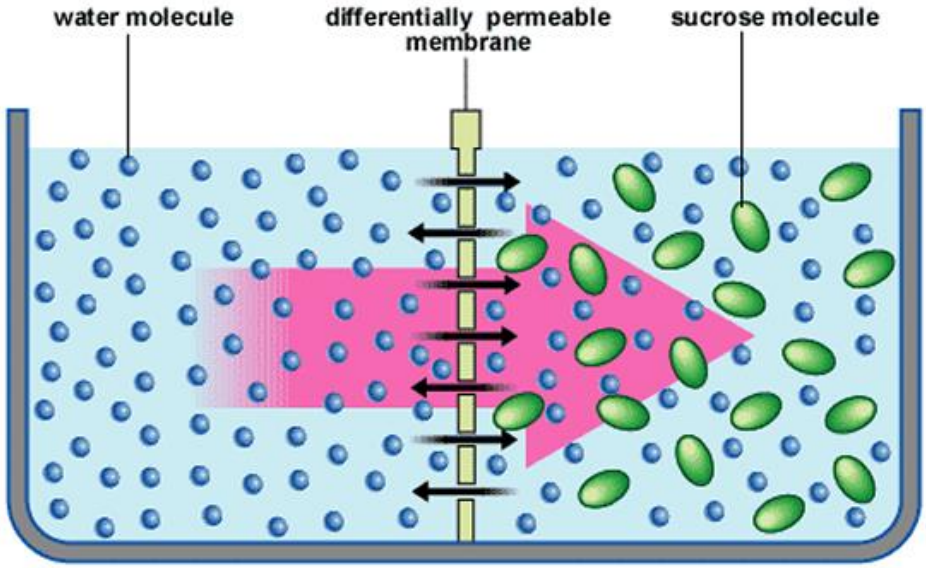


Facilitated Diffusion (Passive)



Osmosis (Passive)

- A special type of diffusion in which water molecules move across a semi-permeable membrane
- Water can move through the membrane – but other molecules can't



Active Transport Pumps (Active)

- Proteins that use energy to move specific ions or molecules into the cell
- The energy comes from chemical reactions that previously took place in the cell – this energy is harnessed as ATP
- http://www.brookscole.com/chemistry_d/templates/student_resources/shared_resources/animations/ion_pump/ionpump.html

Endo- and Exocytosis (Active)

- Endocytosis is a process by which large or charged particles enter the cell by forming vesicle packages that “pinch” from the cell membrane
- Exocytosis is the reverse of endocytosis – vesicles with large or charged particles combine with the cell membrane and “spit out” their contents