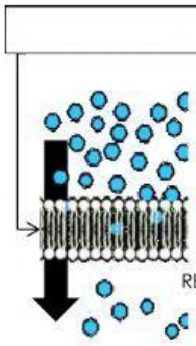
Transport Across the Cell Membrane



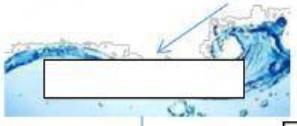
Occurs [ ] the concentration gradient (**high → low**)

REQUIRES [ ]

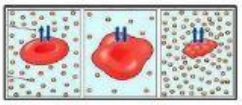
for the transport of water

for the transport of CO_2 and O_2

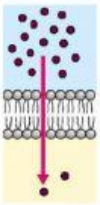
for the transport of glucose



water moves until it reaches [ ]

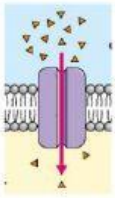


[ ]



[ ]

requires help from [ ]

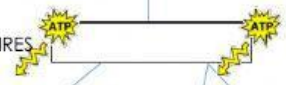


[ ]

Can you match the terms at the bottom to their correct spot in this flow chart?

Occurs [ ] the concentration gradient (**low → high**)

REQUIRES [ ]



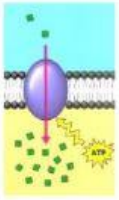
for small ions

for bulk transport

[ ]

example

[ ]



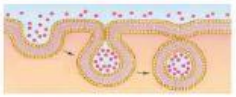
into the cell

out of the cell

[ ]

example

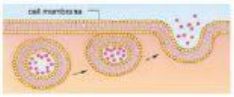
[ ]

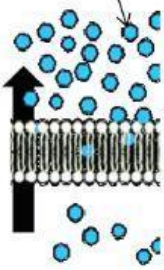


[ ]

example

[ ]





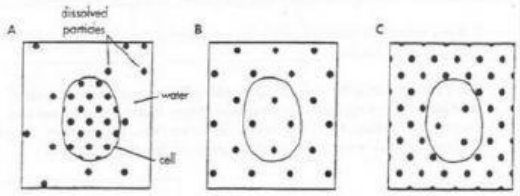
ATP energy	simple diffusion	active transport	osmosis	phospholipid bilayer
exocytosis	facilitated diffusion	passive transport	solute	amoeba eating
down	protein channel	hormone export	no energy	equilibrium
against	Na^+/K^+ pump	protein pump	endocytosis	

OSMOSIS

1. Why wouldn't bacteria be able to survive on salted fish? Explain using the concept of osmosis.



2. The cells in the beakers shown below are *permeable to water only*. Indicate the **tonicity** of each solution (isotonic, hypertonic, or hypotonic) AND indicate the **direction of water movement** (into the cell, out of the cell, or no net movement of water).



Tonicity of Solution:			
Direction of Water Movement:			

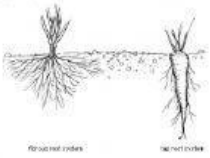
Isotonic — **Into the cell**

Hypotonic — **Out of the cell**

Hypertonic — **No net water movement**

3. The roots of a plant have cells that absorb water from the soil. There is a high concentration of minerals inside the root cells compared to the minerals in the soil.

   a. Explain why water moves from the soil into the root hair cell.



   b. Complete each sentence below.

   1. The soil is [ ] compared to the root cells.

   2. The root cells are [ ] compared to the soil.

Isotonic **Hypotonic** **Hypertonic**

4. Soft drinks may contain various concentrations of solutes. Some soft drinks have a low solute concentration and are a source of water for your body's cells. Others have a high solute concentration and can dehydrate your cells. Which of these drinks should be marketed as "thirst quenchers"? Explain your answer in terms of water concentration and water movement.

