

Other names: **Cell Membrane**

**Plasma membrane**

**Phospholipid bilayer**

Phospholipid → **hydrophilic heads/hydrophobic tail**

Bilayer → **2 layers**

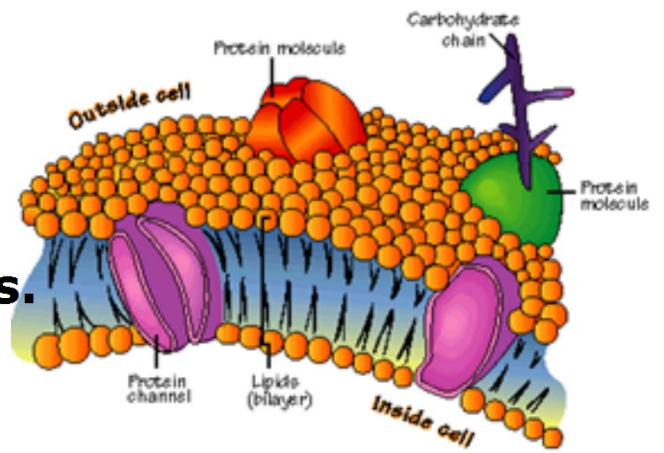
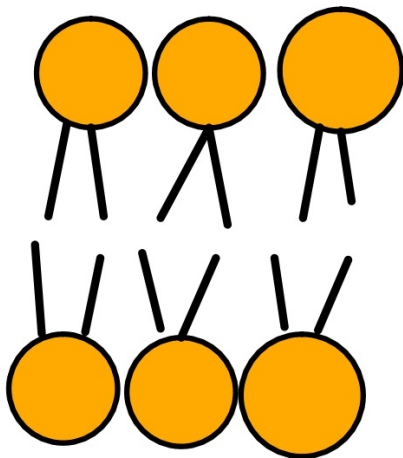
**Semi-permeable**

Semi → **half/partially**

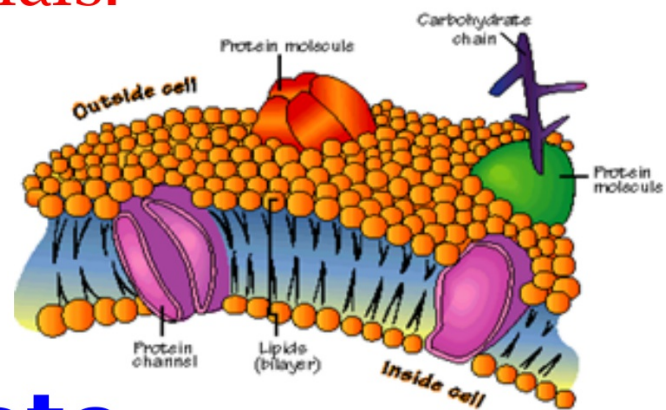
Permeable → **able to allow things to go through**

# Cell Membrane

The cell membrane is composed of phospholipids.



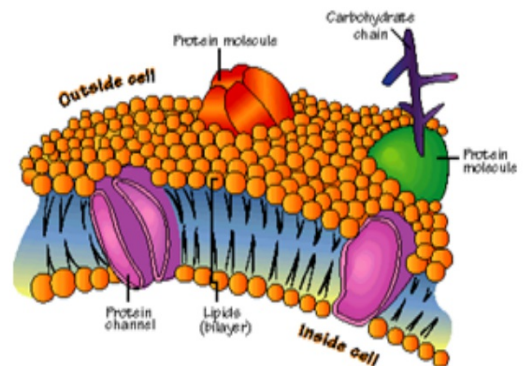
Protein channels run throughout to help transport materials.



Carbohydrate chains help identify cells.

**Porous** - the ability  
for materials to pass  
through

**SemiPermeable**  
- the membrane is  
selective about which  
materials can pass  
through





### **Cell Membrane Function:**

- ◆ *regulation; homeostasis*
- ◆ *regulates what enters and leaves the cell*

**What does semi-permeable (selectively permeable) mean?**

- ◆ *certain molecules can enter the cell and certain molecules can't*

cells must let things enter and leave... 

What does  
SEMI-  
PERMEABLE  
mean?  
Certain  
molecules can  
ENTER the cell  
and certain  
molecules  
LEAVE

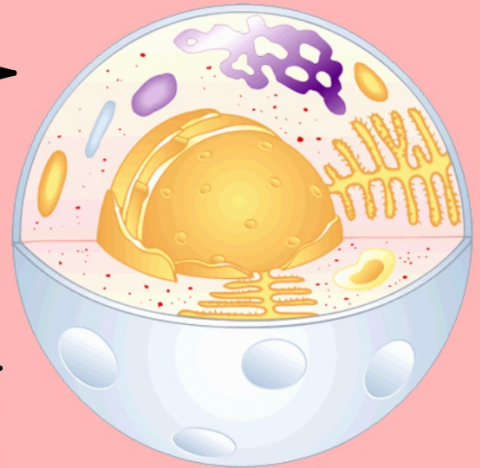


**IN**


**O<sub>2</sub>, H<sub>2</sub>O, &  
food  
molecules**

**OUT**

**waste products**



© oxford designers & illustrators 2004

**Does a cell really need a  
semipermeable membrane? **  
**What if it didn't have one?**

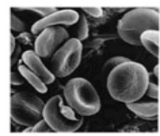
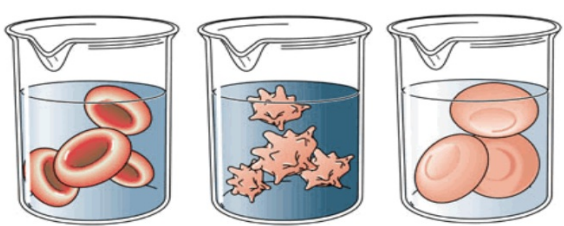
	Type	Moves?	Direction?	Uses Energy?	Uses a Protein?
Passive	Diffusion <b>PARTICLES</b>	<b>down the concentration gradient</b>	<b>high to low</b>	<b>NO</b>	<b>NO</b>
	Osmosis	<b><u>WATER</u> MOVING</b>	<b>high to low</b>	<b>NO</b>	<b>NO</b>
	Facilitated Diffusion	<b>particles move with <u>protein carrier</u></b>	<b>high to low</b>	<b>NO</b>	<b>YES</b>
Active	Active Transport	<b>pumps particles</b>	<b>low to high</b>	<b>YES!!! ATP</b>	<b>NO</b>



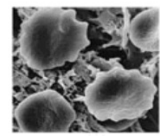
# Effects of Osmosis on Cells

Osmosis can have important consequences for a cell.

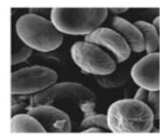
## Red Blood Cells



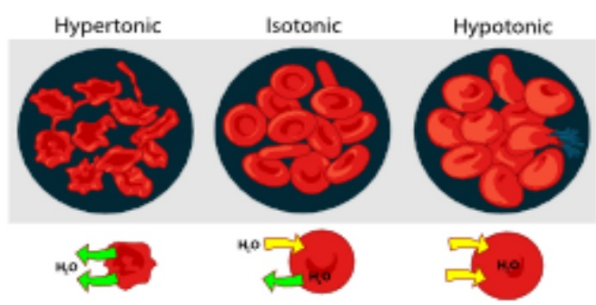
A. Isotonic solution (equal concentration of ions in solution and cell)



B. Hypertonic solution (higher concentration of ions in solution than in cell)



C. Hypotonic solution (lower concentration of ions in solution than in cell)



Which diagram represents the cells in YOUR body???

## Plant Cells

