

The Human Body and Beyond!

Week 1

July 7, 2013

Biochemistry

Cell Biology

Transport

What is physiology?

Goals of regulation

Homeostasis:

Positive/negative feedback:

Enzymes

Cell organelles

Plasma membrane

Mitochondria

Lysosomes

Nuclear envelope

Nucleolus

Nucleus

Smooth ER

Rough ER

Golgi

Cytoskeleton

Extracellular space

Extracellular matrix

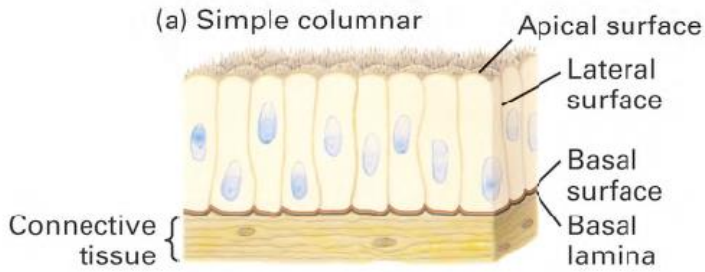
Everything in the body is _____ (visual receptors, lumen walls of organs)

Basal

Apical

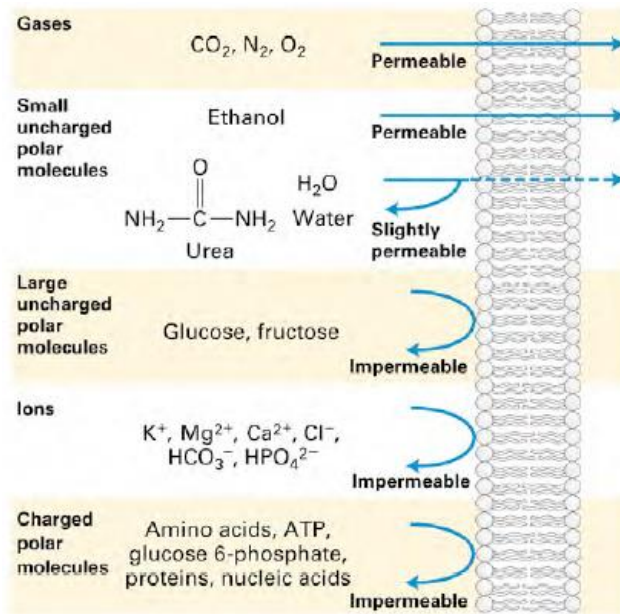
Epithelium

Basal lamina



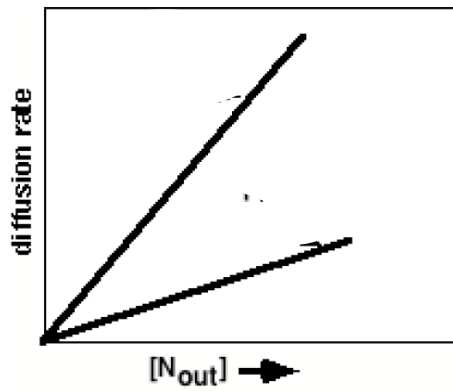
Transmembrane Transport

Most biological membranes are _____.



Diffusion:

Which line represents neutral glucose? Which is charged glucose-phosphate?



Rates too slow to sustain life.

Nature's solution?

Mechanisms of transport

1. Passive diffusion down conc gradient

2. Facilitated diffusion down gradient

Osmosis

Hypertonic

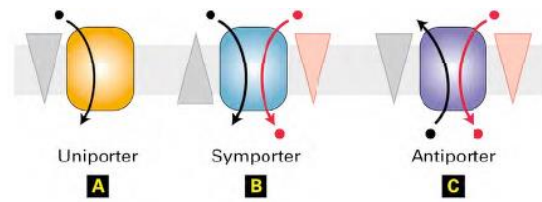
Hypotonic

3. Active transport against gradient

4. Coupled transport

a. Symport

b. Antiport



Sources of energy for transport:

