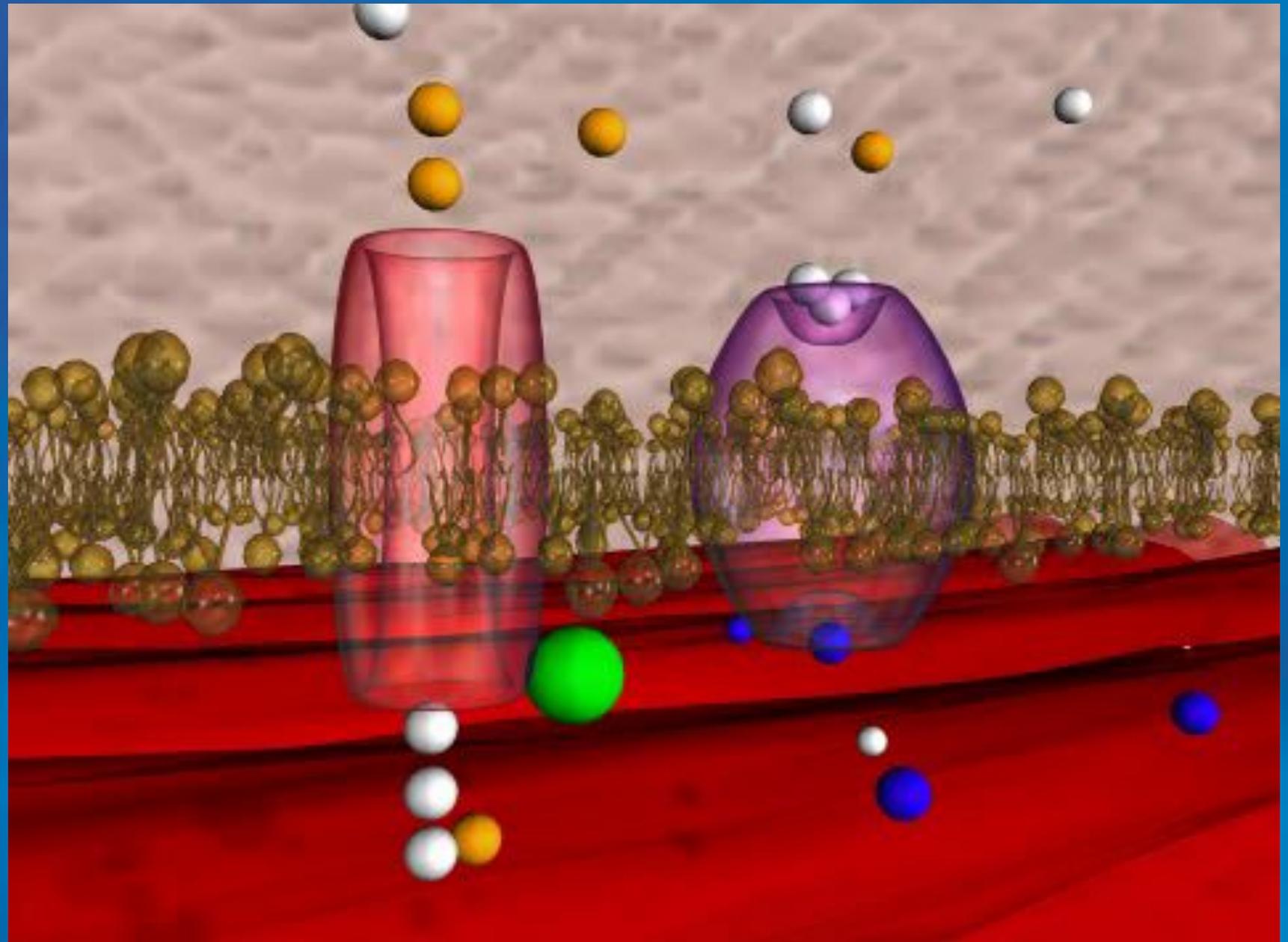


STRUCTURE & FUNCTIONS OF BIOLOGICAL MEMBRANES

TRANSPORT FUNCTION



BILIPID LAYER PENETRABILITY

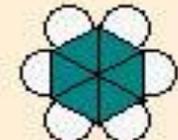
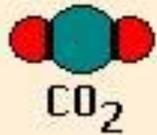
SMALL
MOLECULES

BIG
MPLECULES

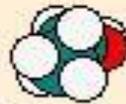
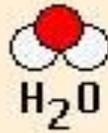
IONS

GASES

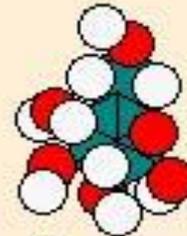
HYDROPHOBIC
MOLECULES



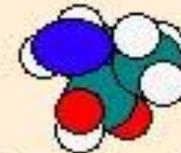
Benzene



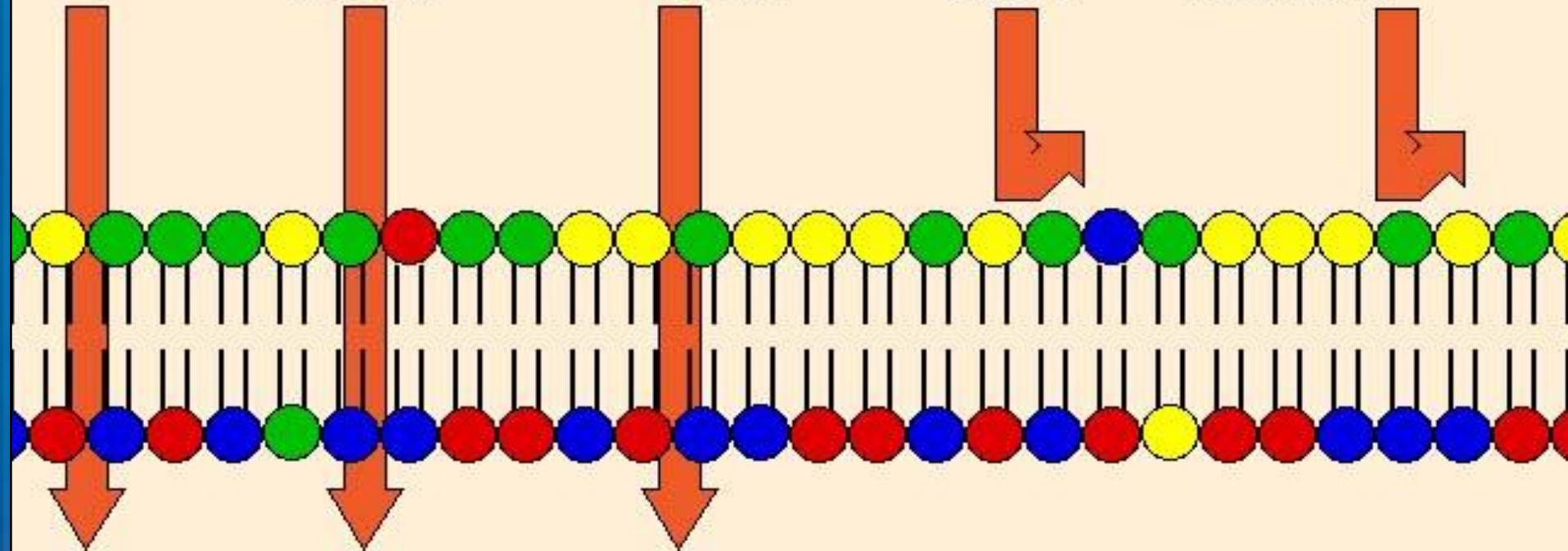
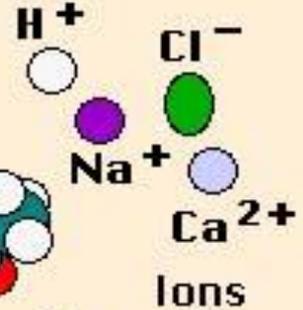
Ethanol



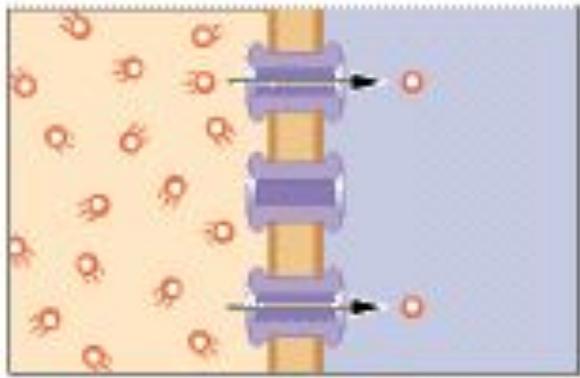
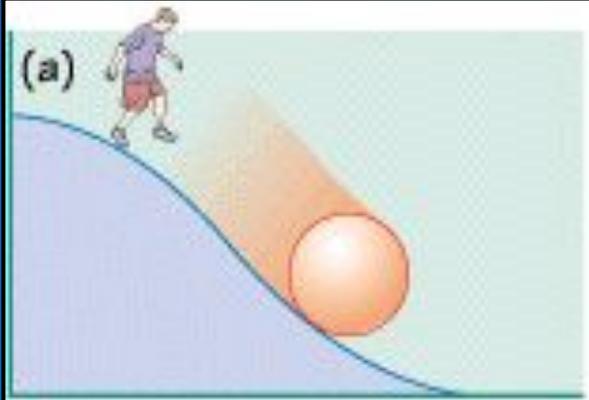
Glucose



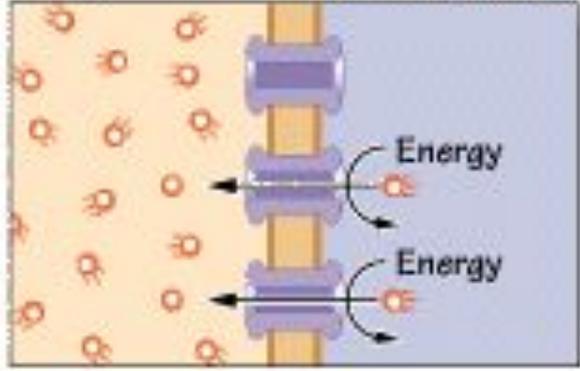
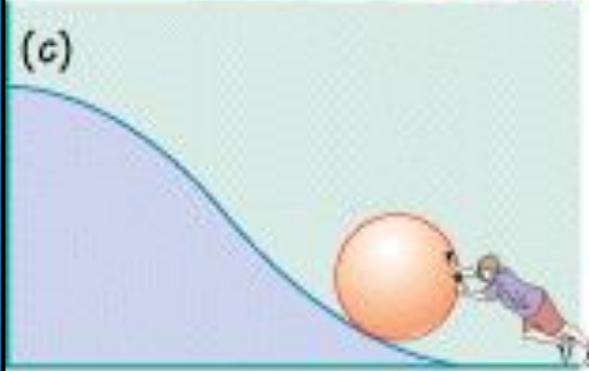
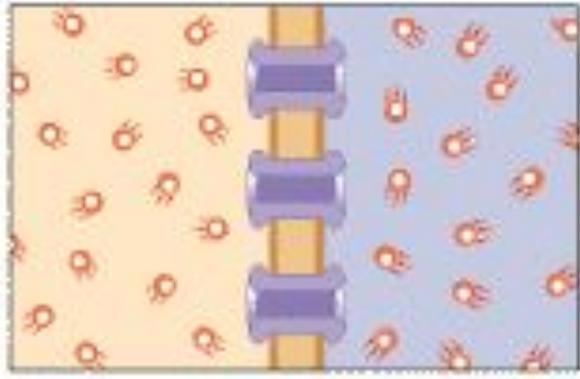
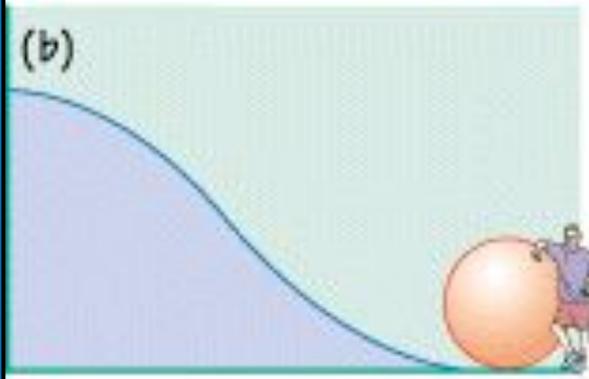
Amino acids



MEMBRANE TRANSPORT FUNCTION

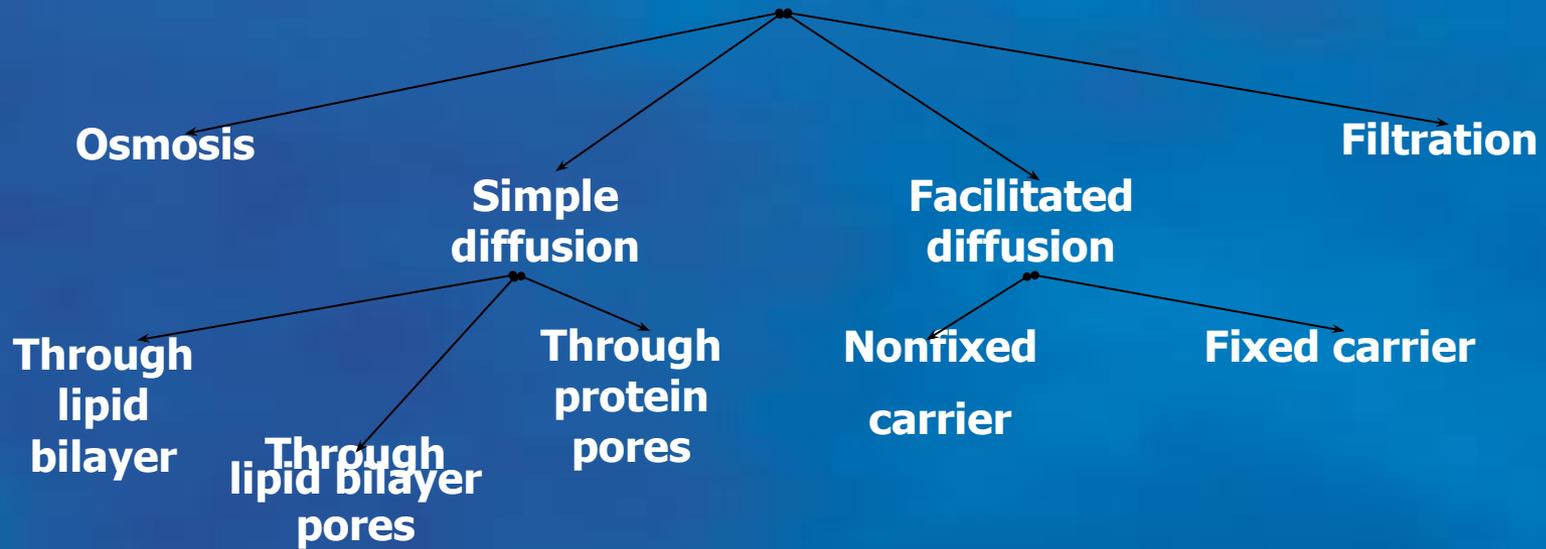


PASSIVE TRANSPORT

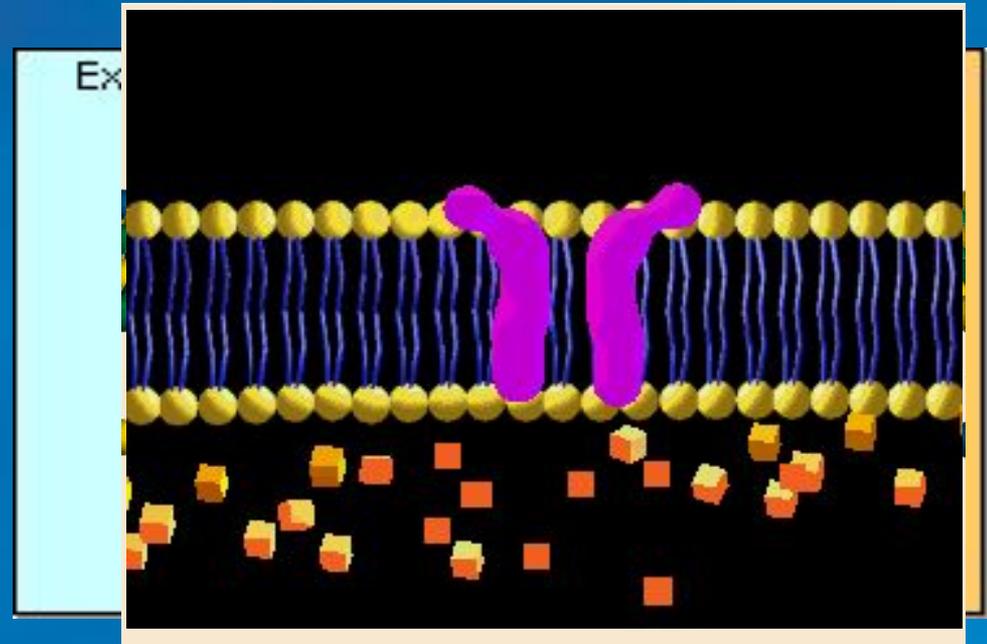


ACTIVE TRANSPORT

PASSIVE TRANSPORT



$$\frac{dm}{dt} = -D \frac{dc}{dx} S$$



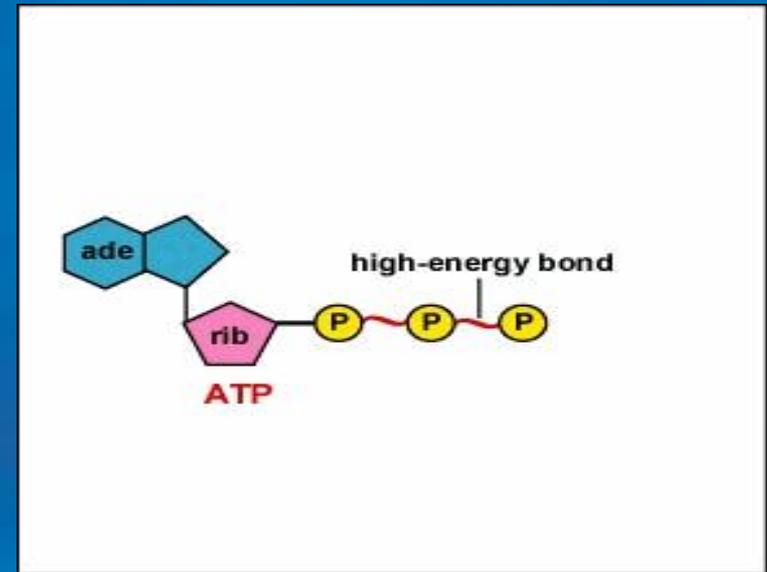
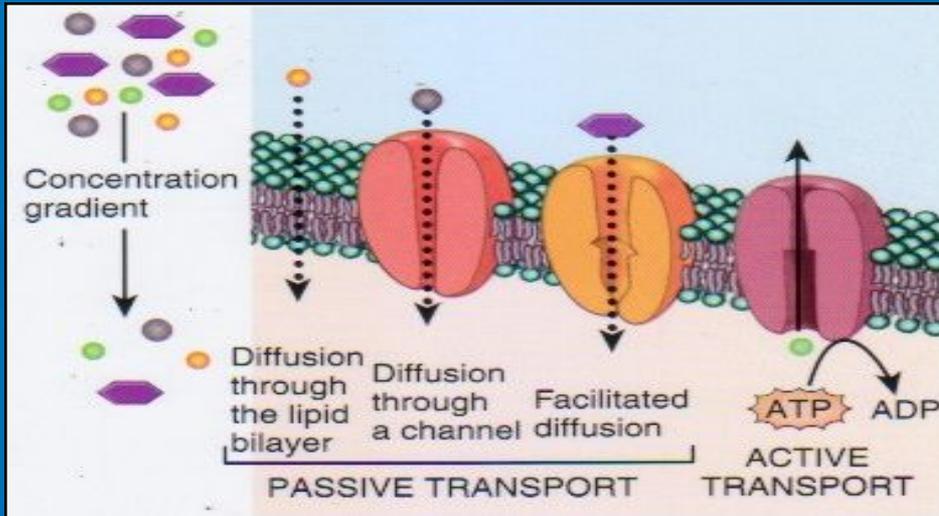
ACTIVE TRANSPORT

ION PUMPS

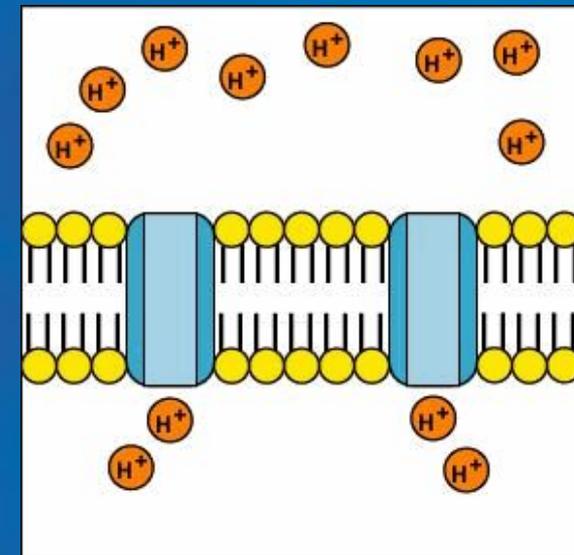
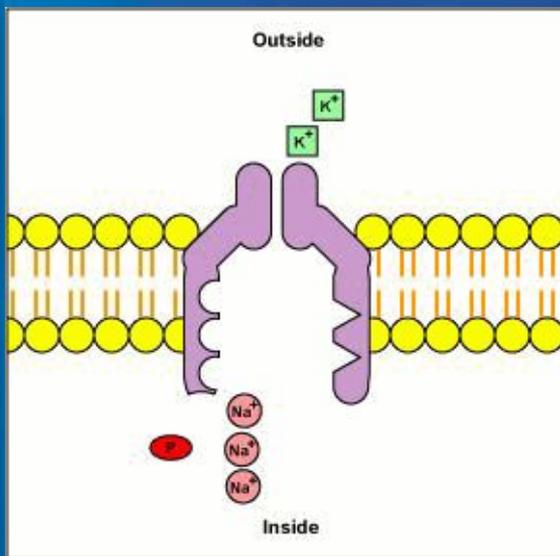
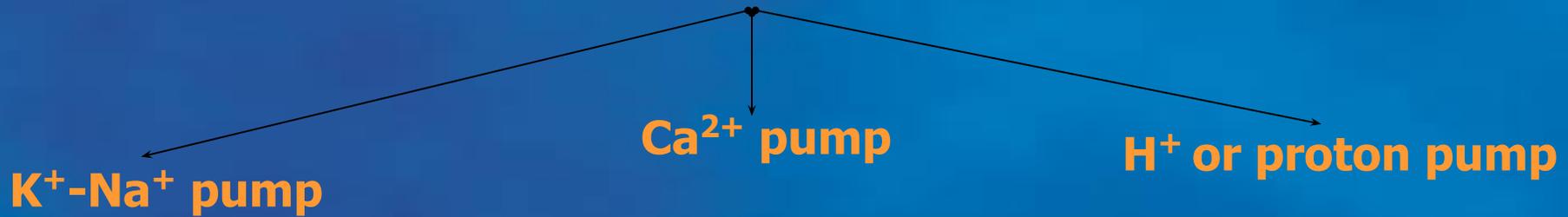
SECONDARY ION
TRANSPORT

ENDOCYTOSIS

EXOCYTOSIS

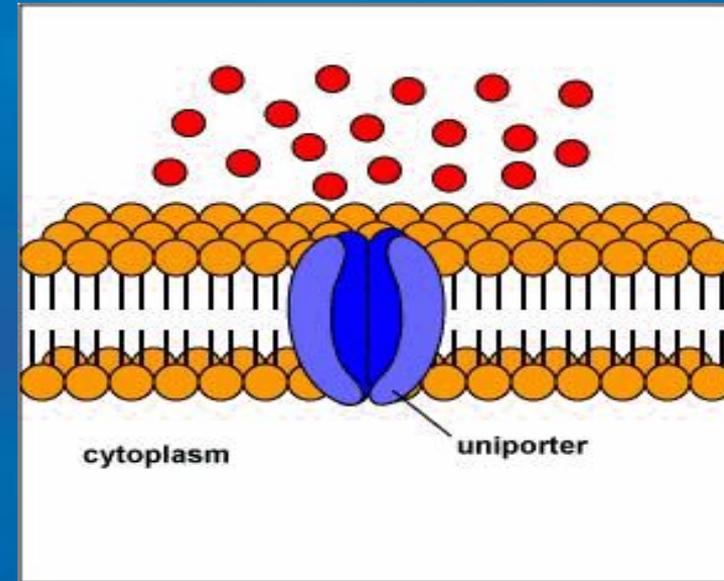
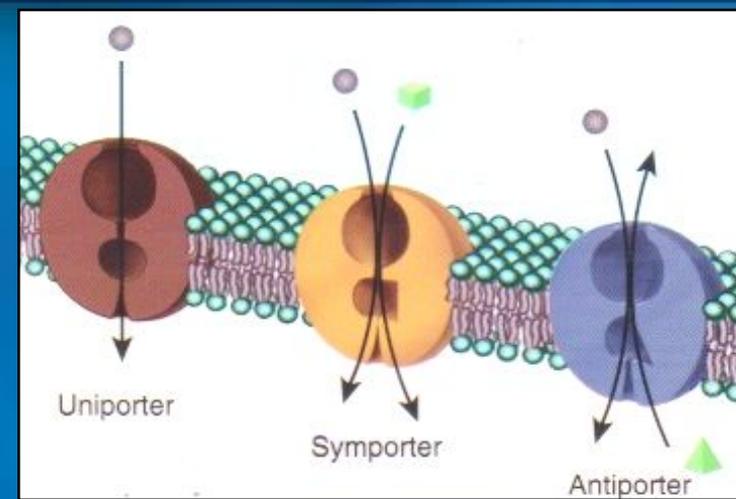


ION PUMPS



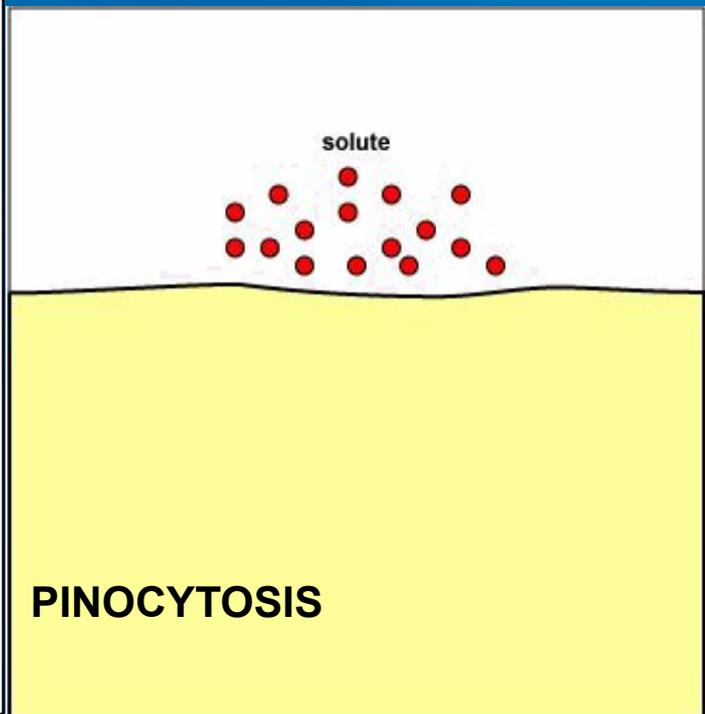
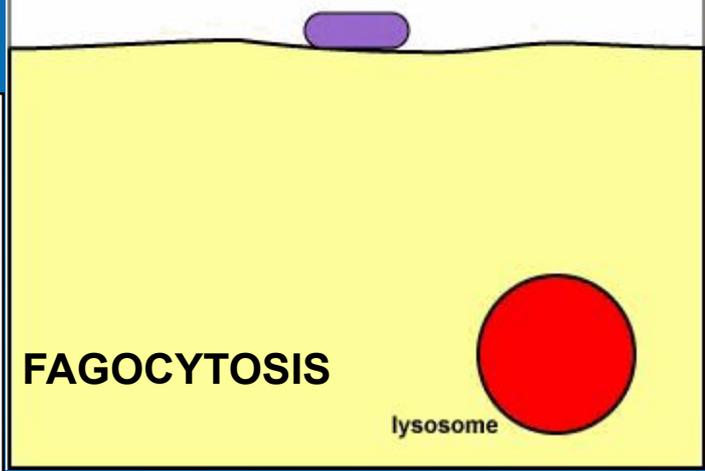
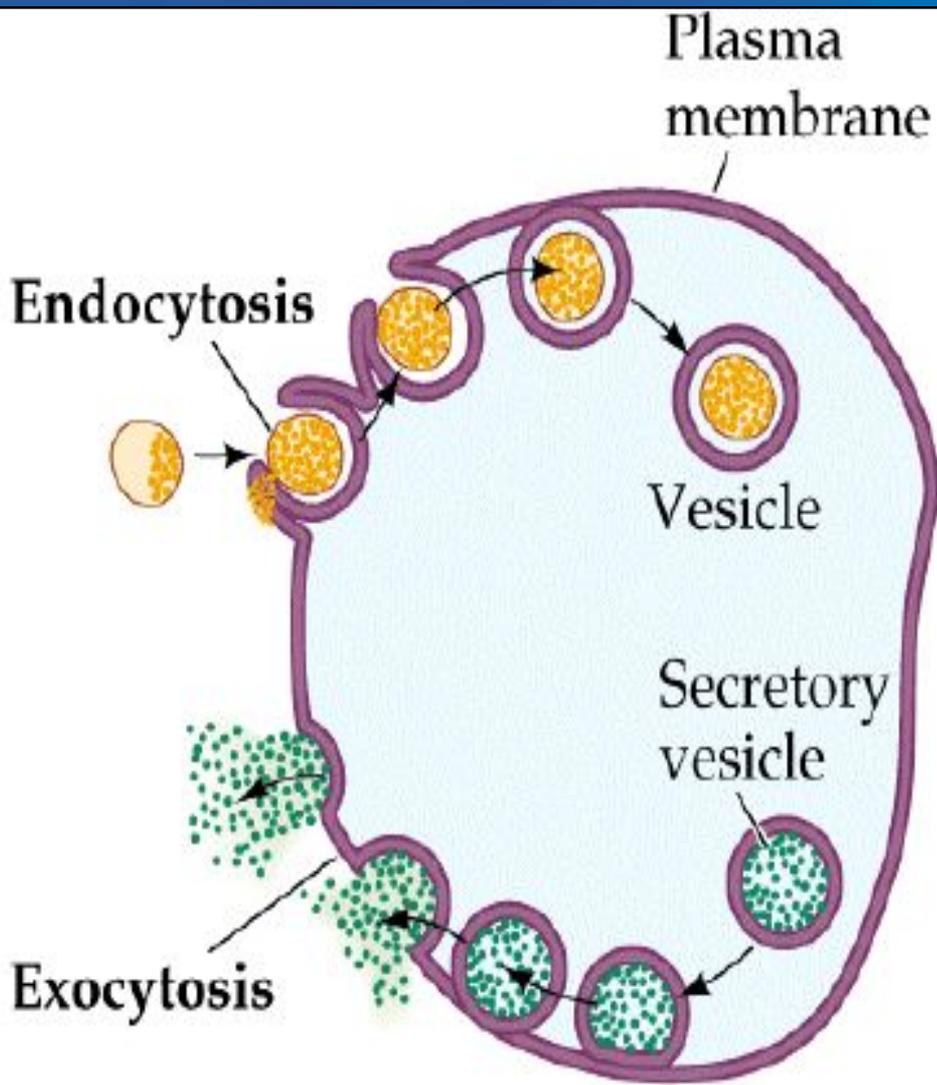
SODIUM-POTASSIUM PUMP

Secondary active transport

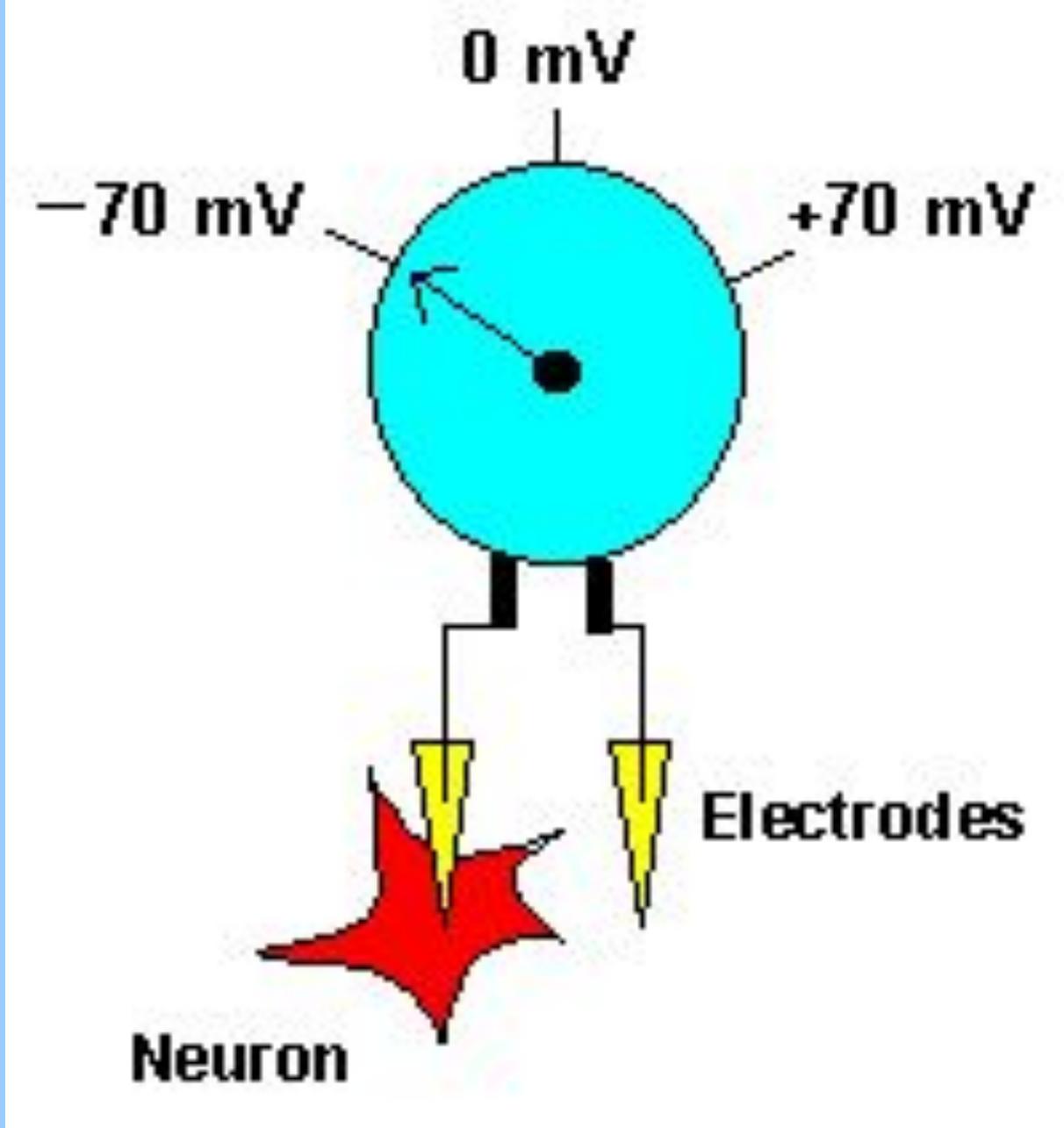


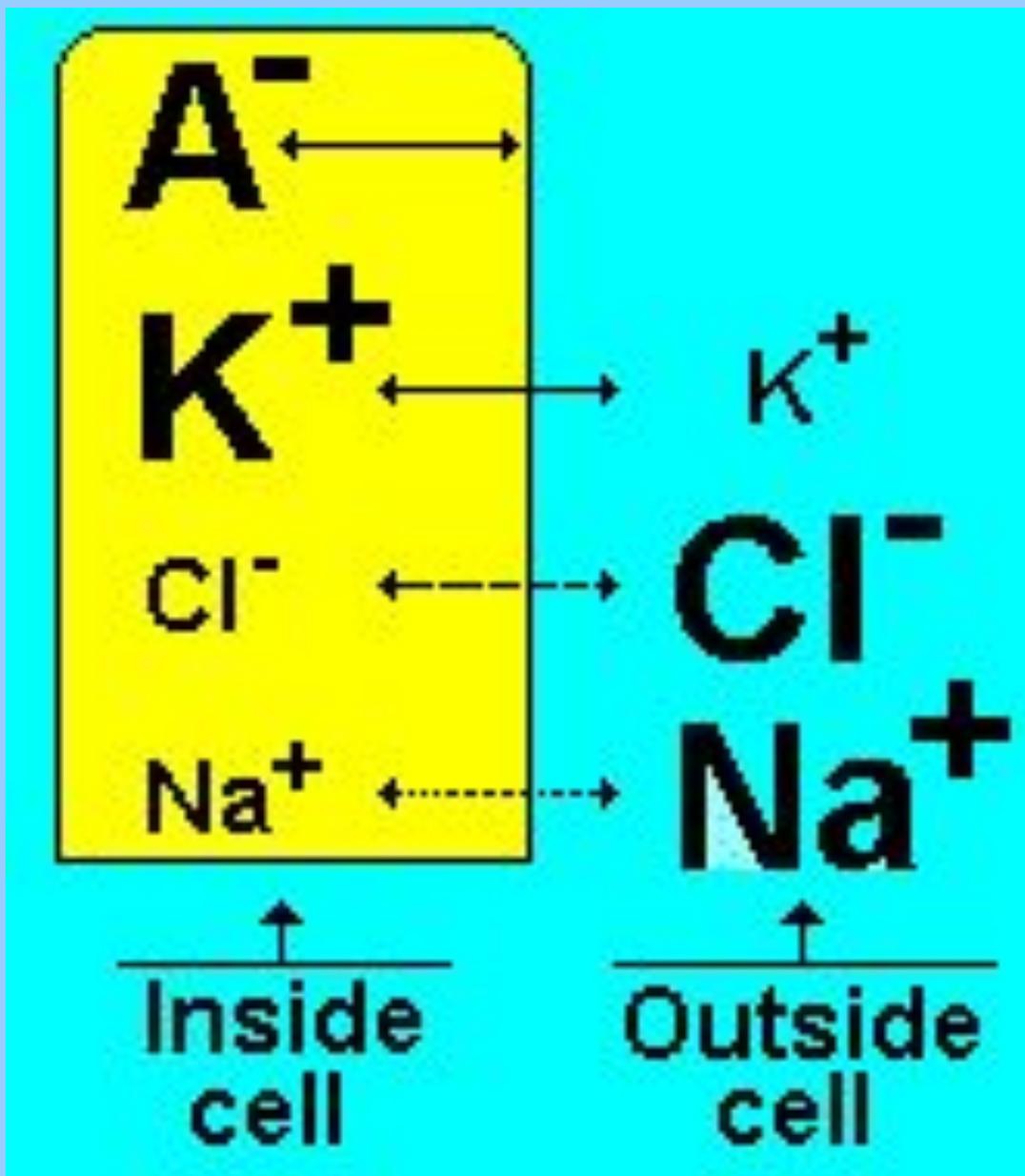
ENDO- & EXOCYTOSIS

ENDOCYTOSIS KINDS



REST AND ACTION POTENTIALS OF THE CELL





$$E_m = \frac{RT}{zF} \ln \left(\frac{P_K[K^+]_{\text{out}} + P_{\text{Na}}[\text{Na}^+]_{\text{out}} + P_{\text{Cl}}[\text{Cl}^-]_{\text{in}}}{P_K[K^+]_{\text{in}} + P_{\text{Na}}[\text{Na}^+]_{\text{in}} + P_{\text{Cl}}[\text{Cl}^-]_{\text{out}}} \right)$$

