

Source: [KBhBIO101CellMembranes](#)

1 | Cell Membrane Protean Transports

1.1 | Simple Diffusion

Due to the wonderful nature of **ENTROPY!!!**, things just tend to spread out from high to low concentrations.

1.2 | Passive diffusion

- **Passive... Passive Diffusion:** Non-Polar things simply “fall in” in the direction of chemical gradient
 - **Facilitated Diffusion:** polar molecules selectively get through protean channels
 - **Osmosis:** facilitated diffusion of water through a membrane
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Quick ad break for some terms on Osmosis

- **Isotonic** => inside and outside have the same level of “osmolarity”: probability for osmosis to happen through a semipermeable membrane
 - **Hypertonic** => inside has less osmolarity than the outside: water/other elems will flow out of the cell
 - **Hypotonic** => outside has less osmolarity than the inside: water/other elems will flow into the cell
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1.3 | Active diffusion

ATP shepherds elements in

1.4 | Bulk transport

- **Phagocytosis** => take a piece of the membrane with you to form a vesicle to introduce large solid elements, recycling the membrane after done — “cell eating”
- **Pinocytosis** => take a piece of the membrane with you to form a vesicle to introduce large area of the “outside” in — fluid and solid and all, recycling the membrane after done — “cell drinking”
- **Endocytosis** => Phagocytosis + Pinocytosis
- **Exocytosis** => opposite of endocytosis