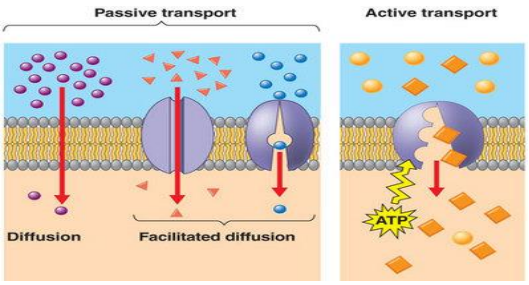
Cell Transport Notes:



- All cells need to **move** materials in and out of the cell
- What are some things that cells would need to transport in and out?
  Carbon dioxide, water, oxygen, food, proteins
- There are two types of transport that cells carry out: **PASSIVE** and **ACTIVE**

1. **PASSIVE TRANSPORT:**
   - When **small** particles move from a **high** to a **low** concentration, it is called **passive transport**. This is the **normal** flow of materials.
   - There are **two** types of passive transport. **Osmosis** is when water is moving high to low through a cell membrane, and **diffusion** is when all other small particles move from high to low concentration.
   - This type of transport does **NOT** require **ATP** or **energy**

   Here are some examples of this type of transport:
   1. **Cells getting rid of CO_2**
   2. **Cells taking in O_2 for cellular respiration**
   3. **Water moving across the cell membrane when needed or as a waste product**

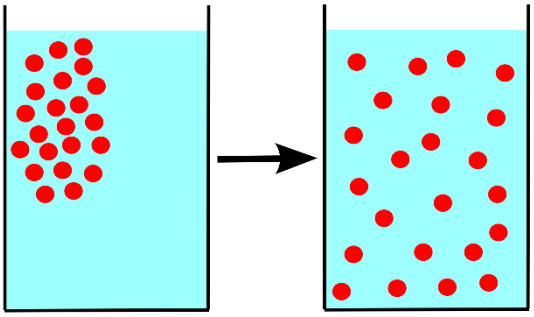
2. **ACTIVE TRANSPORT:**
   - When **small** particles move from a **low** to a **high** concentration, it is called **active transport**. This is **AGAINST** the normal flow of materials.
   - This type of transport requires **ATP** or **energy**
   - If large particles need to enter or leave the cell, they require special types of active transport called **endocytosis** and **exocytosis**
   - **Endocytosis** occurs when a cell needs to bring in large particles. Think about "endo" sounding like "in the" cell
   - **Exocytosis** occurs when a cell needs to take out large particles. Think about "*exo*" sounding like "*exiting*" the cell. This is how the Golgi ships proteins out of the cell.

   Here are some examples of active transport:
   EX: **cells brining in large food particles, cells releasing waste, white blood cells "eating" pathogens**

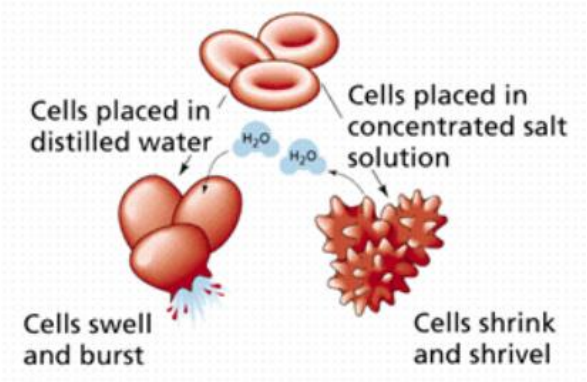
Illustrations show cell transport

Passive Transport – 2 types of passive transport, small particles moving from high to low concentration:

Diffusion

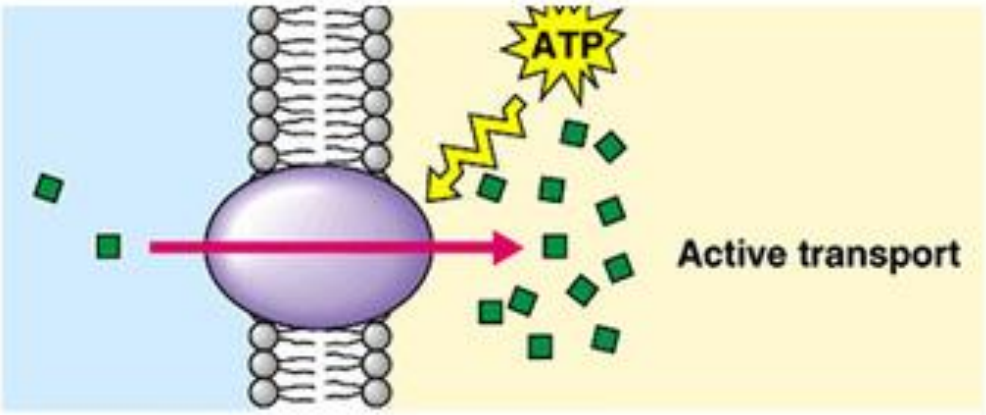


Osmosis

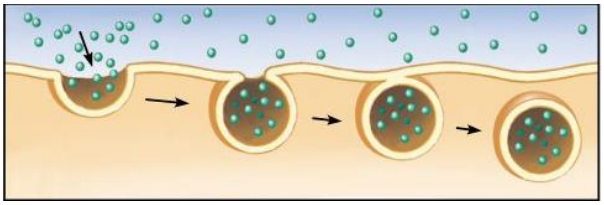


Active Transport – 3 types of active transport, small particles moving from low to high concentration, endocytosis and exocytosis:

Active Transport



Endocytosis



Exocytosis