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 CO₂
   2. Cells taking in O₂ 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 bringing 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**