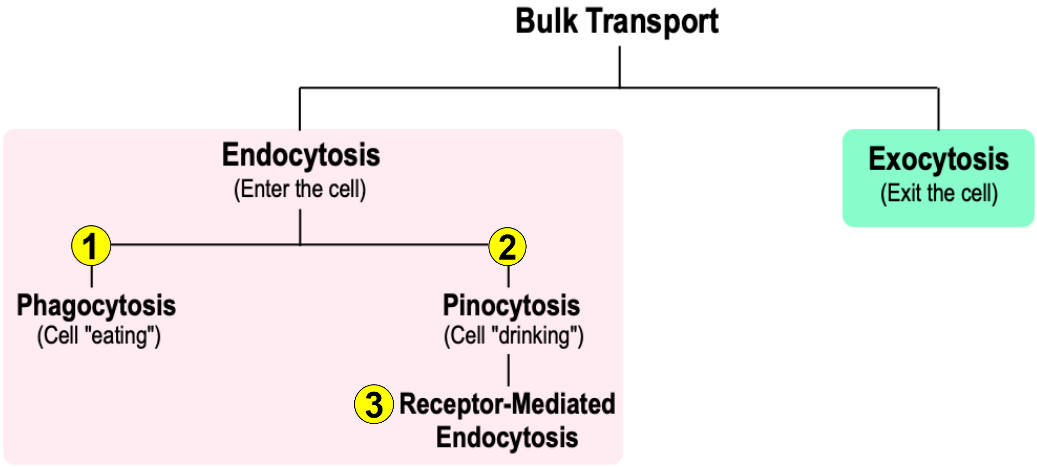
CONCEPT: ENDOCYTOSIS & EXOCYTOSIS

●*Large biomolecules* (ex. proteins, carbohydrates, DNA) are too _____ to *diffuse* through membranes or channels.

□ Instead, macromolecules are transported across cell membranes via *endocytosis* and/or *exocytosis*.



Endocytosis Allows Entry to the Cell

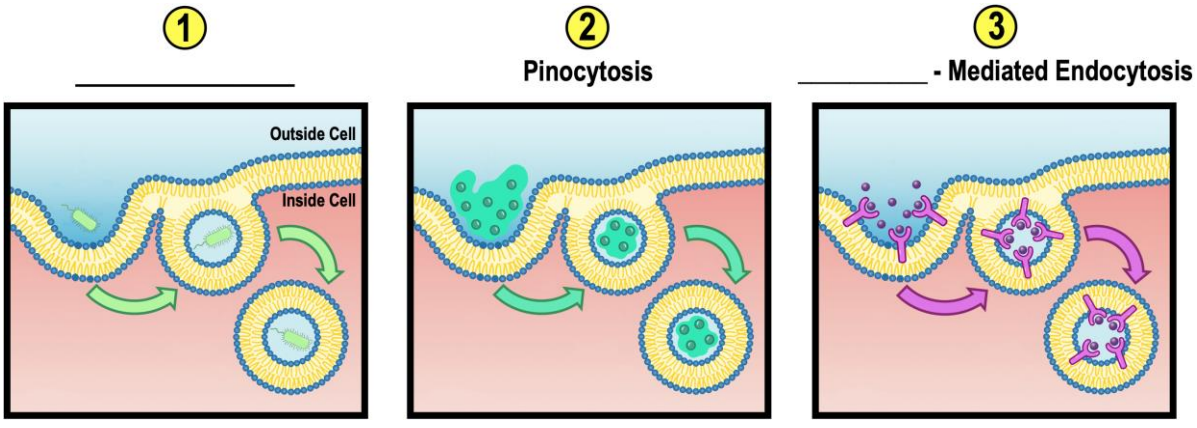
●_____***docytosis***: macromolecule ____gulfment by the cell membrane, allowing _____ into the cell via a lipid vesicle.

●_____ main types of *endocytosis*:

1 _____: *large*, *solid* material is taken in by endocytosis (cell "_____").

2 _____: *small*, *liquid* material taken in by endocytosis (cell "_____").

3 *Receptor-Mediated-Endocytosis*: specific form of *pinocytosis* using _____ proteins.



EXAMPLE: White blood cells of our immune systems engulf bacteria using which type of endocytosis?

a) Phagocytosis.
b) Pinocytosis.
c) Osmosis.
d) Receptor-mediated exocytosis.

CONCEPT: ENDOCYTOSIS & EXOCYTOSIS

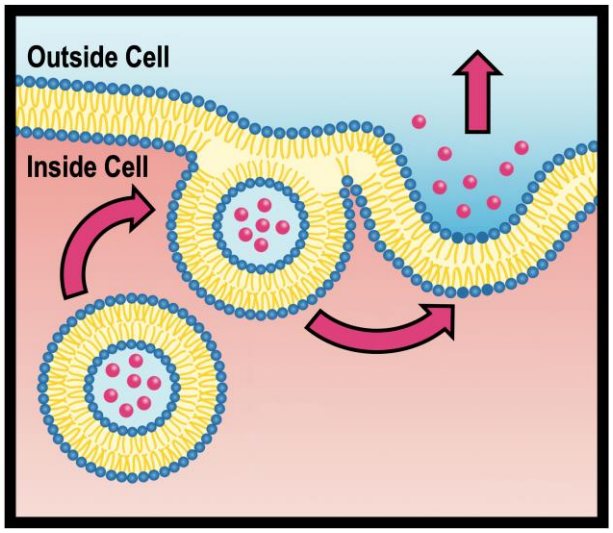
PRACTICE: The difference between pinocytosis and receptor-mediated endocytosis is that _____.

a) Pinocytosis brings only water molecules into the cell, receptor-mediated endocytosis brings in other molecules also.
b) Pinocytosis increases the surface area of the plasma membrane, receptor-mediated endocytosis decreases it.
c) Pinocytosis is nonselective, receptor-mediated endocytosis offers more selectivity.
d) Pinocytosis can concentrate substances from the extracellular fluid, receptor-mediated endocytosis cannot.

Exocytosis Allows Exiting from the Cell

- _____***ocytosis*:** vesicle fusion with a cell membrane, allowing its contents to _____ the cell to the **ex**tracellular space.
  - □ *Hormones*, *neurotransmitters*, & *digestive enzymes* are all examples of molecules that undergo *exocytosis*.

EXAMPLE: Exocytosis of Hormone Signaling Molecules.



PRACTICE: Which of the following is NOT a true statement regarding exocytosis?

a) It forms intracellular vesicles from inward folding of the plasma membrane.
b) It requires fusion of vesicles with the plasma membrane.
c) It secretes large molecules out of the cell.
d) It is responsible for removing large waste particles that cannot be recycled by the cell.

PRACTICE: Which means of particle transport is shown in the figure below?

a) Exocytosis.
b) Endocytosis.
c) Facilitated diffusion.
d) Simple diffusion.