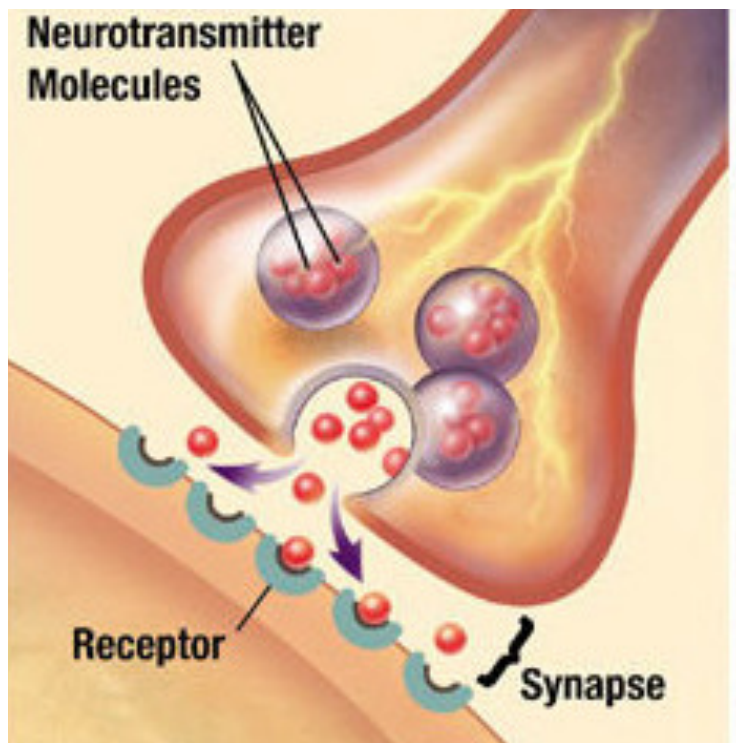


CONCEPT: EXOCYTOSIS

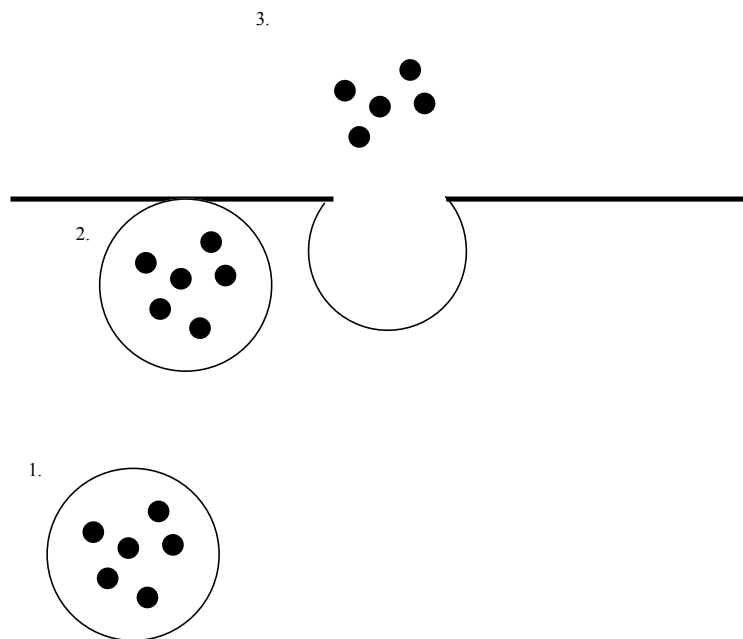
- **Exocytosis** is the process of _____ molecules outside of the cell
 - **Constitutive secretory pathway** – is the default pathway that operates continuously
 - Supplies the plasma membrane with newly synthesized lipids and proteins
 - **Regulated secretory pathway** occurs in specialized secretory cells that produce a lot of a released molecule
 - **Secretory vesicles** store this molecule for later release
 - Bud from Golgi, but dock near the plasma membrane for release
 - Releases material in response to a chemical signal (calcium)
 - Common in nerve cells
 - Microtubules _____ vesicles to the cell surface

EXAMPLE: Regulated secretory pathway in a neuron



- Exocytosis occurs in four steps
 1. Vesicle carrying cargo moves towards the plasma membrane
 - **Polarized** membranes have different domains
 - Vesicles are targeted to one domain via C-terminal sorting signals
 2. Vesicle fuses with the plasma membrane
 3. Vesicular contents are released into the extracellular environment
 4. Membrane fusion causes the membrane to become larger
 - Endocytosis (molecules entering the cell) reduces membrane size

EXAMPLE: Vesicular fusion steps



PRACTICE:

1. Which of the following is not a pathway of exocytosis?
 - a. Constitutive secretory pathway
 - b. Regulated secretory pathway
 - c. Continuing secretory pathway
2. When a vesicle fuses to the plasma membrane what happens to the lipids in the vesicles?
 - a. They are released with the contents of the vesicle
 - b. They are degraded
 - c. They are incorporated into the plasma membrane