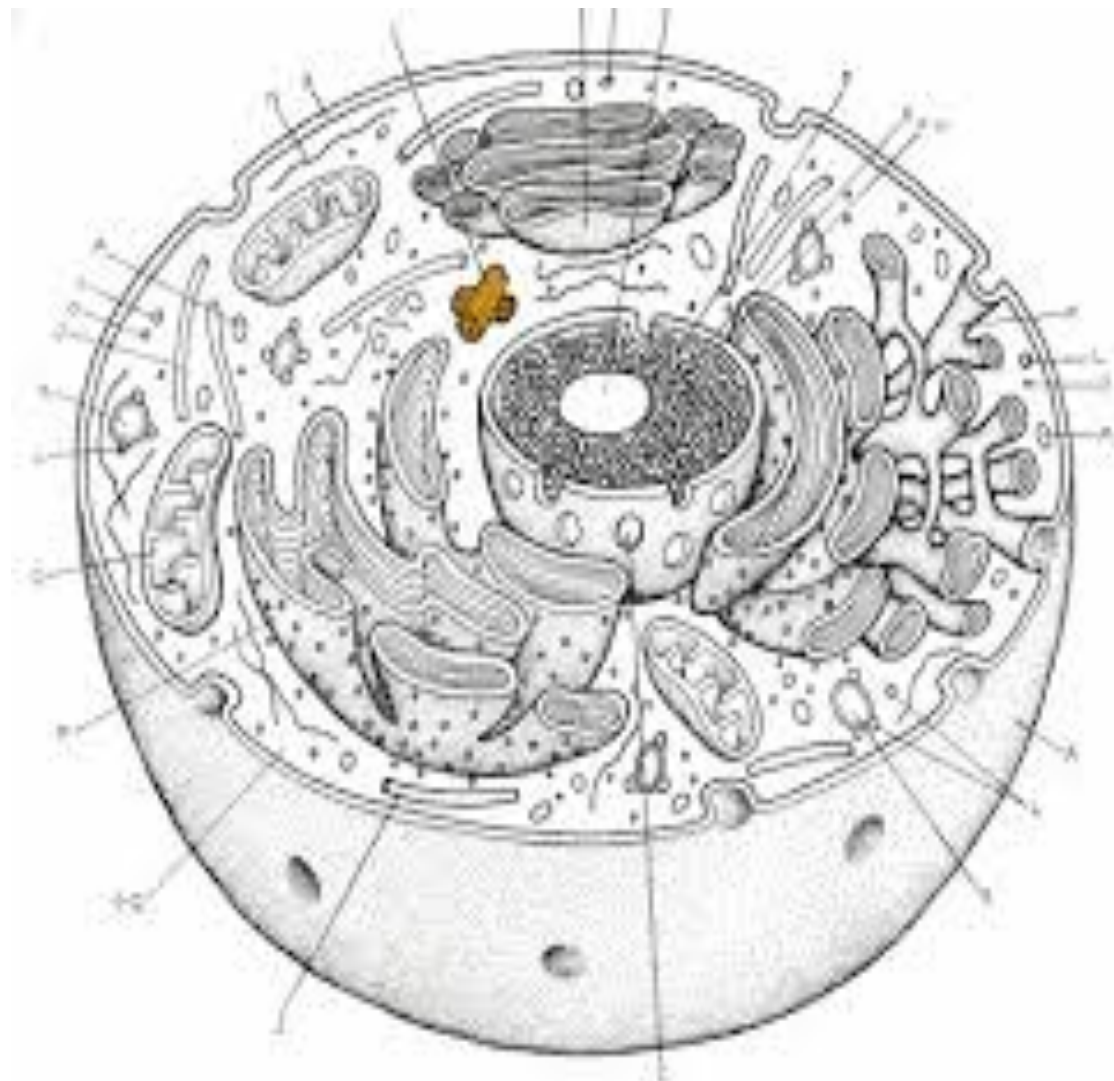
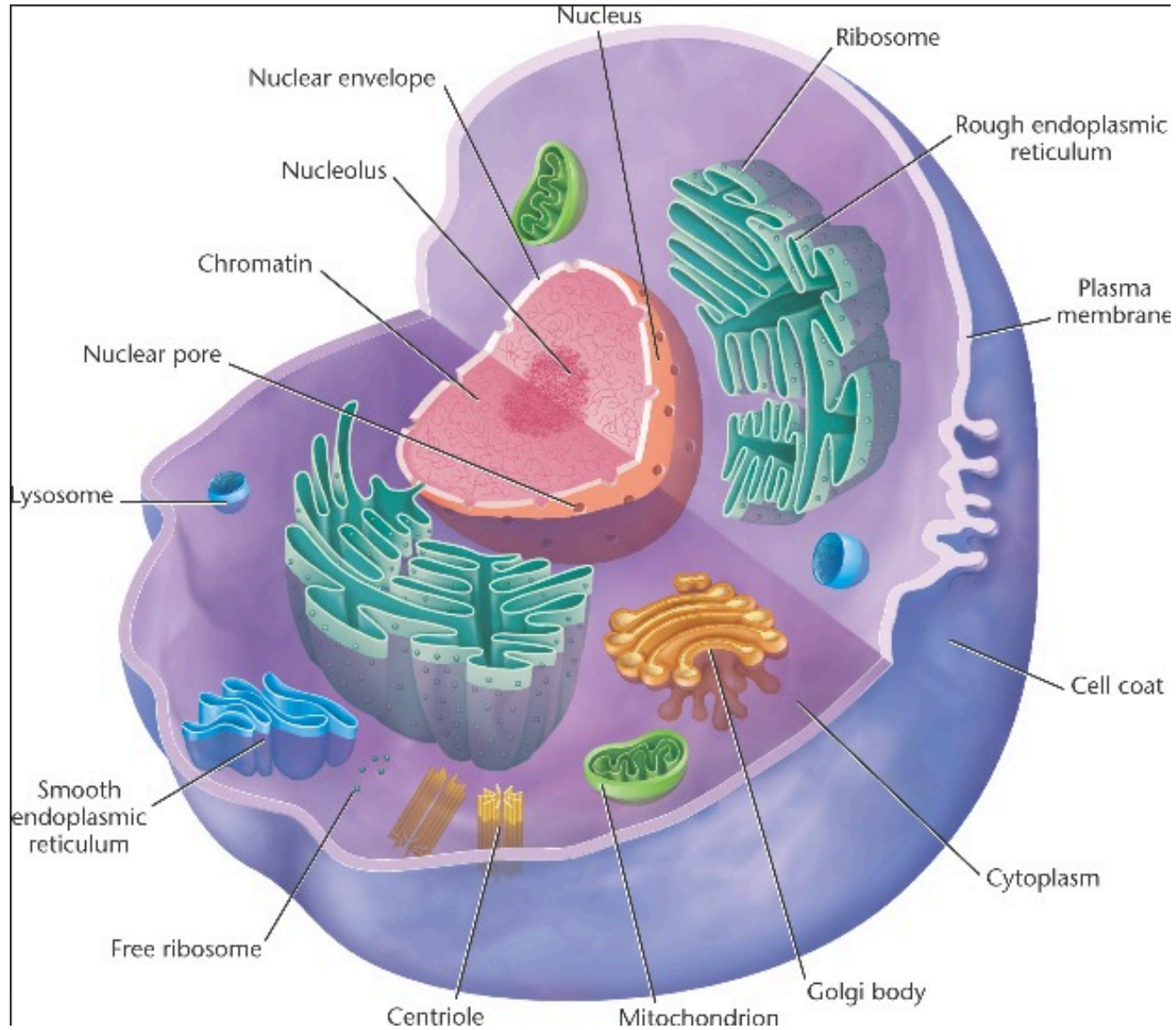


Important Introductory Concepts for Biology 11

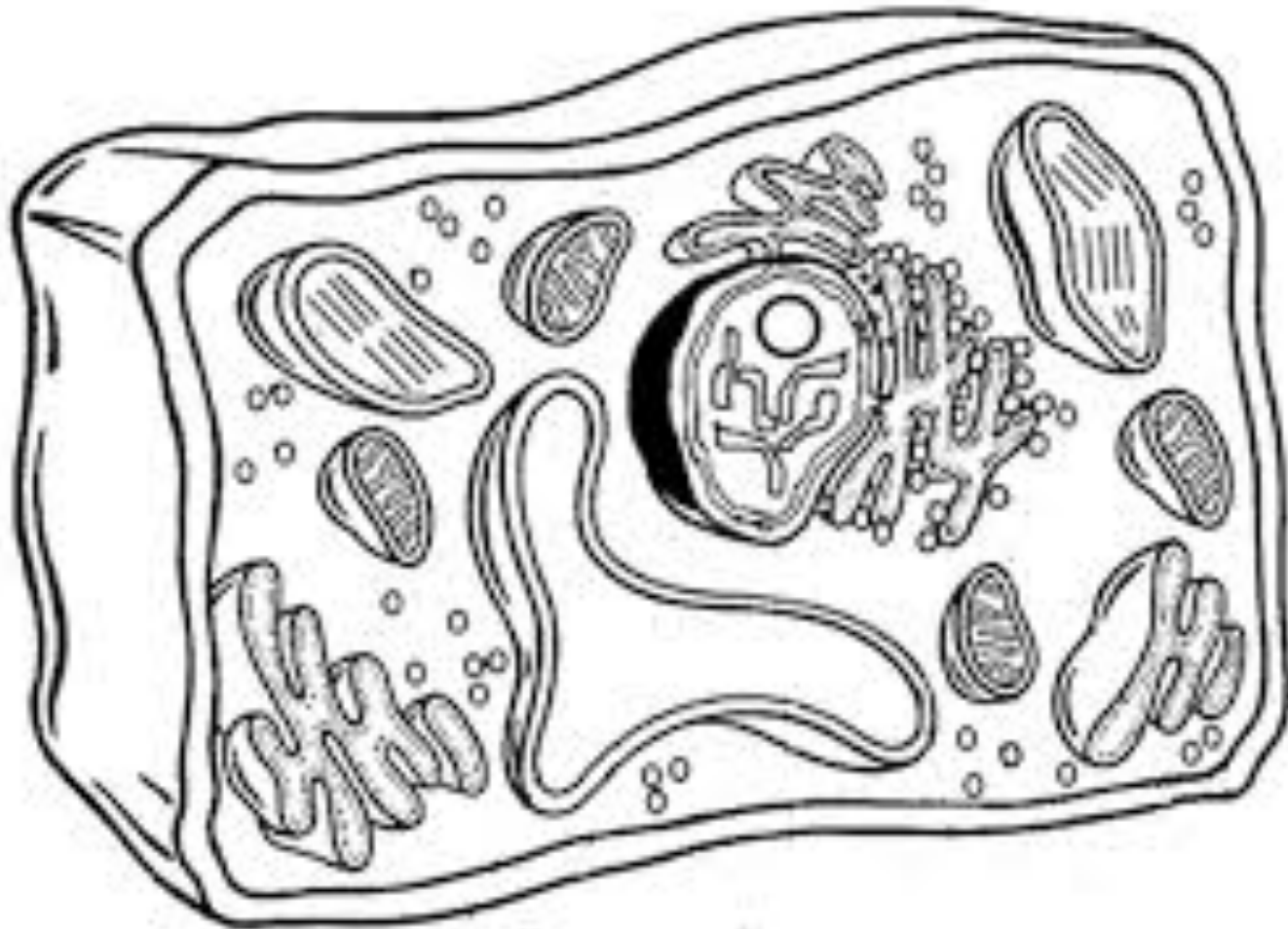
Animal Cell – Parts & Function



Animal cell - Answers

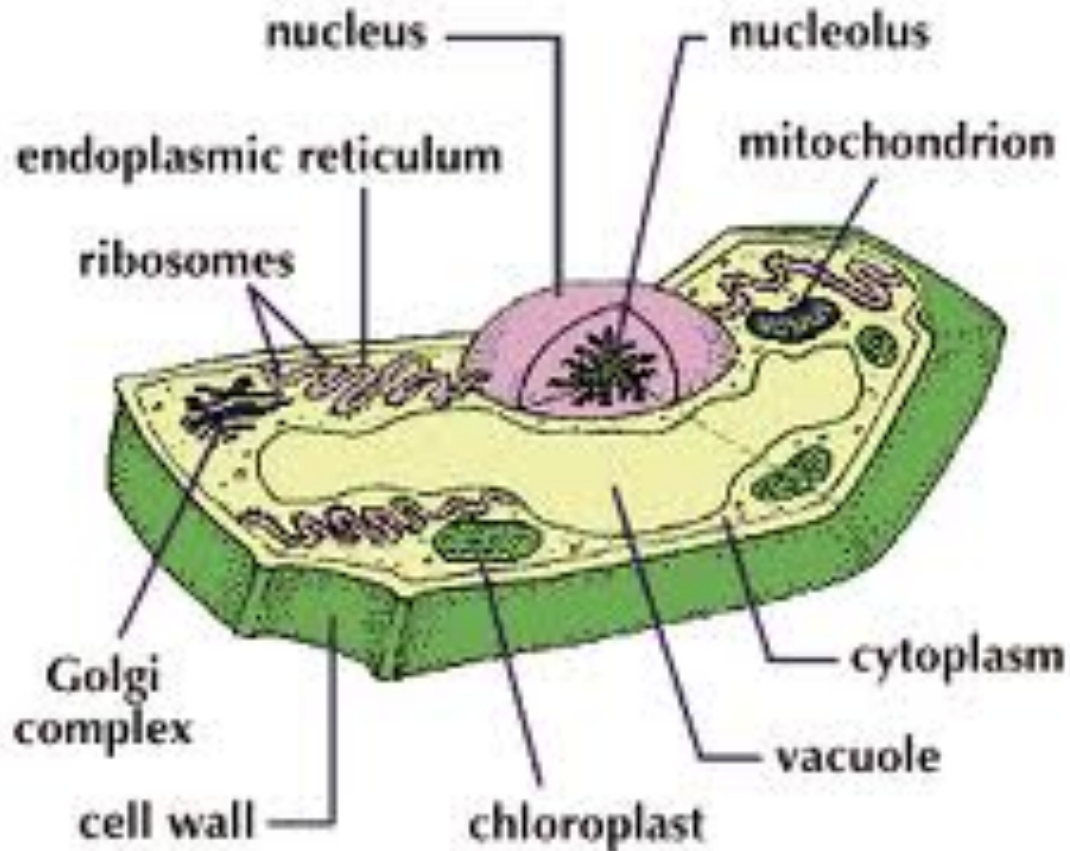


Plant Cell – Parts & Function



Plant cell - **Answers**

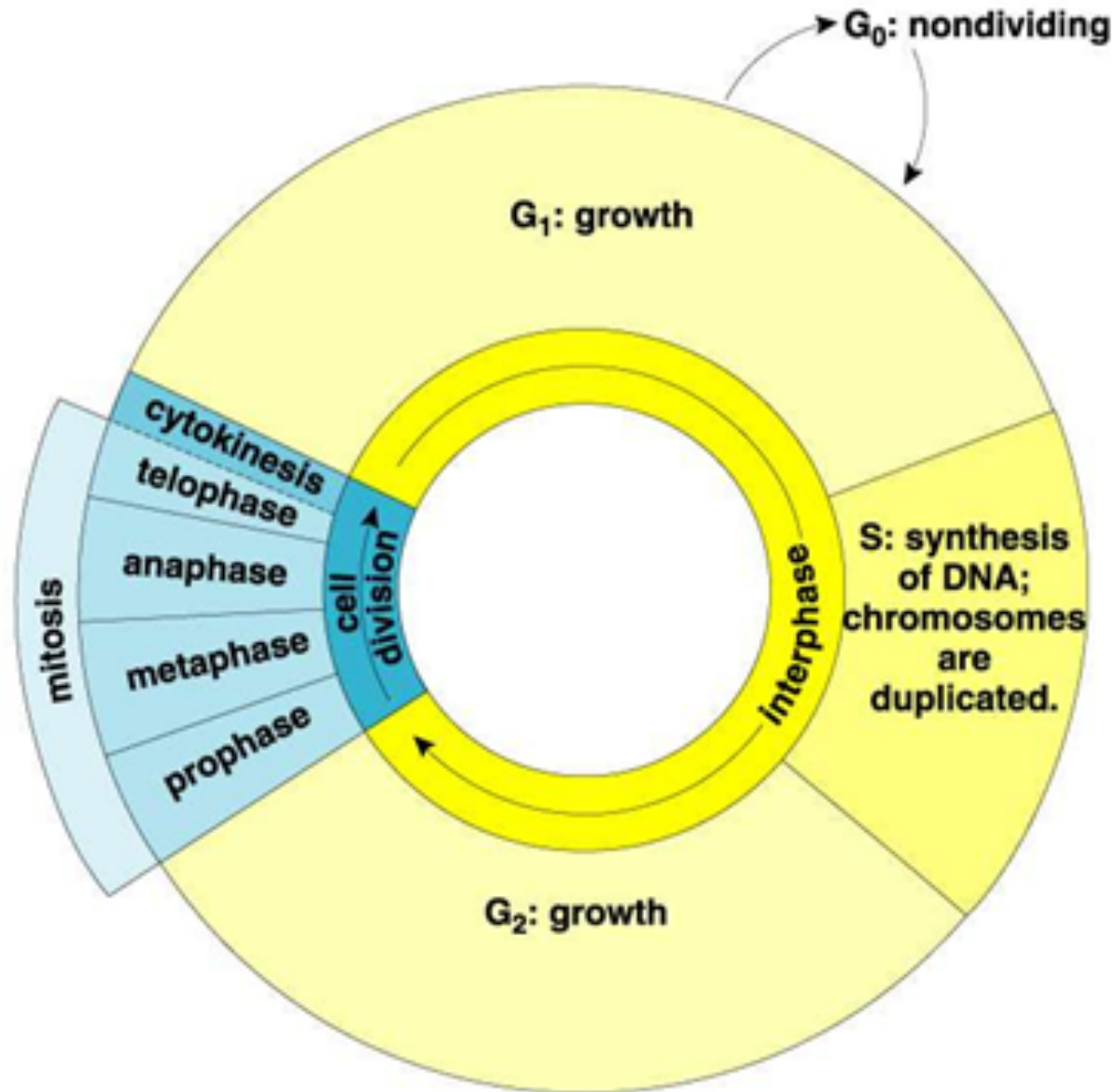
PARTS OF A TYPICAL PLANT CELL



Name 3 things a plant cell has that an animal cell does not.

- Chloroplast - for photosynthesis
- Cell wall
- Large central vacuole - to store water

Cell Cycle = I PMAT C



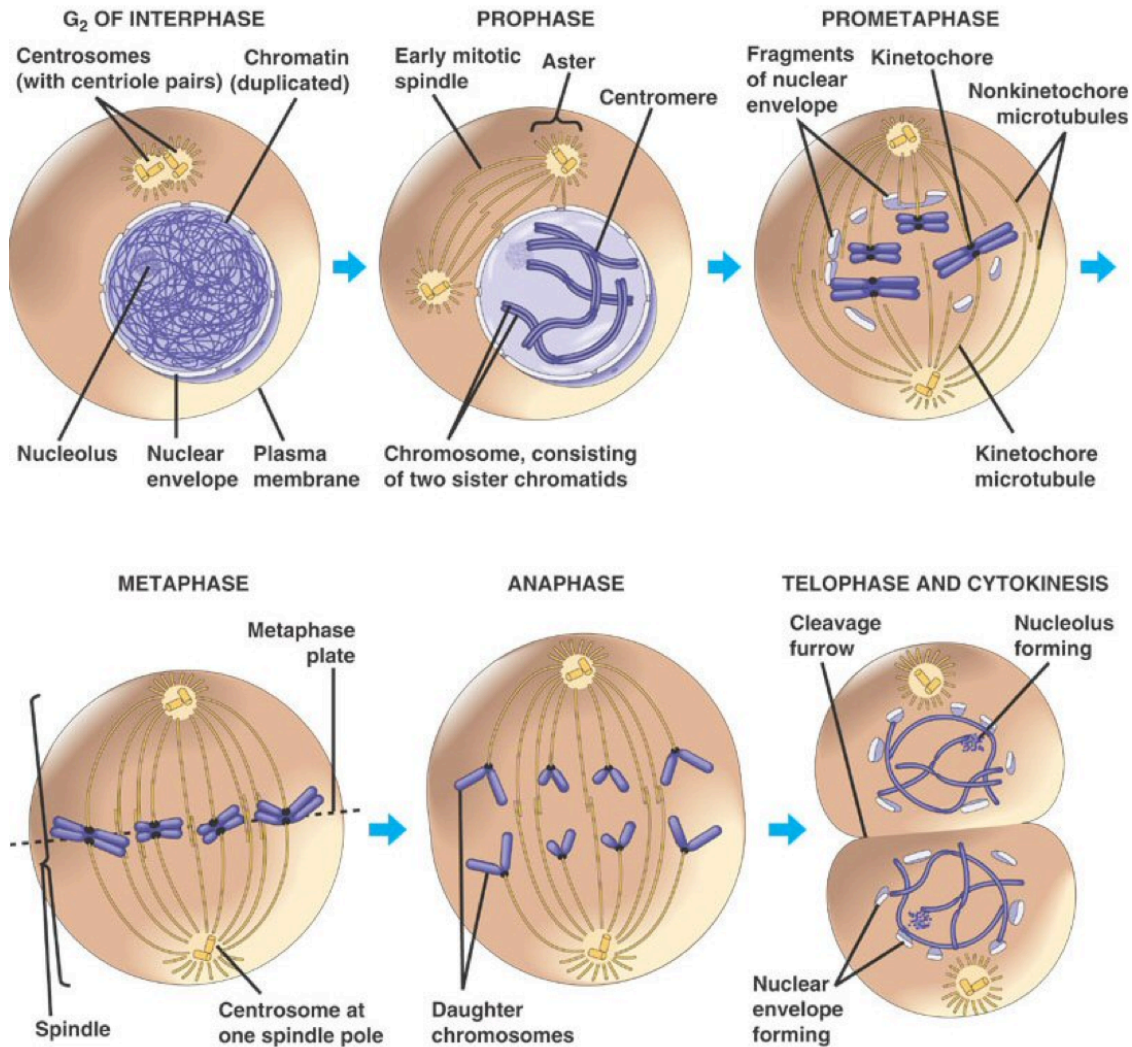
I PMAT C – memory trick

- **I = interphase** – performing normal functions (ie growth and preparation)

Mitosis:

- **P = prophase** – doubled chromosomes become visible
 - **M = metaphase** – chromosomes line up at equator of cell
 - **A = anaphase** – chromosomes separate and move to opposite poles of cell
 - **T = telophase** – nuclear envelope reforms and 2 new cells
- **C = cytokinesis** – cell cytoplasm divides in two

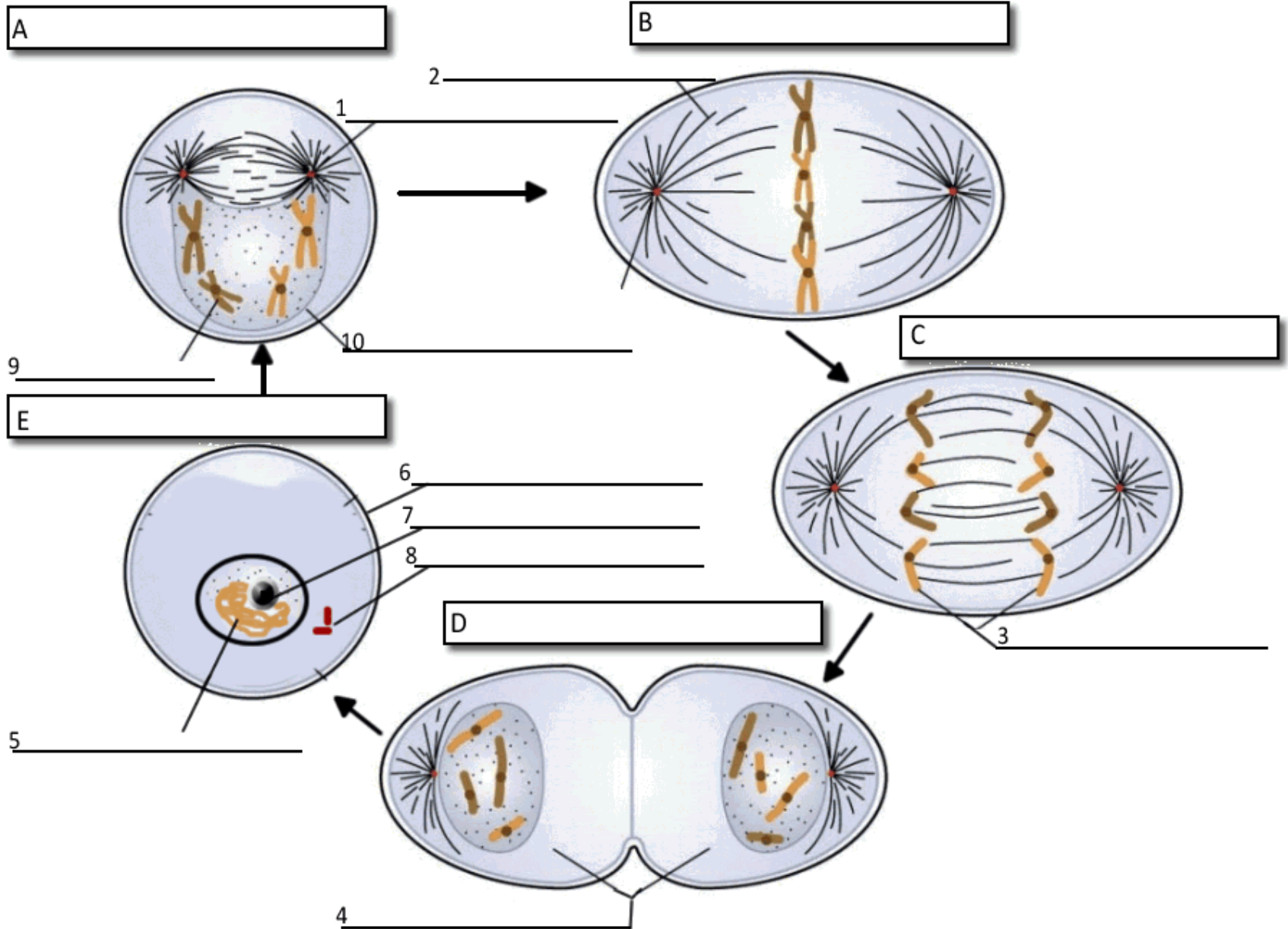
Mitosis = PMAT – one division of the nucleus creating an exact copy (clone)



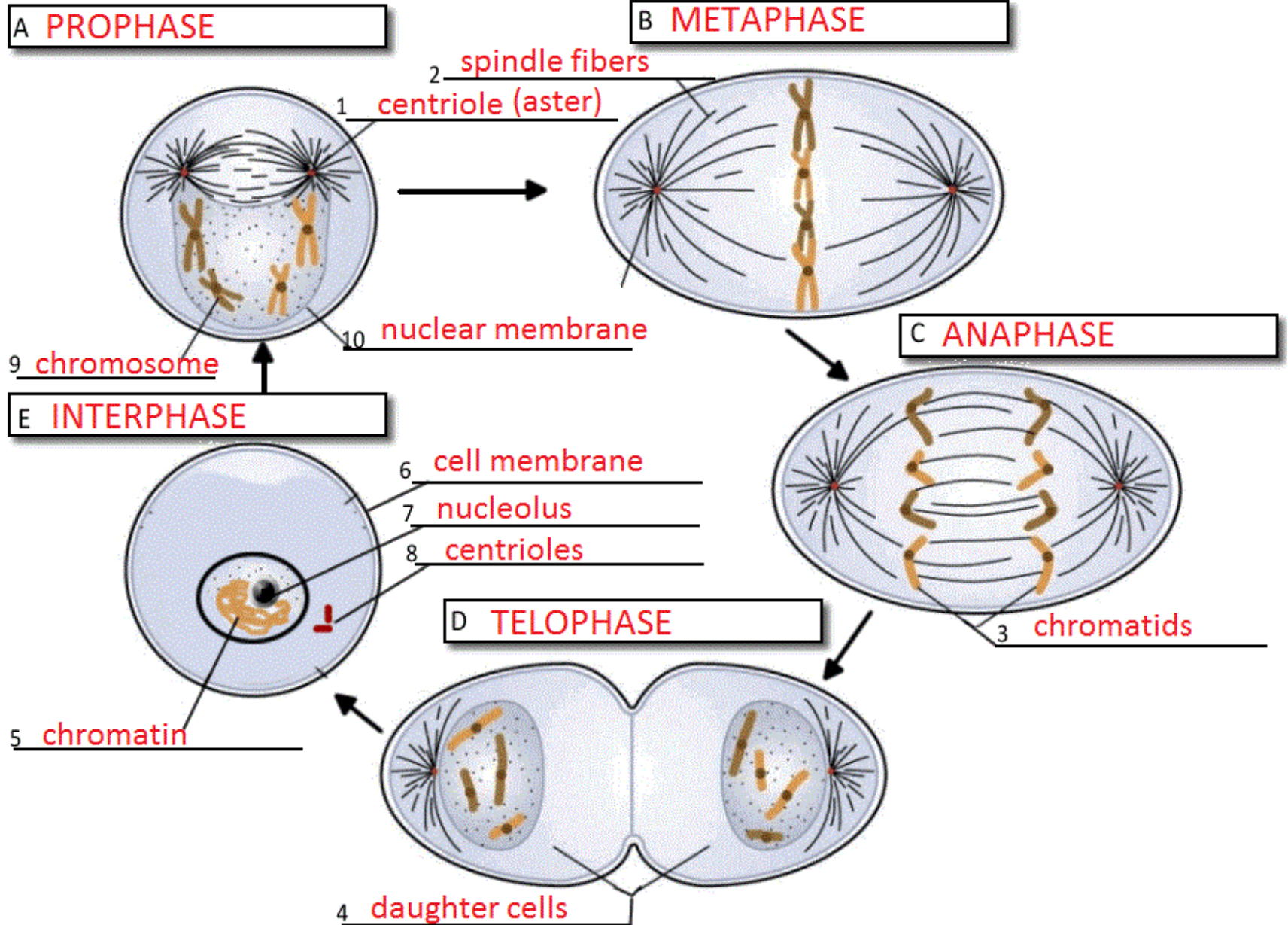
Mitosis in Animals



Identify the stages of mitosis



Identify the stages of mitosis - ANSWERS



Meiosis = two

divisions of the nucleus (meiosis I and meiosis II)

- leads to genetic variation

This results in half the number of chromosomes which is necessary for sexual reproduction

MEIOSIS

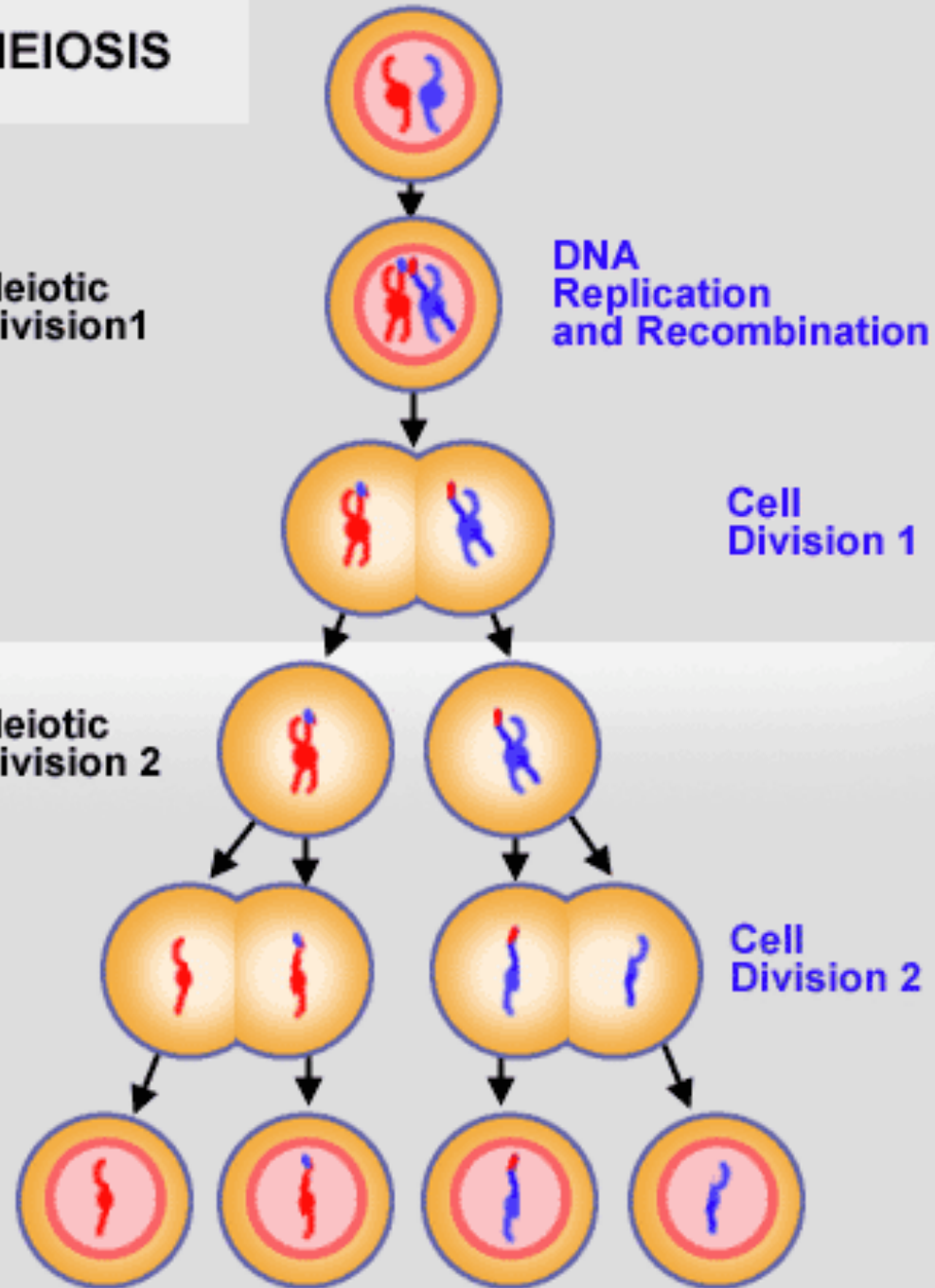
Meiotic Division 1

DNA Replication and Recombination

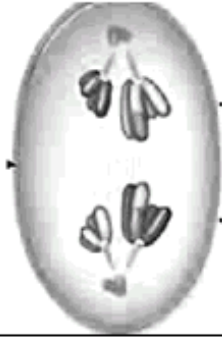
Cell Division 1

Meiotic Division 2

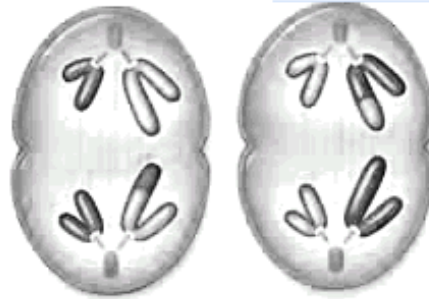
Cell Division 2



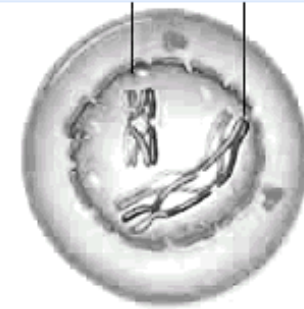
Identify the stages of meiosis



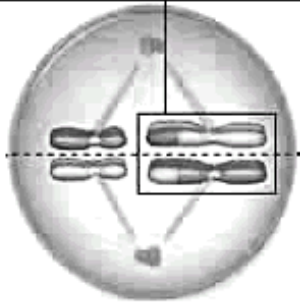
1.



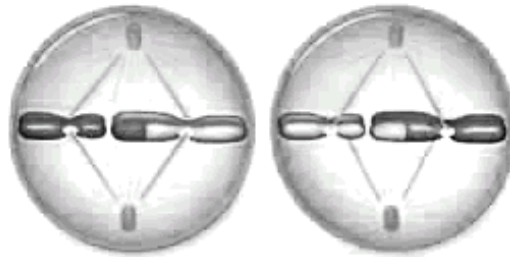
2.



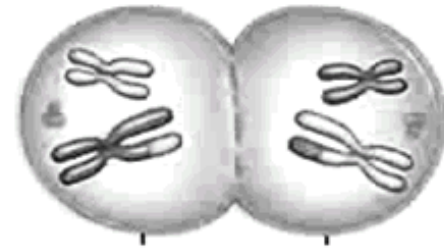
3.



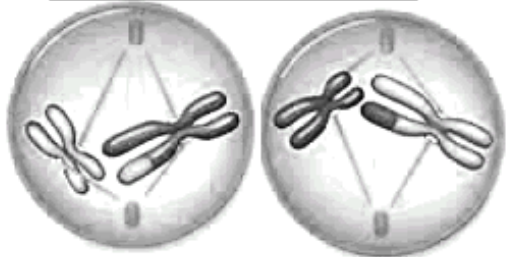
4.



5.



6.



7.

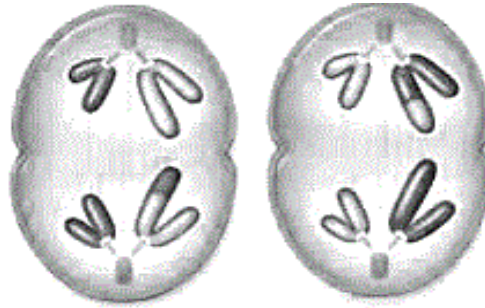


8.

Identify the stage of meiosis - ANSWERS



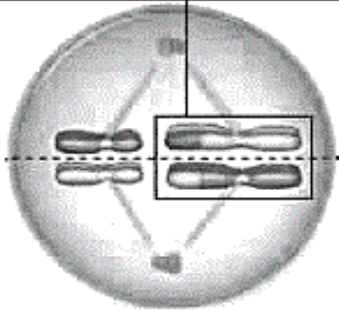
1. Anaphase I



2. Anaphase II



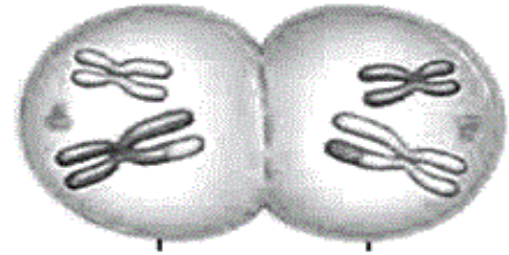
3. Prophase I



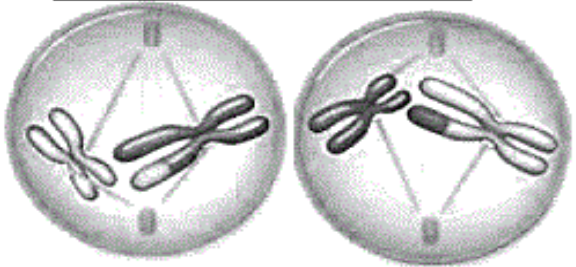
4. Metaphase I



5. Metaphase II



6. Telophase I



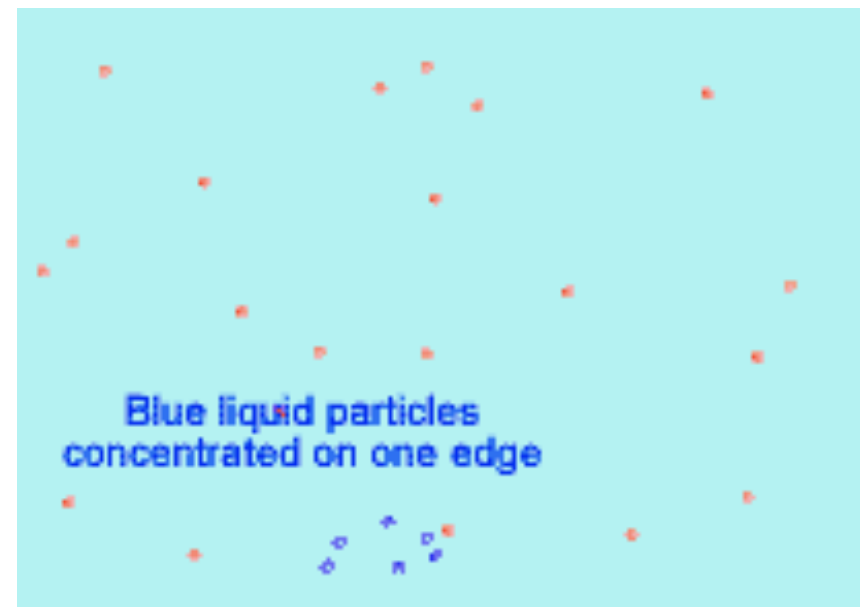
7. Prophase II



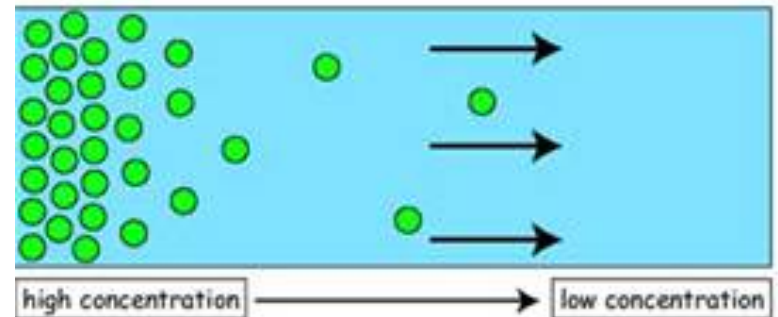
8. Telophase II

Diffusion

- Movement of molecules from high to low concentration – moves with the concentration gradient
- No energy required
- Examples: oxygen and carbon dioxide



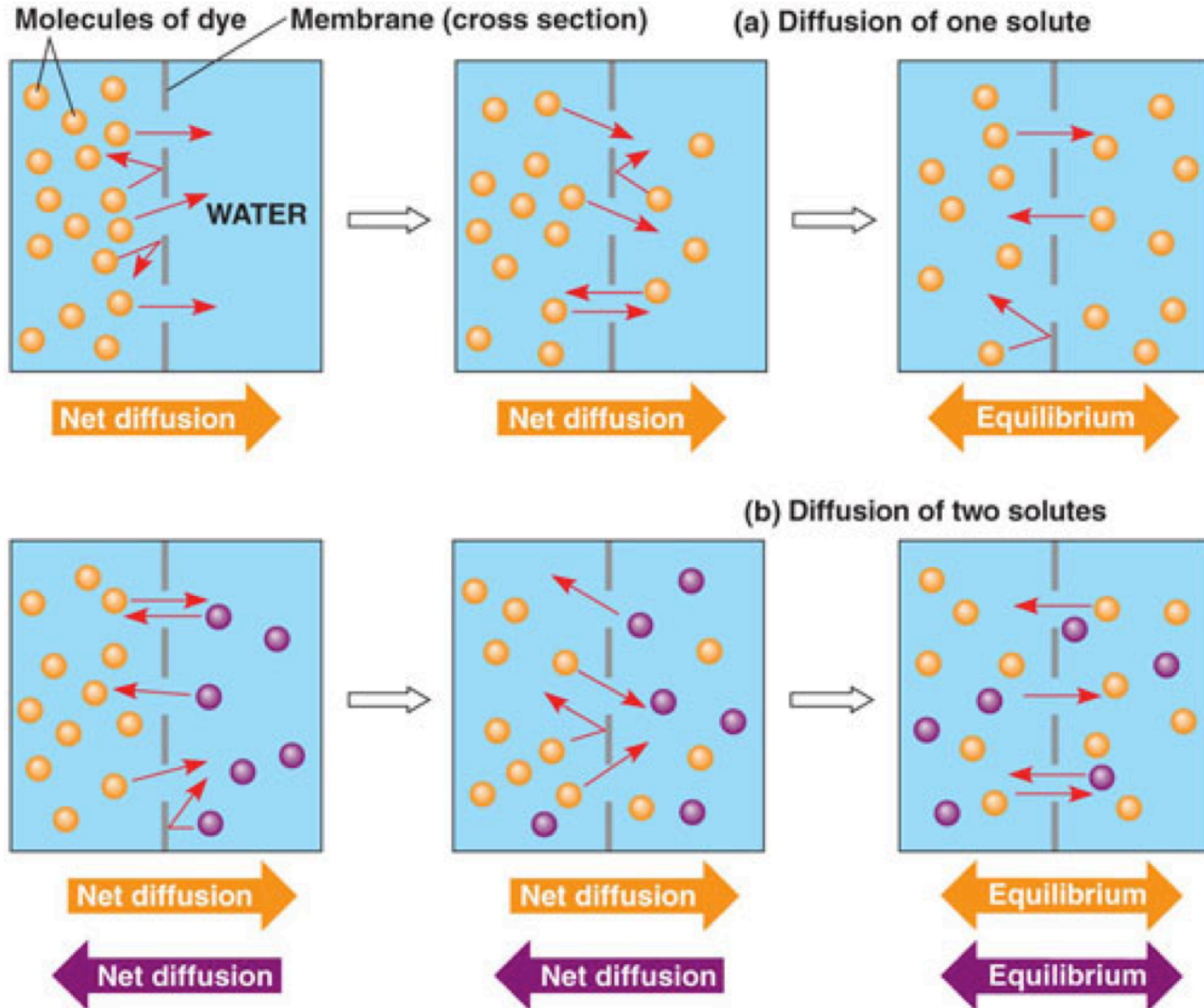
Diffusion



● solute

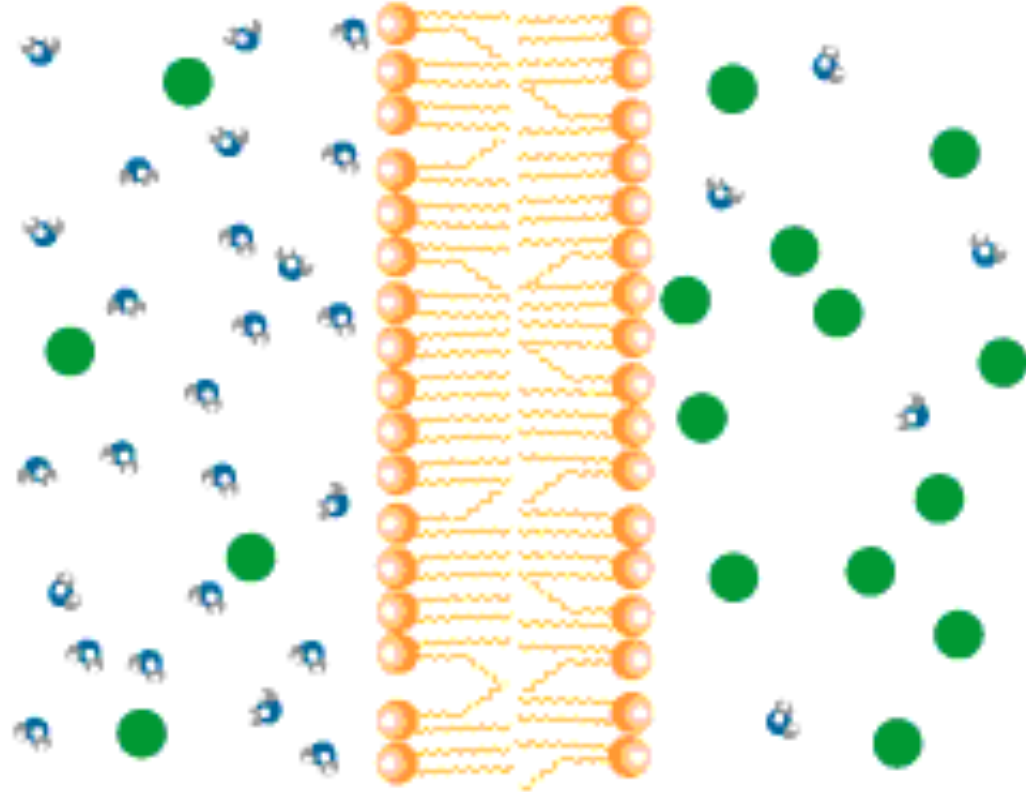
Solute transport is from the left to the right; movement of the solutes is due to the concentration gradient (dC/dx).

Diffusion



Osmosis

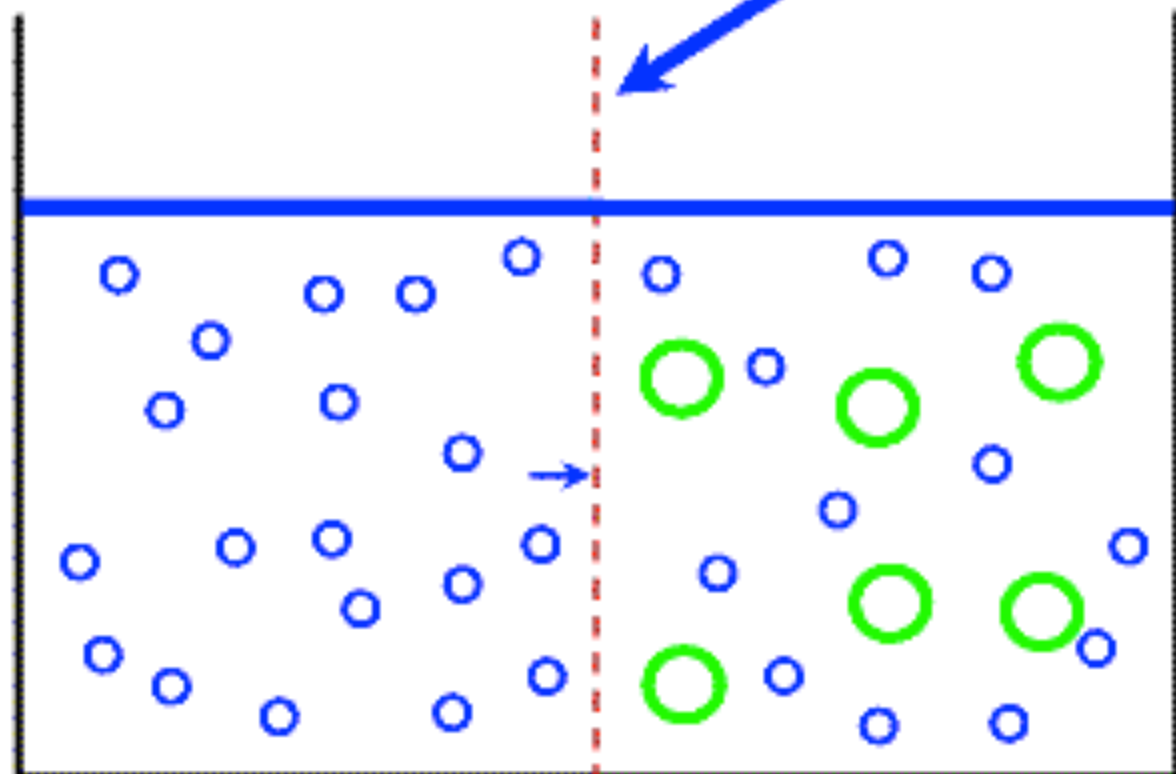
- Special form of diffusion.
- **Water** moves from high to low concentration across a semipermeable membrane.
- Solute “sucks” water towards it.



Osmosis

○ -Water
○ -Sugar

Selectively Permeable Membrane



Low Sugar Concentration High Sugar Concentration
High Water Concentration Low Water Concentration