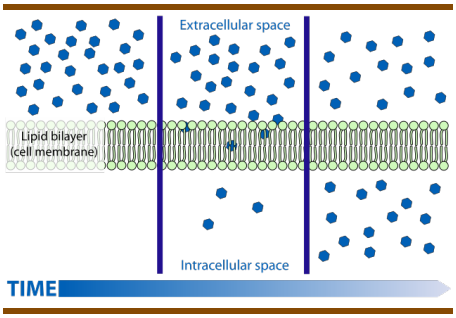


NOTES

UNIT WRAP UP

VOCABULARY

Semi-Permeable Membrane – a layer that only certain molecules can pass through (like a cell membrane)

Passive Transport – movement of materials without the use of any added energy

Diffusion – the movement of materials from a higher concentration to a lower concentration

Osmosis – the movement of water from a higher concentration to a lower concentration

Active Transport – movement of materials that requires the use of energy; something added to move the materials across the cell membrane

Transport Protein – the key that unlocks the door; proteins that help molecules get through the cell membrane
Example: Insulin opening a channel to allow sugar into a cell

RELATING TO DIFFUSION

REAL LIFE EXAMPLES OF DIFFUSION

<type TWO examples here>

➔

➔

CELLULAR EXAMPLE OF DIFFUSION

<type ONE example here>

➔

THINK BACK: Diffusion is an example of a cell maintaining its __.

HYPO-ISO-HYPER – FROM the Lab

-tonic = means "water"

hypo – means "below"

Hypotonic *(under – stretched)* – having a lower osmotic pressure than a particular fluid

DESCRIPTION (from the lab) –

iso – means "equal to"

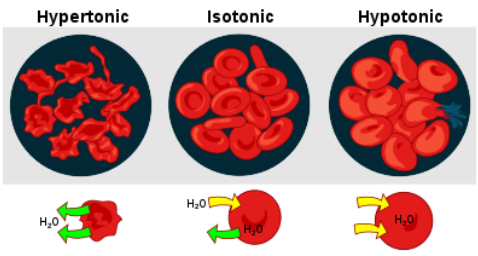
Isotonic *(equal – stretched)* – having the same osmotic pressure as a particular fluid

DESCRIPTION (from the lab) –

hyper – means "over"

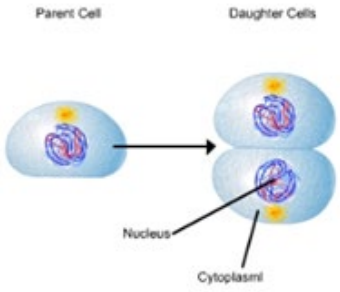
Hypertonic *(over – stretched)* - having a higher osmotic pressure than a particular fluid

DESCRIPTION (from the lab) –

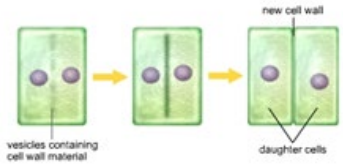


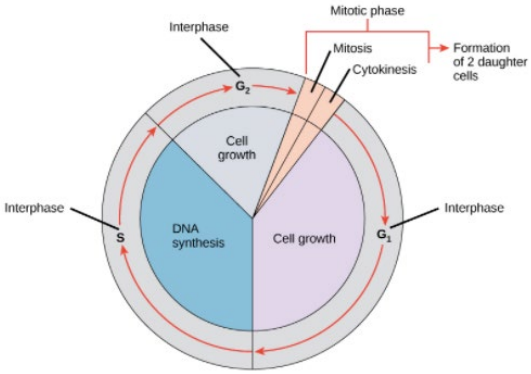
NOTES

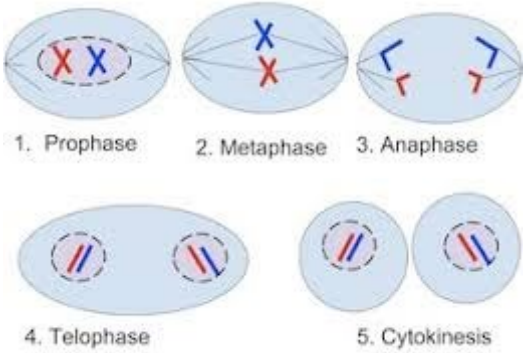
UNIT WRAP UP



Plant Cell







VOCABULARY

Cell Division – process of making two cells from one cell; cells are genetically identical

- Unicellular organism duplicates DNA and divides to make another organism
- Multicellular organism replaces old or damaged cells.

Cell Cycle – a continuous process of cell replacement; some cells divide frequently while others divide rarely, if at all.

Mitosis – time of division during cell cycle to make two new cells

Meiosis - another type of cell division; to make sex cells (egg & sperm) – *we'll cover this in Genetics*

STAGES OF THE CELL CYCLE

1. __ – 90% of the life of the cell
   a. G1 (growth 1)– cell grows, increases size, makes new proteins and organelles
   b. S Phase (**DNA Synthesis**) – part of interphase when the DNA in the nucleus makes a copy of itself for the daughter cells that are produced during cell division (**DNA is duplicated** during this phase of Interphase)
   c. G2 (growth 2) – cell continues to grow to prepare for cell division

M Stage (Miotic Stage) – about 10% of the cell's lifespan

2. __ - when the genetic material (DNA) of the nucleus splits into two identical nuclei
3. __ - when the cytoplasm divides (usually in half) and creates the new cells

STAGES OF MITOSIS

1. __ – DNA spiralizes into chromosomes (2 sets of DNA)
2. __ – Chromosomes align on centromeres and attach to spindle in center of parent cell
3. __ – Chromosomes split into chromatids (half of a chromosome = one set of DNA), separates and moves to opposite poles.
4. __ – Two nuclei reform at the poles
5. __ – Two cells have formed

Prophase – Pre-metaphase – Metaphase – Anaphase – Telophase