**Unit III: Cellular Structure Vocabulary**

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| 1. Prokaryotic Cell
 | A cell that does not have a nucleus |
| 1. Eukaryotic Cell
 | Any cell containing a true nucleus |
| 1. Organelles
 | The membrane-bound specialized structures in a cell that carry out the cell’s internal processes |
| 1. Cell Wall
 | Surrounds the cell membrane in plant cells; made of a rigid carbohydrate, cellulose, which maintains support and structure |
| 1. Plasma/Cell Membrane
 | Phospholipid bilayer surrounding all cells which allows for semi-permeability and maintenance of homeostasis |
| 1. Nucleus
 | Control center of eukaryotic cells, houses genetic material |
| 1. Deoxyribonucleic Acid (DNA)
 | Genetic material which codes for all life, leads to cell specialization and expression of genetic traits |
| 1. Chloroplasts
 | Specialized structures within plant cells that allow for photosynthesis to occur |
| 1. Mitochondria
 | Energy producing organelles; contain inner membranes (cristae) which increase surface area to allow for more ATP production |
| 1. Ribosomes
 | Protein producing organelles; decode genetic material in order to assemble amino acids into proteins |
| 1. Vacuole
 | Organelle that takes in excess water in a cell thought the process of osmosis; larger in plant cells due to additional water intake |
| 1. Plant Cell
 | Eukaryotic cell containing membrane-bound organelles in an addition to a cell wall or chloroplasts |
| 1. Animal Cell
 | Eukaryotic cell containing membrane-bound organelles without a cell wall or chloroplasts |
| 1. Nerve Cell
 | Cell that composes the nervous system and sends electrical and chemical signals that allow for communication and connections to be made |
| 1. Muscle Cell
 | Cell that composes muscles, complete with many mitochondria and myofibrils for contraction |
| 1. Red Blood Cell
 | A blood cell without a nucleus or DNA that carries oxygen with hemoglobin |
| 1. Sperm Cell
 | Male Sex cell in many sexually reproducing organisms, complete with flagellum for locomotion (haploid gamete). |
| 1. Differentiation
 | Occurs when a less specialized cell is transformed into a more specialized cell. (Zygote differentiates into tissue types) |
| 1. Stem Cells
 | Cells that have not yet differentiated (embryonic and adult) and may become one of many different tissue types |
| 1. White blood Cell
 | A blood cell without a nucleus or DNA that plays a role in immunity |
| 1. Platelets
 | A blood cell without a nucleus or DNA that is responsible for clotting blood |
| 1. Unicellular
 | Organism that is made up of one cell; example: amoeba |
| 1. Multicellular
 | Organism that is made up of more than one cell; example: plant, animal |
| 1. Specialization
 | The process by which cells have a specific function to perform in an organism |
| 1. Cell Communication
 | The processes by which cells communicate with those cells surrounding it and far from it in an organism |
| 1. Junction
 | Type of cell communication in which proteins connect neighboring cells to send messages |
| 1. Synapse
 | Type of cell communication in which a chemical or electrical signal is sent from nerve cell to nerve cell |
| 1. DNA Replication
 | The process in which DNA makes an identical copy of itself; considered semi-conservative due to one strand of daughter DNA always being from parent DNA |

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