**Vocabulary: Cell Types**

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**Vocabulary**

* ATP – adenosine triphosphate, a molecule that provides energy for cellular processes.
  + Energy is released when an ATP molecule is converted to an ADP (adenosine diphosphate) molecule.
* Bacteria – unicellular organisms that contain cell walls and ribosomes but do not contain a nuclear membrane around their genetic material or other organelles common to plant and animal cells.
* Carbon dioxide – a colorless, odorless gas that is produced during respiration and combustion (burning).
  + Carbon dioxide is used by plants during photosynthesis.
  + The chemical formula of carbon dioxide is CO2.
* Cell – the smallest structural and functional unit of all organisms that is said to be alive.
* Cellular respiration – a process by which energy is released from food.
  + When oxygen is present, oxygen and glucose combine to produce energy in the form of ATP molecules. The by-products of cellular respiration in the presence of oxygen are carbon dioxide and water.
  + When oxygen is not present, a smaller amount of energy is produced from the breakdown of glucose. Possible by-products include lactic acid and alcohol.
* Compound light microscope – an instrument used to magnify small objects. Two or more lenses (an eye piece and one of several objective lenses) collect light and bend it to create the larger image.
* Eukaryote – an organism in which the genetic material inside of cells is contained within a distinct nucleus.
* Multicellular – consisting of many cells.
  + Animals, plants, most fungi, and some protists are multicellular.
* Muscle cell – a long, contractile cell that forms the muscles of the body.
  + Muscle cells contract (shorten) and relax (lengthen) to produce movement.
* Neuron – a cell that is able to transmit nerve impulses (signals) from one part of the body to another.
* Organelle – a cell structure that performs a specific function.
  + Some examples of organelles are nuclei, cell membranes and chloroplasts.
    - A nucleus is an organelle that contains DNA and controls the cell by regulating when genes are turned on and off.
    - The cell membrane surrounds and protects the cell by regulating what can go in and out.
    - Chloroplasts are organelles that perform photosynthesis.
* Photosynthesis – the process by which light energy is used to combine water and carbon dioxide to produce glucose and oxygen.
* Prokaryote – single celled organisms that do not contain distinct nuclear membranes around their genetic material.
  + Bacteria are prokaryotes.
* Protist – eukaryotic organisms that are neither fungi, plants nor animals.
  + Most protists are unicellular.
  + Examples of protists are amoeba, *Paramecium* and *Euglena*.
* Red blood cell – a cell that uses hemoglobin to carry oxygen to the cells and tissues of the body. Red blood cells also carry carbon dioxide back to the respiratory organs.
* Root hair cell – a cell found in the roots of plants that absorbs water and nutrients from the soil.
* Tissue - a group of similar cells that work together to carry out a specific function.
* Together, several groups of tissues can form an organ.
* Unicellular – consisting of a single cell.
  + Unicellular organisms include bacteria, microalgae, and most protists.
* White blood cell – Cells in the blood that protect against invading pathogens.
* White blood cells are part of the immune system.