Unit Overview – Plant & Animal Cells

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| |  | | --- | | **Essential Questions** |  * What are the similarities and differences in plant and animal cells? * What are the functions of the organelles found in plant and animal cells? | | | * I totally get it * I kinda get it * I don’t get it |
| **What Came First:**   * (5th Grade) Explain why some organisms are capable of surviving as a single cell while others require many cells that are specialized to survive. | | | |
| **What Comes Next:**   * (High School: Biology) Summarize the structure and function of organelles in eukaryotic cells (including: the nucleus, plasma membrane, cell wall, mitochondria, vacuoles, chloroplasts, and ribosomes) and ways that these organelles interact with each other and to perform the function of the cell. | | | |
| **Enduring understanding** | **Important to know and do** | **Worth being familiar with** | |
| * All living things are composed of cells * Plant and animal cells have cell membranes, nuclei (plural for nucleus), mitochondria, ribosomes, endoplasmic reticulum, Golgi body, and vacuoles * Plant cells have cell walls and chloroplasts * Each organelle has a job that helps the cell function | * Label the structures of an animal cell * Label the structures of a plant cell * Compare/contrast plant and animal cells * Identify the jobs of each organelle * Use a microscope to examine the structure of a cell * Identify and explain examples of specialized cells | * Parts of a microscope * Correct technique for using a microscope * Origin of the word “cell” * Specialized organelles—ribosomes, protein, lipids, lysosomes, chromosomes/chromatin | |
| **Vocabulary to master** | | | |
| |  |  |  |  | | --- | --- | --- | --- | | * Cell\* | * Endoplasmic Reticulum | * Nucleus | * Osmosis | | * Organelles | * Golgi Body | * Nuclear Membrane | * Diffusion | | * Cell Wall\* | * Mitochondria | * Nucleolus | * Selective permeability | | * Cytoplasm | * Chloroplast\* | * Ribosome | * \*Different in plant vs. animal | | * Vacuoles\* | * Lysosome | * Chromosome |  | | * Cell Membrane | * Protein | * Chromatin |  | | | | |