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.
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| **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.
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| **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
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| **Vocabulary to master** |
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| * Cell\*
 | * Endoplasmic Reticulum
 | * Nucleus
 | * Osmosis
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| * 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
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