Unit Overview: Cell Theory and Single Celled Organisms

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| |  | | --- | | **Essential Questions** |   What structures of single cell organisms allow them to carry out basic functions of life? | | | * 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) Explain how specific cell adaptations help cells survive in particular environments (focus on unicellular organisms). | | | |
| **Enduring understanding** | **Important to know and do** | **Worth being familiar with** | |
| * Single celled organisms have unique structures that allow them to survive and reproduce. | * Using a microscope, identify the four single celled organisms. * Compare/contrast the four single celled organisms. * Describe three fundamental concepts of the Cell Theory * Describe and identify the structures that allow single celled organisms to function as living things (grow, reproduce). * Identify methods of obtaining food or sources of nutrition * Eukaryotic vs. Prokaryotic * Match the single-celled organisms (amoeba, paramecium, volvox, and euglena) with the specialized structures (flagellum, cilia, pseudopod, colony) that allow them to perform specific functions. | * Some single celled organisms have characteristics of plants and some characteristics of animals and some both plant and animal characteristics. * Compare and contrast osmosis and diffusion and describe how single-celled organisms utilize these features. * Scientists and their discoveries related to cell theory—Schleiden, Schwann and Virchow | |
| **Vocabulary to master** | | | |
| |  |  |  |  | | --- | --- | --- | --- | | * protists | * Chloroplast | * Cell Wall | * Algae (plant-like) | | * Volvox | * Pseudopods | * Organelle | * Protozoa (animal-like) | | * Euglena | * Flagellum | * Heterotrophs | * Phagocytosis | | * Paramecium | * Cell Theory | * Autotrophs | * Photosynthesis | | * Amoeba | * Nucleus | * Unicellular | * Cellular Respiration | | * Cilia | * Cell Membrane | * Multicellular | * Eukaryote | | * Colony | * Cytoplasm | * Diffusion/Osmosis | * Prokaryote | | | | |