Unit Overview: Cell Theory and Single Celled Organisms

Essential Questions	
1) 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