



I Can Statement - Year 7

Cells

Unit/Topic Overview	Pre-taught Vocabulary	
In this topic, cell biology is a key idea in science that helps us understand the fundamental building blocks of all living organisms. You will learn that all plants and animals are made of microscopic cells that perform essential life processes, and how specialized sub-cellular structures called organelles function inside them. Cell biology also helps us understand how organisms grow, repair damage, and divide. By studying cells, you will be able to better explain how living things function from the microscopic level up to whole organisms.	Cell	Mitochondrion
	Organelle	Cell wall
	Nucleus	Chloroplast
	Cell Membrane	Microscope
	Cytoplasm	Specialised Cell

RAG Rating:		Start	End
1.	I can define a cell as the basic structural and functional unit of all living organisms and explain that some organisms are unicellular (one cell) while others are multicellular (many cells).		
2.	I can identify and describe the functions of the core components of an animal cell: Nucleus (controls activities/DNA), Cytoplasm (chemical reactions), Cell Membrane (controls entry/exit), and Mitochondria (respiration/energy).		
3.	I can identify the three structures found in plant cells but not animal cells: Cell Wall (support/cellulose), Chloroplasts (photosynthesis), and a Permanent Vacuole (cell sap/storage).		
4.	I can identify the parts of a light microscope (eyepiece, objective lens, stage, focus knobs) and demonstrate how to safely prepare a slide (e.g., onion skin) and focus an image.		
5.	I can explain how specific cells are "shaped for their job." Key examples include: Sperm cell: Tail for swimming and many mitochondria for energy., Red blood cell: Biconcave shape and no nucleus to carry more oxygen. Nerve cell: Long fibers to carry impulses over distances.		
6.	I can explain the adaptations of plant-specific cells: Root hair cell: Large surface area to absorb water and minerals. Palisade cell: Packed with chloroplasts for maximum photosynthesis.		
7.	I can describe the "ladder" of biological complexity, explaining how cells work together: Cells → Tissues → Organs → Organ Systems → Organism		
8.	I can define diffusion as the movement of particles from a high to a low concentration and explain its importance in moving oxygen, food, and waste products in and out of cells.		