Year 7 Organisms - Cells

Name of unit

Expected Outcomes

- Students will understand that all living organisms are made of cells.
- Students will describe the structure and function of plant and animal cells.
- Students will identify key cell components such as the nucleus, cytoplasm, and cell membrane.
- Students will use microscopes to observe cells and draw accurate diagrams.
- Students will understand the concept of specialised cells and their adaptations.

Developmental Focus Opportunities

- Microscopy: Developing fine motor skills and patience through microscope use.
- Scientific drawing: Creating accurate, labelled diagrams of cells.
- Scientific literacy: Using precise vocabulary to describe structures and functions.
- Critical thinking: Comparing plant and animal cells and evaluating how structure supports function.

Key Learning Points	**Powerful Knowledge**
• Cells are the basic building blocks of all living things. • Plant and animal cells share some structures but also have unique features. • Microscopes help us study things that are too small to see with the naked eye. • Different cells are adapted to perform different roles in the body.	• Understanding that life is structured hierarchically from cells to organisms. • Gaining experience with scientific equipment and observation. • Applying microscopic knowledge to explain larger biological processes. • Building foundation knowledge for genetics and health in future topics.
Subject-Specific Vocabulary	**Reading Opportunities**
• Cell • Nucleus • Cytoplasm • Cell membrane • Cell wall • Chloroplast • Vacuole • Microscope	• Science texts about the discovery of cells and microscope development. • Case studies on how scientists use cell research in medicine. • Microscope instructions and lab reports for reading practice.

• Specialised cell • Tissue	
Possible Misconceptions	**Cross-Curricular Links**
• Thinking cells are flat or square in real life. • Believing that all cells have the same parts. • Assuming only animals are made of cells. • Confusing magnification with resolution.	• **Art**: Drawing and shading detailed diagrams. • **History**: The development of the microscope and scientific discovery. • **ICT**: Using digital microscopes or image analysis tools.