



Department: Science: Biology – Cell Biology, Organisation and Bioenergetics
Year Group: Nine

Working Towards	Working At	Working Beyond
• Struggles to identify basic cell structures and their functions. • Has difficulty understanding differences between prokaryotic and eukaryotic cells. • Requires support to explain diffusion, osmosis, and active transport. • Finds it challenging to describe the stages of the cell cycle. • Has limited understanding of mitosis and its role in growth and repair. • Requires support to understand stem cells and their uses. • Struggles to identify organs in the digestive system and their functions. • Has difficulty understanding the role of enzymes in digestion. • Requires support to interpret enzyme activity graphs. • Requires support to explain transpiration and translocation. • Struggles to describe photosynthesis and respiration processes.	• Can describe cell structures and their roles in both plant and animal cells. • Understands the differences between prokaryotic and eukaryotic cells. • Explains diffusion, osmosis, and active transport with examples. • Can describe the stages of the cell cycle and the process of mitosis. • Understands the importance of mitosis in organisms. • Explains the role of stem cells in medicine and research. • Can identify major digestive organs and describe their functions. • Understands the role of enzymes and conditions affecting their activity. • Interprets enzyme activity graphs with guidance. • Explains transpiration and translocation with examples. • Can describe photosynthesis and respiration with word equations.	• Confidently compares cell types and explains their adaptations. • Applies understanding of transport mechanisms to experimental contexts. • Evaluates the impact of surface area, concentration, and temperature on transport. • Explains cell division processes with clarity and accuracy. • Evaluates ethical issues surrounding stem cell use. • Applies knowledge to unfamiliar contexts such as cancer and cloning. • Explains enzyme action and specificity in detail. • Analyses experimental data related to digestion. • Applies understanding to practical investigations and real-life scenarios. • Explains adaptations of transport systems in different organisms. • Explains photosynthesis and respiration using balanced chemical equations.



• Has difficulty identifying factors affecting the rate of photosynthesis. • Requires support to understand aerobic and anaerobic respiration.	• Understands factors affecting photosynthesis and how to investigate them. • Explains differences between aerobic and anaerobic respiration.	• Evaluates experimental methods and data related to bioenergetics. • Applies understanding to real-life applications such as exercise and metabolism.
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