

BTEC Applied Science Unit 1 Biology Term 2 PLC

Objective	My personal RAG rating (Red- do not understand, Amber- some understanding, Green- I am confident)		
Know that cell theory is a unifying concept stating that cells are a fundamental unit of structure, function and organisation in all living organisms.	RED	AMBER	GREEN
Understand the ultrastructure and function of organelles in the following cells: 1. prokaryote cells (bacterial cell) – nucleoid, plasmids, 70S ribosomes, capsule, cell wall 2. eukaryotic cells (plant and animal cells) – plasma membrane, cytoplasm, nucleus, nucleolus, endoplasmic reticulum (smooth and rough), Golgi apparatus, vesicles, lysosomes, 80S ribosomes, mitochondria, centriole 3. eukaryotic cells (plant-cell specific) – cell wall, chloroplasts, vacuole, tonoplast, amyloplasts, plasmodesmata, pits.	RED	AMBER	GREEN
Recognise cell organelles from electron micrographs and the use of light microscopes.	RED	AMBER	GREEN
Understand the similarities and differences between plant and animal cell structure and function.	RED	AMBER	GREEN
Understand how to distinguish between gram-positive and gram-negative bacterial cell walls and why each type reacts differently to some antibiotics.	RED	AMBER	GREEN
Calculate magnification and size of cells and organelles from drawings or images.	RED	AMBER	GREEN
Understand cell specialisation in terms of structure and function, to include: 1. palisade mesophyll cells in a leaf 2. sperm and egg cells in reproduction 3. root hair cells in plants	RED	AMBER	GREEN

<p>4.white blood cells 5. red blood cells.</p>			
<p>Understand the structure and function of epithelial tissue, to include: 1. squamous as illustrated by the role of alveolar epithelium in gas exchange to include the effect of chronic obstructive pulmonary disease (COPD) in smokers 2. columnar as illustrated by goblet cells and ciliated cells in the lungs to include their role in protecting lungs from pathogens.</p>	RED	AMBER	GREEN
<p>Understand the structure and function of endothelial tissue, as illustrated by blood vessels in the cardiovascular system, including the risk factors that damage endothelial cells and affect the development of atherosclerosis.</p>	RED	AMBER	GREEN
<p>Understand the structure and function of muscular tissue, to include: o the microscopic structure of a skeletal muscle fibre o structural and physiological differences between fast- and slow-twitch muscle fibres and their relevance in sport.</p>	RED	AMBER	GREEN
<p>Understand the structure and function of nervous tissue, to include: 1. non-myelinated and myelinated neurones 2.the conduction of a nerve impulse (action potential) along an axon, including changes in membrane permeability to sodium and potassium ions and the role of the myelination in saltatory conduction 3. interpretation of graphical displays of a nerve impulse and electrocardiogram (ECG) recordings 4.synaptic structure and the role of neurotransmitters, including acetylcholine</p>	RED	AMBER	GREEN

<p>5. how imbalances in certain, naturally occurring brain chemicals can contribute to ill health, including dopamine in Parkinson's disease and serotonin in depression</p> <ul style="list-style-type: none"><li>o the effects of drugs on synaptic transmission, including the use of L-Dopa in the treatment of Parkinson's disease.</li></ul>			
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