

Years 9 - 11

Unit Title	Unit Overview	Prior Knowledge / skills	New Learning
B1.1 - Cells and Tissues	Develop an understanding of how cells make up the foundation of all living organisms.	<ul style="list-style-type: none">• Animal Cell Structure• Plant Cell Structure• Organelles	<ul style="list-style-type: none">• Eukaryotic v Prokaryotic Cells• Magnification• Cell Specialisation
B1.2 – Transport in Cells	Study how substances move between cells in animals and plants.	<ul style="list-style-type: none">• Movement of Substances• Cell Structure• Organelles	<ul style="list-style-type: none">• Diffusion• Osmosis• Active Transport
B1.3 – Enzymes	Learn about the digestive system and how the body processes food.	<ul style="list-style-type: none">• Healthy Lifestyle• Body Systems• Digestion	<ul style="list-style-type: none">• Roles of organs in the digestive system• Food Molecules• Digestive Enzymes
B1.4 – Non-communicable Diseases	A study of how the human circulatory system works and how the body is affected by non-communicable diseases such as heart problems and cancer.	<ul style="list-style-type: none">• What causes disease• How diseases are spread• Immunity	<ul style="list-style-type: none">• Blood and Circulation• Heart Structure and Disease• Heart Disease Treatments• Cancer
B1.5 – Communicable Diseases	Learn how pathogens make people feel ill and how both the body and medicine is able to help fight off these diseases.	<ul style="list-style-type: none">• What causes disease• How diseases are spread• Immunity	<ul style="list-style-type: none">• Types of Pathogens• Body Defence Mechanisms• Roles of drugs in defeating diseases• How drugs are developed• Growing Bacteria• Preventing Bacterial Growth• Plant Diseases and Responses

			<ul style="list-style-type: none"> Monoclonal Antibodies
B1.6 – Photosynthesis	A unit that studies how plants use Photosynthesis to produce their own food source and factors that affect it.	<ul style="list-style-type: none"> Plant Cells How plants create food Plant Structure 	<ul style="list-style-type: none"> Photosynthesis as a process Limiting factors of photosynthesis Uses of Glucose Transport mechanisms in plants
B1.7 – Respiration	In this unit students learn about the process of both aerobic and anaerobic respiration in Plants and Animals.	<ul style="list-style-type: none"> Role of the Lungs Role of the Heart Organ Systems 	<ul style="list-style-type: none"> Aerobic Respiration as a process Anaerobic Respiration as a process The role and importance of exercise
B2.1 – Homeostasis	Learn how the body controls levels of key components of the body.	<ul style="list-style-type: none"> Healthy Lifestyle Body Systems Cells and Organisation 	<ul style="list-style-type: none"> What conditions in the body need to be controlled How the body controls these conditions The roles of different organs in controlling conditions Controlling body temperature Waste products and the kidney Dialysis and kidney transplants
B2.2 – The Nervous System	Students will learn how the brain controls the body's functions and how messages are transmitted using the Nervous System.	<ul style="list-style-type: none"> Healthy Lifestyle Body Systems Cells and Organisation 	<ul style="list-style-type: none"> The structure and function of the Central Nervous System The reflex arc Investigating reaction times The brain The eye and problems with the eye

B2.3 – The Hormonal System	Through this unit of work, students will learn about the functions of hormones, how they are produced and some of the ways the body utilises them.	<ul style="list-style-type: none"> • Healthy Lifestyle • Body Systems • Cells and Organisation 	<ul style="list-style-type: none"> • The endocrine systems • Diabetes and blood glucose control • Contraception and Fertility • Plant hormones and responses
B2.4 – Inheritance	Students will study the basics of genetics and how this leads to characteristics being passed through generations.	<ul style="list-style-type: none"> • Reproduction (KS3) • Evolution (KS3) • Continuous and Discontinuous Variation (KS3) 	<ul style="list-style-type: none"> • Genes and Genetics • Meiosis • Genetic Inheritance • Genetic Diseases • DNA structure and protein synthesis • Gene mutation
B2.5 – Variation and Evolution	In this unit, students will study how sexual reproduction and genetic mutations lead to changes within a species. They will also learn how the study of fossils enables us to learn about how species have evolved over time.	<ul style="list-style-type: none"> • Reproduction (KS3) • Evolution (KS3) • Continuous and Discontinuous Variation (KS3) 	<ul style="list-style-type: none"> • Selective Breeding • Natural Selection • Theories of Evolution • Anti-biotic Resistance • Genetic Engineering • Fossils and Classification • Cloning
B2.6 – Ecology	Students will learn about Ecosystems and how species are able to co-exist.	<ul style="list-style-type: none"> • Food chains • Food webs • Interdependence 	<ul style="list-style-type: none"> • Ecosystems • Biotic and Abiotic Factors • Human Impacts • Deforestation • Trophic Levels and Biomass • Food Security