



Year 7 – Biology			
Unit 1	Unit 2	Unit 3	Age Related Expectations (ARE)
Cells & Organisation This unit establishes that cells are the fundamental building blocks of all life, exploring how they are structured and how they work together to form complex systems within organisms, including the human body. Knowledge and Understanding - Students study the structure of animal and plant cells, how specialized cells perform specific functions, and the hierarchy of life's organization (cells → tissues → organs → systems). - Students learn the core functions of the human skeleton and how bones, ligaments, tendons, and antagonistic muscles coordinate to produce movement. Skills Developed Practical: Safely setting up and using a microscope to observe and identify different cell types. Analytical: Explaining how the	Health & The Human Body This unit explores the interconnected respiratory and digestive systems, focusing on how they function together and how lifestyle choices influence overall physical health and well-being. Knowledge and Understanding Respiratory System: Students study the mechanics of breathing (pressure and volume), the highly efficient structure of alveoli, and the impact of exercise and detriments like smoking on lung capacity and health. Digestion & Nutrition: Students learn the seven food groups, the roles of different organs in the digestive tract, and how enzymes break down food into usable nutrients. Health Balance: Students analyse the health consequences of poor diet, including deficiency diseases (e.g., scurvy, rickets) and imbalances like obesity or	Reproduction This unit covers the fundamental process of reproduction in humans, detailing the systems involved, the stages of development from adolescence to birth, and the impact of healthy choices on new life. Knowledge and Understanding - Students learn the structure and function of the male and female reproductive systems and the specialized adaptations of sperm and egg cells. - Students study the changes of adolescence, the stages of the menstrual cycle (including ovulation), and the process of fertilisation. - Students will understand the development, protection, and care of a foetus during the gestation period, culminating in the birth process.	1. The cellular basis of life Describe the organisation of living things and the structure and function of the skeletal, muscular, digestive respiratory & reproductive systems. 2. Variation, Control & Lifecycles Describe the changes that happen during puberty, pregnancy & foetal development. 3. Biological Transfers Describe the need for energy from food and the role of the digestive system. 4. Health & Disease Describe the effects of lifestyle choices on lung function and the importance of a healthy diet.



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Science

musculoskeletal system creates movement and how the body's organizational structure supports life functions.

starvation.

Skills Developed

- **Practical:** Safely and accurately conducting food tests to identify glucose, starch, and fats in samples.
- **Analytical:** Relating changes in chest pressure to breathing and evaluating how diet and lifestyle affect the long-term function of the respiratory and digestive systems.

Skills Developed

- **Analytical:** Evaluating the advice given to pregnant women regarding diet and lifestyle choices.
- **Descriptive:** Defining key biological terms and accurately describing complex processes like the menstrual cycle and fertilisation.



Year 7 – Chemistry			
Unit 1	Unit 2	Unit 3	Age Related Expectations (ARE)
States of Matter This unit explores the characteristics of solids, liquids, and gases using the particle model, and introduces practical techniques for separating mixtures in various real-world applications. Knowledge and Understanding - Students define and draw the particle model for all three states of matter, relating the arrangement and energy of particles to their physical properties (e.g., explaining gas pressure). - Students learn key terms like diffusion, concentration, and equilibrium and how they apply to the movement of particles and changes of state. - Students understand the principles behind key separation techniques used in industry and medicine, including filtration, distillation, and chromatography. Skills Developed Modelling: Using the particle model to explain and predict the	Atoms & The Periodic Table This unit establishes that all matter is made of atoms, introduces the organisation of elements in the Periodic Table, and explores how elements combine to form compounds and participate in chemical reactions. Knowledge and Understanding - Students define and distinguish between atoms, elements, compounds, and mixtures (using the Dalton model), and understand how compounds are formed through chemical reactions. - Students explore the historical development, organisation, and major sections (groups/periods) of the Periodic Table, including identifying and locating metals and non-metals. - Students learn the distinctive properties of metals and non-metals and how these properties dictate their uses in different applications. - Students study the patterns of reactivity within specific groups (e.g., Group 1) and understand	Chemical Reactions This unit explores the difference between chemical and physical changes, explains how atoms rearrange during a reaction, and introduces key reaction types and factors that affect the rate of reaction. Knowledge and Understanding - Students learn to distinguish between chemical and physical changes and can identify common examples of both, understanding that chemical reactions involve the rearrangement of atoms. - Students study the Law of Conservation of Mass and use particle diagrams to explain why mass is conserved during a reaction. - Key reaction types covered include oxidation (including corrosion), combustion, displacement, and thermal decomposition, identifying their reactants and products. - Students understand the difference between exothermic and endothermic reactions and	1. Atoms & their Arrangement Know that all substances can be elements, compounds & mixtures & elements are found in the periodic table. 2. Chemical Reactions Know that substances can undergo different reactions to form products and write these as simple word equations. 3. Substances & Properties Describe the properties of the 3 states of matter & describe how mixtures can be separated. 4. The Earth's Resources



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Science

behaviour of matter and the functions of each state. • Practical: Describing the detailed procedures for setting up and carrying out filtration, distillation, and chromatography to separate different types of mixtures (defining filtrate and residue). Naming common equipment and naming variables.	how to interpret word and symbol equations. Skills Developed • Practical: Making scientific observations of chemical reactions • Analysis: Using the Periodic Table to identify elements, determine the ratio of atoms in a compound, and predict the chemical behaviour of elements based on their group placement. • Equation Writing: Formulating and interpreting simple word and symbol equations for chemical reactions.	the factors that increase the rate of reaction. Skills Developed • Equation Writing: Describing reactions using word equations and representing them using chemical formulae and balanced equations. • Experimental Analysis: Using observations from experiments to distinguish between exothermic and endothermic reactions.	
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Year 7 – Physics		
Unit 1	Unit 2	Age Related Expectations (ARE)
Space This unit introduces the structure of our Solar System and the vastness of the Universe, focusing on fundamental concepts like gravity, and explaining astronomical phenomena such as day/night cycles and seasons. Knowledge and Understanding - Students learn the key components of the Solar System (planets, moon) and the larger celestial structures: galaxy (Milky Way), constellation, and the Universe. - Students define Gravity and understand its crucial role in holding planets in orbit. - Students can distinguish between mass and weight and use the appropriate equation to calculate weight. - Students explain two key planetary motions: the spin of the axis that causes day and night, and the tilt/orbit that causes the seasons. Skills Developed Calculation: Applying the correct equation to calculate the weight of an object. Explanation: Describing the mechanisms that cause daily (day/night) and annual (seasons) cycles on Earth.	Electricity & Magnetism This unit covers the fundamentals of electrical circuits, introducing key concepts like current and potential difference, and explores the related phenomena of static electricity and magnetism, including the use of electromagnets. Knowledge and Understanding - Students learn the differences between series and parallel circuits and the definitions and units for current and potential difference. - Students explore static charge, understanding the forces of attraction and repulsion caused by electrostatic forces. - Students can classify materials as magnetic or non-magnetic, differentiate between permanent magnets and electromagnets, and describe methods to increase the strength of an electromagnet. Skills Developed Practical: Constructing circuits and making electromagnets Drawing: Accurately drawing standard circuit symbols and components, and sketching magnetic field line diagrams.	Energy & Matter Describe the difference between mass and weight Forces & Motion Describe the effects of gravity Waves Electricity & Magnetism Compare parallel and series circuits and describe current and potential difference Earth in Space Describe how day & night and seasons occur