

HIGHFIELDS SCHOOL

CURRICULUM OVERVIEW 2023-2024



www.hswv.co.uk

SUBJECT: SCIENCE

KEY STAGE: 3

AUTUMN TERM - YEAR 7	SPRING TERM – YEAR 7	SUMMER TERM – YEAR 7
<p>Forces An introduction to the forces around us and how they affect our lives. Students will launch rockets and consider the forces acting on them during flight</p> <p>Particle Model The model that shows the particle nature of solids, liquids and gases and underpins our understanding of the behaviour of all materials</p> <p>Speed and motion Here we learn about the factors that are used to calculate speed. We explore experimentally different aspects of speed</p> <p>Separating Mixtures Here we look at different techniques used in laboratories to separate mixtures</p> <p>Cells Cells are the building blocks of living things. We will consider how cells are specialised for their function and how cells build into tissues, organs and organ systems</p>	<p>Human Reproduction This topic looks at the processes involved in human reproduction from fertilisation to birth</p> <p>Elements and compounds Students learn how we define different materials depending on their constituent particles. We will begin to learn rules for naming compounds</p> <p>Chemical reactions We will explore the difference between physical changes and chemical reactions. Students will consider mass changes in chemical reactions and look at the reactions of metal compounds with acids</p>	<p>Respiration This looks at the process of releasing energy in our cells from glucose and oxygen</p> <p>Breathing We learn about the respiratory system and the mechanism for breathing</p> <p>Photosynthesis This important chemical reaction occurs in green plants. An understanding of it is vital to understanding plant biology</p> <p>Energy and work Students meet the idea of energy stores and transfers. We introduce equations on calculating work and mechanical power</p> <p>Acids and Alkalis We explore these important families of chemicals and their everyday uses and how indicators are used to identify them</p> <p>Plant Reproduction Here we explore the anatomy of flowers and plants and how this allows pollination</p> <p>Digestion Students will investigate the digestive system of the human body. Whilst also considering what makes a healthy diet and the risks of poor nutrition</p>

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ASSESSMENT

Examination style assessments

2 x subject mini tests

Termly standard assessment

Classwork assessments

Exit Tickets

Continuous low stakes assessment

Homework assessments

To include online quizzing and retrieval practise

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AUTUMN TERM - YEAR 8	SPRING TERM - YEAR 8	SUMMER TERM - YEAR 8
<p>Acids and Alkalis We explore these important families of chemicals and their everyday uses and how indicators are used to identify them</p> <p>Metals and Non-Metals Key properties of metals and non-metals are explored which are then linked to their applications. We will investigate patterns of reactivity with oxygen and water</p> <p>Chemical reactions We will explore the difference between physical changes and chemical reactions. Students will consider mass changes in chemical reactions and look at the reactions of metal compounds with acids</p> <p>Magnetism and electromagnetism Here we explore the properties of magnets and how they interact with their surroundings. We will also investigate the factors that affect the strength of electromagnets and learn about their use in real life</p> <p>Waves - sound and light Students find out about the electromagnetic spectrum including the properties of sound and light waves and the differences between transverse and longitudinal waves. Practical work will include experiments on reflection and refraction</p>	<p>Digestion Students will look into the digestive system of the human body. Whilst also considering what makes a healthy diet and the risks of poor nutrition</p> <p>Movement Here we will explore the roles of both the skeletal and muscular systems which allow movement in the human body.</p> <p>Interdependence Different organisms rely on each other to survive. This topic explores the relationships in more detail</p> <p>Heating and Cooling Looking at how thermal energy can be transferred from one place to another and how heat loss can be prevented</p> <p>Powering Earth Students investigate how the Earth's energy demands by both renewable and non-renewable resources. We will consider current and future issues regarding a global energy crisis</p>	<p>Variation The differences between organisms, how they come about, and why they are important</p> <p>Evolution Exploring the findings of Charles Darwin and investigating his theory of evolution by natural selection</p> <p>Inheritance This links to the previous topic and how characteristics can be passed from one generation to the next</p> <p>Chemical reactions (continued) We will continue to explore a variety of chemical reactions and changes. Students will go into greater detail and look at specific reactions such as oxidation, decomposition and endothermic & exothermic</p> <p>Climate Students will be taught the science of the climate crisis. We will reflect on how human activity contributes to this and what we can do to reduce the effects of climate change</p> <p>Earth's Resources Exploring how humans have learnt to exploit the resources the Earth provides</p>

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