



Hodgson Academy

Science

KS3 Curriculum Overview



Science: Key Stage 3 Curriculum Overview

	Autumn Term		Spring Term		Summer Term	
	HT1	HT2	HT3	HT4	HT5	HT6
Year 7	<u>Safety and Investigations</u> Lab safety How theories develop over time How to conduct a scientific investigation <u>Matter and separation</u> The particulate nature of matter Mixtures and pure substances	<u>Energy</u> Energy stores The conservation of energy (and matter) Generating and using electricity Renewable and non-renewable energy <u>Chemical Reactions</u> Energy transfers in chemical reactions. Bioenergetic reactions	<u>Cells and Systems</u> Introduction to microscopy Basic animal and Plant Cell structure and function Unicellular organisms Cellular organisation The musculoskeletal system	<u>Forces</u> What is a force? Measuring force Contact and Non-Contact Forces Resultant Force Speed and relative motion <u>STEM Week</u> British Science Week	<u>Digestion and Respiration</u> Balanced Diet Structure and function of the digestive system Structure and function of the respiratory system <u>Variation and Reproduction</u> Variation and its causes Structure and function of the reproductive system The menstrual cycle Pregnancy and the foetus	<u>Resources and the atmosphere</u> Materials and their uses Extraction of the Earth's resources Recycling The carbon cycle Human impacts on climate <u>Ecosystems</u> Habitats and Ecosystems Adaptations and competition Biodiversity
	Skills: Use current scientific understanding to develop a working hypothesis that can be tested, plan a valid investigation to test a hypothesis, use key apparatus safely, make and record observations, evaluate investigations and suggest possible improvements for further investigation.					
Year 8	<u>Working Scientifically</u> Securing key scientific skills developed throughout the year 7 programme of study <u>Waves</u> What is a wave? Types of waves How sound and light travel through different media. Structure and function of the eye and the ear. Practical uses of ultrasound and infrasound	<u>Earth and the Solar System</u> The rock cycle Weathering and erosion Day & Night Years & Seasons Phases of the moon The composition of different planets within our solar system	<u>The Periodic Table part 1</u> What is an element? How do we classify elements? Properties of Group 1, 7 and 0 <u>Metals and Acids</u> The reactions of metals with oxygen and acid Introduction to Acids, Bases and Neutralisation Analysing a substance to determine its pH	<u>Plants</u> The structure of a plant Plant organs Plant adaptation and transport Plant reproduction Seed dispersal <u>STEM Week</u> British Science Week	<u>Evolution and Inheritance</u> Natural Selection and Extinction Chromosomes & DNA Selective Breeding <u>Heat</u> Heat Transfer Conduction Convection Radiation Thermal Insulation Insulating our homes	<u>Electricity and Magnetism</u> Basic circuits Current, Potential difference and resistance Permanent and induced magnetism Electromagnets
	Skills: Use current scientific understanding to develop a working hypothesis that can be tested, plan a valid investigation to test a hypothesis, use key apparatus safely, make and record observations, evaluate investigations and suggest possible improvements for further investigation.					
Year 9	<u>Cell Biology</u> Eukaryotic and Prokaryotic Cells Calculating magnification Diffusion and Exchange Surfaces <u>Organisation and Exercise</u> The blood and the circulatory system Food testing	<u>Energy</u> Energy and the national grid The three pin plug Power <u>Forces</u> Scalar and Vector quantities Distance and Displacement Acceleration Elasticity	<u>Uses of Waves</u> Wave motion The electromagnetic spectrum <u>Introduction to Chemistry</u> Subatomic particles and how they were discovered. Historic models of the atom	<u>Introduction to Chemistry</u> Subatomic particles and how they were discovered. Historic models of the atom <u>Particle Physics</u> Density Ionisation Isotopes Radiation <u>STEM Week</u> British Science Week	<u>Particle Physics</u> Density Ionisation Isotopes Radiation <u>The Periodic Table part 2</u> Atomic structure and the periodic table The development of the periodic table	<u>Infection and Response</u> Health Disease Antibiotics and Clinical Trials <u>Field investigations</u> Sampling Quadrats Belt Transects
	Skills: Use current scientific understanding to develop a working hypothesis that can be tested, plan a valid investigation to test a hypothesis, use key apparatus safely, make and record observations, evaluate investigations and suggest possible improvements for further investigation.					

