



CHS Curriculum Intent

SUCCESSFUL: Learners who gain deep and powerful knowledge in preparation for life; combining academic rigour, curiosity and creative flair.

CREATIVE: Learners who are imaginative, optimistic and inventive; finding their voice to become effective communicators prepared for lifelong adaptability

HAPPY: Learners who are confident, resilient, well-rounded citizens; they understand the world's communities and are ready to discover their place in it.

CHS Curriculum Area Framework for Learning – Year 7

SUBJECT	Science
INTENT	Students will learn the foundations of chemistry, biology and physics during KS3 and build upon them during KS4, with the intention of raising interest and engagement in the natural world and developing their curiosity.

Year Group	7					
Rationale/ Narrative	To learn the “big ideas” associated with Science. To develop firm foundations in Biology, Chemistry and Physics and to explore and engage pupil’s curiosity of the natural world. Students will learn how to carry out and write scientifically and then explore the fundamental areas of science which include; cells, reproduction, atoms, electricity, photosynthesis and states of matter.					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2



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	Scientific Skills	Cells and reproduction	Atoms and elements	Electrical circuits and Power	States, energy transfer	Plant structure and interdependence
KNOWLEDGE	<p>HSW Skills Practical skills and writing scientifically Command words Repeats, means, anomalies, accuracy, errors. Variables and methods. Graphs Sample size (range, intervals and scale) Control groups</p>	<p>Menstrual cycle Cells (specialised cells, animal and plant structure) Labelling and describing cell organelles Reproductive system Fertilisation Puberty Using microscopes</p>	<p>Elements, compounds and mixtures Using the Periodic table Group 1 in the periodic table Chemical reactions Structure of an atom Electron shells Atomic and mass number Reactivity of metals Investigating the reactivity of metals Exothermic and endothermic reactions</p>	<p>Series and parallel circuits Conductors and insulators Measuring current and Voltage Magnetism Electromagnetism Generating electricity Power stations National Grid</p>	<p>States of matter (solids, liquids and gases) Conservation of matter Stearic acid (latent heat investigation) Conduction Convection Radiation Investigating heat transfer Evaporation and condensation Pressure</p>	<p>Photosynthesis Testing leaves for starch Investigating photosynthesis Food chains Food webs Insect pollination Leaf structure Seed dispersal Observing Stomata</p>
SKILLS	<p>Learning Command words and carrying out/writing up scientific investigations.</p> <p>How Science Works key terms Repeats Means Anomalies Errors Accuracy Resolution Range Interval Scale Variables Graphs plotting Graphs analysis</p>	<p>Learning how to use a microscope</p> <p>Memory recall – for cell parts and the reproductive systems</p> <p>Creative writing – journey of a sperm</p>	<p>Group work:</p> <p>Students will produce a presentation about the structure of the atom</p> <p>Students will carry out/write up scientific investigations:</p> <ul style="list-style-type: none"> Students will investigate reactions to see if they are exo or endothermic Students will investigate metals with acid to see the 	<p>Group work:</p> <p>Students will produce a presentation about how a power station works (oracy)</p> <p>Students will carry out/write up scientific investigations:</p> <ul style="list-style-type: none"> Students will test conductors Students will investigate current in series and parallel circuits Students will investigate 	<p>Group work:</p> <p>Students will carry out/write up scientific investigations:</p> <ul style="list-style-type: none"> Conservation of mass Rate of evaporation Cooling curve for stearic acid Conduction through glass and metal rods Convection 	<p>Group work:</p> <p>Students work as a team to complete complex food webs</p> <p>Students will carry out/write up scientific investigations:</p> <ul style="list-style-type: none"> Iodine test for starch Testing rate of photosynthesis using pond weed Observe stomata using a



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			<p>temperature change (reactivity)</p> <ul style="list-style-type: none"> Students will heat metals with oxygen. 	<p>voltage in series and parallel circuits</p> <ul style="list-style-type: none"> Students will investigate static electricity and use a Van der graff generator. 	<ul style="list-style-type: none"> Evaporation and condensation 	
ASSESSMENTS	<p>Students will be assessed on: (3 will be selected per term plus Progress test)</p> <ul style="list-style-type: none"> How to draw a line graph and a bar chart. This will include appropriate use of categoric and continuous data. Writing scientifically: Students will learn to write a scientific report and write a conclusion for the following investigations: How changing the size of meteors affects the size of a crater <p>How changing the shape of a boat affects how</p>	<p>Students will be assessed on: (3 will be selected per term plus Progress test)</p> <ul style="list-style-type: none"> MCT – revision (cells and reproduction) Writing creatively: (journey of sperm) – students will use the skills they have learnt in English to write about the journey of s sperm through the female reproductive system. Progress test: This will test understanding of how science works skills (covering all the topic areas described in 	<p>Students will be assessed on: (3 will be selected per term plus Progress test)</p> <ul style="list-style-type: none"> Writing scientifically: pupils will write a scientific report about the reactivity of metals with hydrochloric acid. Atomic structure presentation. Students will research and present work about the periodic table and the structure of the atom. Multiple choice revision test (covering all the topic areas described in spring 1 – 	<p>Students will be assessed on: (3 will be selected per term plus Progress test)</p> <ul style="list-style-type: none"> Pupils will write a scientific report about circuits (both series and parallel). Progress test: This will test understanding of how science works skills (covering all the topic areas described in autumn and spring – knowledge). 	<p>Students will be assessed on: (3 will be selected per term plus Progress test)</p> <ul style="list-style-type: none"> Pupils will write a scientific report about the cooling rate of stearic acid. Multiple choice revision test (covering all the topic areas described in spring 1 – knowledge above). 	<p>Students will be assessed on: (3 will be selected per term plus Progress test)</p> <ul style="list-style-type: none"> Pupils will write a scientific report about how the rate of photosynthesis is affected by the intensity of a light Pupils will design a food web using information cards and then present the work to their peers or the class. Progress test (this will cover all the knowledge they have developed throughout the whole year).



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	much weight it can hold before sinking.	autumn 1 and 2 – knowledge)	knowledge above).			
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