



CHS South Curriculum Intent

SUCCESSFUL: An education where imagination, curiosity and resilience enable us to ignite our learning.

CREATIVE: A shared belief that optimism, empathy and responsibility are the foundations for a respectful, safe and inclusive community.

HAPPY: Individuals who are ready to learn, practise being reflective, and are motivated to become champions.

CHS South Curriculum Area Framework for Learning – Year 8

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	8
Rationale/ Narrative	To further develop knowledge in Biology, Chemistry and Physics and to explore and engage pupil's curiosity of the natural world. Students will continue to develop their ability to write and carry out scientific investigations and then explore more fundamental areas of science which include; disease, immunity, diet, health, organ systems, separation techniques, forces, motion and evolution.



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	Autumn 1 – Health, nutrition and organ systems	Autumn 2 – Forensics (separating techniques, acids and alkalis)	Spring 1 – Energy transfer (Transverse and longitudinal waves)	Spring 2 – Disease (transmission and immunity)	Summer 1 – Genes and Evolution	Summer 2 Motion and Forces (speed and energy transfers)
KNOWLEDGE	<p>Health and Nutrition</p> <p>Diet. Food groups Food tests Diabetes. Digestive system. Modelling the journey of food. Enzyme digestion Respiratory system Gas exchange Impact of exercise Heart</p>	<p>Forensics</p> <p>Separating Mixtures States of Matter Density Measuring pH Neutralisation Acids and Alkalis Using Indicators</p>	<p>Energy transfer</p> <p>Waves Wave equations Transverse and longitudinal waves Reflection Refraction Dispersion Sound Transfer of sound through matter Structure of the Ear</p>	<p>Bacterial disease Viral disease Fungal disease Bacterial numeracy Malaria Transmission and defence immunity Spreading microbes Human defence system Defence Vaccination MMR Antibiotics and pain killers MRSA</p>	<p>Genes and Evolution</p> <p>Variation The structure of DNA Genes, chromosomes and the nucleus Genetic modification Selective breeding Natural selection Evolution Extinction Wild life conservation</p>	<p>Motion and Forces</p> <p>Measuring forces Hooke's Law Calculating speed Distance time graphs Speed and velocity energy stores gravitational potential energy elastic potential energy kinetic energy energy transfers in a rollercoaster</p>
SKILLS	<p>Students will learn to write persuasive articles.</p> <p>Students will learn how to evaluate models and carry out dissections</p> <p>Students will carry out/write up scientific investigations:</p> <ul style="list-style-type: none"> Students will food groups Students will investigate the pH of different substances Students will carry out filtration and 	<p>Students will carry out/write up scientific investigations:</p> <ul style="list-style-type: none"> Students will investigate density Students will investigate the pH of different substances Students will carry out filtration and evaporation techniques. 	<p>Students will carry out/write up scientific investigations:</p> <ul style="list-style-type: none"> Students will investigate waves in solids and liquids Students will investigate ray diagrams (reflection and refraction) Students will investigate the speed of sound in air 	<p>Students will carry out/write up scientific investigations:</p> <ul style="list-style-type: none"> Students will investigate antibiotics Students will investigate the spread of bacteria Students will investigate how to spread bacteria 	<p>Students will develop oracy and presentation skills.</p> <p>Students will also learn how to write evaluations and comparisons effectively.</p>	<p>Students will learn how to use and apply key terminology and data such as:</p> <p>Repeats Reliability Reproducibility Mean Error Accuracy</p> <p>Students will carry out/write up scientific investigations:</p> <ul style="list-style-type: none"> Students will investigate speed Students will investigate the



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	<p>evaporation techniques.</p> <ul style="list-style-type: none"> Students will learn the importance of sample size when carrying out research projects, and consider factors that might affect a scientific study. (e.g. age/gender etc.) 					<p>extension of a spring</p> <ul style="list-style-type: none"> Students will design and present information about the energy changes in a rollercoaster
ASSESSMENTS	<p>Students will be assessed on:</p> <ul style="list-style-type: none"> Pupils will write a scientific report that describes how to test proteins, carbohydrates and fats. Writing creatively (journey of a cheese sandwich) Multiple choice revision test (covering knowledge from Autumn 1 Yr8) 	<p>Students will be assessed on:</p> <ul style="list-style-type: none"> Writing a scientific report about how to calculate density Multiple choice revision test (covering knowledge from Autumn 2 Yr8) Progress test (all knowledge content from Autumn 1 and 2) 	<p>Students will be assessed on:</p> <ul style="list-style-type: none"> Waves assessment Writing a scientific report about how to measure reflection and refraction in a glass block. MCT – revision (covering knowledge from spring 2 Yr8). 	<p>Students will be assessed on:</p> <ul style="list-style-type: none"> Writing a scientific report about how to spread microbes aseptically. Writing a persuasive argument. Should we vaccinate? Progress test (all knowledge content from Year 7). 	<p>Students will be assessed on:</p> <ul style="list-style-type: none"> Writing a journal / essay about why the Neanderthals became extinct MCT – revision (covering knowledge from summer 1 Yr8) 	<p>Students will be assessed on:</p> <ul style="list-style-type: none"> Writing a scientific report about how to measure the extension of a spring. MCT – revision (covering knowledge from summer 2 Yr8) Progress test (all knowledge content from Autumn, spring and summer)