

Science Curriculum Map 2023-2024



Key Stage		Year Group		Subject:		Programme of Study					
KS3/4		8-11		Science		OCR Entry Level Science (E1-3) GCSE Biology Pathway					
Autumn A		Autumn B		Spring A		Spring B		Summer A		Summer B	
Topic(s)/ Composite		Topic(s)/ Composite		Topic(s)/ Composite		Topic(s)/ Composite		Topic(s)/ Composite		Topic(s)/ Composite	
<p>KS3/4 Fooling Your Senses (E1-3)</p> <p>Develop a fundamental understanding of the different senses of the human body, the parts the senses and what basic roles each part undertakes within the senses.</p> <p>Assessment half term Comparison of matchable data cross the school in science, mapping entry levels for all students undertaking science through initial unit of study, fooling your senses. All students to undertake OCR Fooling Senses Assessment at the end of the half term.</p>		<p>KS3 Fly Me Too the Moon (E1/2) Understanding that the moon orbits the Earth. Identify the 8 planets of the solar system, To learn about space travel and man and unmanned spacecraft.</p> <p>KS4 Gasping for Breath (E1-3) Understand the parts and roles of the respiratory system of the human body. Identify how smoking can affect the respiratory system and why it is addictive. Interpret health data around smoking and other respiratory disease and disorders.</p>		<p>KS3 Body Wars (E1/2) Identify the key relationships between health and disease. Describe the key features of common diseases in humans and how they effect the body.</p> <p>KS4 Casualty (E1-3) Identify the key features of the human circulatory system and the roles different play in the system. Identify the key features of blood and the role it plays in the human body.</p>		<p>KS3 Creepy Crawlies (E1/2) Identify key features of invertebrates, understand herbivore and carnivores, understand how animals are adapted to suit their environment.</p> <p>KS4 Alternative Energy (E1-3) To understand that fossil fuels are a limited energy source. To identify different energy sources that are renewable. To understand that photocells turn light energy into electrical energy.</p>		<p>KS3 CSI Plus (E1/2) To understand why CSI wearing protective clothing. To understand why fingerprints are left at a crime scene. Know how fingerprints can be removed from a crime scene and recorded.</p> <p>KS4 Final Frontier (E1-3) To understand the sun is at the centre of our solar system. To identify the 8 major planets of our solar system and beyond, including the milky way and other galaxies. To understand that the sun is a star at the centre of our universe which allows for life on earth.</p>		<p>KS3/4 Science Projects (E1-3<)</p> <p>Class Option Practical Projects</p> <p>Can do Tasks Mop Up</p> <p>OCR Assessment Mop Up</p>	
Components		Components		Components		Components		Components		Components	
<p>KS3/ 4 Fooling Your Senses</p> <p>Different Senses PPT Sight, Sound, Taste, Touch and Smell Senses PPT Senses Videos Senses Research task Tricking our senses activity</p> <p>Trip Option: Brampton Sensory Garden/ Trentham Gardens Bare Faust walk</p> <p>Can do Tasks: Blindfold Taste Experiment Scratch and Sniff Experiment Reaction Time Experiment</p>		<p>KS3 Fly Me To the Moon</p> <p>Solar System PPT Rocket Power PPT Solar System Video 1-3 NASA Interactive Solar System Research Build a Solar System Activity</p> <p>Trip Option: National Space Museum Visit</p> <p>Can do Tasks: Compressed Air Rocket Build a Solar System Sun, Earth & Moon Orbit Model</p>	<p>KS4 Gasping for Breath</p> <p>Respiratory System PPT Risks of Smoking PPT Respiratory Diseases PPT Respiration System Video Effects of smoking video</p> <p>Trip Options: Staffs Uni Sports Lab</p> <p>Can do Tasks: Lung Model Experiment CO2 Experiment Breathing Rate and Lung Capacity Experiment</p>	<p>KS3 Body Wars</p> <p>Health and Disease PPT Common Diseases PPT Infection PPT Immune System PPT Health and Disease video Vaccinations discussion/ Research task</p> <p>Trip Options: Keele University Infection Lab</p> <p>Can do Task: Bacteria Growth Experiment Stomach Acid PH Testing</p>	<p>KS4 Casualty</p> <p>Circulatory System PPT Effects on Exercise on Heart Rate PPT Heart Disease PPT Risk factors for heart disease discussion</p> <p>Trip Options: Gym Tour Guide (Nuffield Health)</p> <p>Can do Tasks: Measuring Pulse Rate Experiment Research Heart Disease Risk Factors Recovery Time and Fitness Experiment</p>	<p>KS3 Creepy Crawlies</p> <p>Food Chain PPT Microorganisms PPT Animals Adaptation PPT Habitat PPT Sampling Invertebrates Task</p> <p>Trip Options: Peak Wildlife Park, The Peculiar Menagerie</p> <p>Can do Tasks: Quadrant Plant Survey task Pond Dipping Activity Invertebrate sampling method Experiment</p>	<p>KS4 Alternative Energy</p> <p>Wave Energy PPT Sun as an Energy Source PPT Heating your Home PPT Alternative Energy PPT Alternative Energy Discussion</p> <p>Trip Option: Stoke Incinerator Tour</p> <p>Can do Tasks: Energy Absorption experiment Atomic Model build Solar Panel Build Experiment</p>	<p>KS3 CSI Plus</p> <p>Crime Scene Evidence PPT Fingerprints PPT Blood and DNA PPT DNA PPT Investigating Crime Scene Task Chromatography PPT</p> <p>Trip Options: Staffs Uni Crime Scene House/ Keele University CSI Lab</p> <p>Can do Tasks: DNA Model build Blood Model Experiment# Ink separation experiment</p>	<p>KS4 Final Frontiers</p> <p>Sun and our Solar System PPT Earths Orbiting the Sun PPT Planets of our Solar System PPT Milky Way Galaxy PPT NASA Solar System Interactive Tour Comparing Size of Bodies Task</p> <p>Trip Options: Jodrell Bank</p> <p>Can do Tasks: Telescope Moon Experiment</p>	<p>KS3 Science Project Options</p> <p>Rocket Power Project</p> <p>Healthy Living Project</p> <p>Invertebrates Pet Project</p> <p>Crime Scene Investigation Mock</p> <p>Trip Option: Science Trip Research option</p>	<p>KS4 Science Project Options</p> <p>School Energy Saving Project</p> <p>Healthier School Project</p> <p>Space Travel Project</p> <p>Improve My Health and Fitness Project</p> <p>Trip Option: Science Trip Research option</p>

Assessment Tasks

Students' progress through the units will be assessed using a variety of different assessment techniques. These assessment tasks will also indicate the level at which students are graded. Student levels range from Entry Level 1 up to Entry Level 3. Students are graded at the end of each unit using summative assessments provided by the exam board. Other assessment techniques are also used and could include:
 Marked Coursework
 Completion of graded Worksheets
 Witness statements – in particular for practical lessons
 Practical Assessment Feedback
 "Can do" Tasks

Personal Development	Personal Development	Personal Development	Personal Development	Personal Development	Personal Development
Self Awareness/ Reflection (Senses) Sense of enjoyment	Problem Solving Health and Wellbeing Wider World	Diversity Consequences for actions Healthy Living	Wider World Equality	Life Beyond School Healthy Living	Problem Solving Health and Wellbeing

Reading & Writing

Word wall vocab Unit worksheets	Unit Placemat Wordsearch OCR Assessment Tests	Word wall vocab Word Keys	PPT Presentation Unit Placemat Crosswords OCR Assessment Tests	Unit worksheets Word Keys OCR Assessment Tests	Word wall vocab Unit worksheets OCR Assessment Tests
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Speaking & Listening

Throughout the units, students will have an opportunity to use Speech and Language within their lessons. Students have the opportunity to increase their use and understanding of key concepts through speech and listening. Students will use a combination of the following to demonstrate this:
 PPT Presentation, Unit Quizzes
 Peer Feedback, Question and Answer (both teacher and student led)

Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning
Classification with numbers Tally Chart	Weight & mass	Grouping and ordering Data comparison	Measurement - Volts Data comparison	Distance Speed Grouping and ordering Bar Chart	Classification with numbers Grouping and ordering Measurement
Creative Media	Creative Media	Creative Media	Creative Media	Creative Media	Creative Media
Cooking meal - kitchen 3D science models	PPT Presentation Video – The Human Body	Youtube – Weird Science	Use of circuitry Houses of the future	NASA Interactive Web	PPT Presentation Youtube Video