

Curriculum Map: Year 8 Science 2021-2022 (only)

	Half term 1 and 2	Half term 3 and 4	Half term 5 and 6
Topic	1. Variation and Evolution 2. Atomic structure and the periodic table 3. Constant force and pressure	1. Digestive system and Breathing 2. Rates of reaction and Chemical energy 3. Heating and cooling	1. Electric circuits 2. Respiration and Photosynthesis 3. Chemistry of the atmosphere and Earth resources 4. Magnetism and Electromagnets 5. The rock cycle
Intent	<i>Learn key knowledge about Variation and Evolution, Atomic structure and the Periodic table, Constant force and Pressure and develop key skills</i>	<i>Learn key knowledge about the Digestive system and Breathing, Rates of reaction and Chemical energy, Heating and cooling and develop key skills</i>	<i>Learn key knowledge about Electric circuits, Respiration and Photosynthesis, Chemistry of the atmosphere and Earth resources, Magnetism and electromagnets, The rock cycle and develop key skills</i>
Key Knowledge	1. How variation occurs and theory of evolution 2. The structure of an atom, the periodic table and group trends 3. How constant force can impact the shape of an object and how pressure changes in different mediums	1. What constitutes as a balanced diet and the function of the digestive system 2. How rate of a chemical reaction is measured and the energy changes in chemical reactions 3. The way in which thermal energy is transferred	1. Current, voltage and resistance in electric circuits 2. The processes of respiration and photosynthesis 3. How the early atmosphere evolved over time and the human impact on Earth 4. How magnets and electromagnets work 5. Earth structure
Key Skills	Use scientific vocabulary, terminology and definitions. Plan an investigation, make and record observations and measurements. Present data using tables/graphs. Interpret data, including identifying patterns to a valid conclusion and linking to scientific knowledge and understanding. Use equations to calculate values and covert units	Use scientific vocabulary, terminology and definitions. Make and record observations and measurements. Present data using tables/graphs. Make predictions using scientific knowledge and understanding Identify patterns to make a valid conclusion and link to scientific knowledge and understanding.	Use scientific vocabulary, terminology and definitions. Make and record observations and measurements. Present data using tables/graphs. Interpret data, including identifying patterns to make a valid conclusion and linking to scientific knowledge and understanding. Make predictions using scientific knowledge and understanding.
Key Vocabulary	environmental variation, genetic variation, adaptation, natural selection, evolution, atom, nucleus, electron, proton, neutron, shells, charge, alkali metals, halogens, noble gases, trends, stretch, compress, force, Hooke's Law, elastic limit, pressure	carbohydrates, protein, fats, starch, enzymes, villi lungs, alveoli, bronchi, inhalation, exhalation, diaphragm rate, collision theory, concentration, surface area, temperature, exothermic, endothermic, thermal energy, conduction, convection, radiation	current, voltage, resistance, aerobic respiration, anaerobic respiration, oxygen debt, lactic acid, palisade cell, chloroplast, greenhouse effect, greenhouse gases, climate change, poles, magnetic field, attract, repel, mantle, core, igneous, sedimentary
Key Reading	BBC Bite size website/Revision guide	BBC Bite size website/Revision guide	BBC Bite size website/Revision guide
End Point	Students will be able to access and complete exam style questions to demonstrate their learning in variation and evolution, atomic structure and the periodic table, and constant force and pressure.	Students will be able to access and complete exam style questions to demonstrate their learning in digestive system and breathing, in rates of reaction and chemical energy and heating and cooling	Students will be able to access and complete exam style questions to demonstrate their learning in chemical reactions, Respiration and Photosynthesis, Chemistry of the atmosphere, and Magnetism and electromagnets. Use models to represent Earth
Form of Assessment	End of topic assessments for topics 1-3 DC1	End of topic assessments 1-3	End of topic assessments 1-4 DC2
Enrichment Opportunities			

Leadership Opportunities	Students to complete one project each term, which is to be presented to the whole class. Students will work independently over a few weeks to research and the topic. This will help students to develop their oracy, research and time management skills.