

AUTUMN 1

Heating and Cooling Heat transfers by conduction, convection and radiation.	Staying Alive Food groups, diet, digestion, breathing, effects of smoking.	Chemical Reactions Equations, combustion, thermal decomposition, exo/endothermic reactions.	Prior Learning KS2: Heat transfers is not taught at KS2, though they will have come across state changes. Importance of enough and right types of nutrition, basic digestive system, inc role of teeth. Recognise impact of diet and exercise on human health. Some changes result in the formation of new substances, and this change is non-reversible. Dissolving, mixing and state changes are all reversible.
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AUTUMN 2

Universe Solar system, day/night, seasons.	Respiration Respiration equation, circulatory system, anaerobic respiration.	Separation Techniques Solubility, distillation, chromatography.	Prior Learning KS2: Describing movement of Sun, Moon and planets in Solar System, all relative to Earth, explanation of day and night. Identify simple circulatory system and describe function of heart, blood vessels and blood Using knowledge of S/L/G to decide how mixtures can be separated e.g. sieving, filtering and evaporating
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SPRING 1

Work Work done, stretching and squashing, moments and levers.	Environmental Chemistry Early atmosphere, today's atmosphere, global warming.	Prior Learning KS2: Recognise that some mechanisms (including levers, pulleys and gears) allow a smaller force to have a greater effect Atmosphere is not taught at KS2, though may have come across the idea of 'pollution' in other subject areas, and looked at 'burning' as a non-reversible reaction
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SPRING 2

Electricity Circuit symbols, series and parallel circuits, resistance.	Photosynthesis Plant and leaf structure, factors affecting photosynthesis.	Prior Learning KS2: Extensive coverage of electricity at KS2, including simple series circuits and their components (inc symbols), role of switches, identifying common conductors and insulators, making links between changes in outcomes and number or voltage of cells used. Identify and describe functions of main plant organs, investigate variations in requirements for plant life and water transport in plants.
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SUMMER 1

Pressure Pressure = force / area, water pressure, hydraulics.	Earth's Resources Extraction of metals, metal oxides/carbonates, displacement.	Prior Learning KS2: Pressure is not taught at KS2, though make links with water and air resistance, which are covered. Metals and chemical reactions not taught at KS2. Intro to both comes earlier in KS3 syllabus.
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SUMMER 2

Inheritance and Evolution Introduction to genetics, DNA, variation, extinction.	Waves Wave types, ultrasound, echolocation.	Prior Learning KS2: Offspring vary and are usually not identical to the parents. Adaptations of plants and animals to their environments can lead to evolution. Sound and light covered at KS2 and developed in Y7.
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CAREERS LINKS

Health & safety officer, microbiologist, analytical chemist, physicist, particle physicist, physiotherapist, mechanical engineers, sound engineers, studio technicians, astrophysicist, optician, geologist, aeronautics engineers.

CHARACTER LINKS

Motivation, resilience and teamwork (performance virtues).
 Confidence and determination
 Listening, critical thinking and problem solving (intellectual virtues).
 Consideration and construction of moral and ethical arguments in science (moral virtues).

KEY ASSESSMENT DATES

Summative and synoptic testing in October, February and May.