

2021-22	Year 7	
Autumn 1	Topic	Chemistry strand 1 – Substances and properties
	Content covered, including knowledge and skills.	States of matter, substances and separating mixtures.
	Links to prior learning.	KS2 – The particle model
	Links to British Values, SMSC and work-related learning	Links to food and drink industry
	Literacy: Key words and terminology	Pure; mixture; state of matter; solvent; solute; solutions; soluble; insoluble; filtration; crystallisation; distillation
	Topic	Biology strand 1 – Living Systems
	Content covered, including knowledge and skills.	Cells, Organs and living processes.
	Links to prior learning.	KS2 – Living things & organisms
	Links to British Values, SMSC and work-related learning	Careers: Microbiology, Immunologist, Physiotherapist, Pathologist and other possible NHS careers
	Literacy: Key words and terminology	Cell, Living, Organelle, Nucleus, Cell membrane, cytoplasm
	Topic	Physics strand 1 – Energy

Autumn 2	Content covered, including knowledge and skills.	Energy stores and transfers, conductors and insulators and the differences between temperature and heat. Skills: Basic laboratory techniques, identifying variables and collecting results.
	Links to prior learning.	Upper KS2 – Electricity (flow of energy.)
	Links to British Values, SMSC and work-related learning	British Values: Supply and regulation of energy in the UK Careers: The utilities sector
	Literacy: Key words and terminology	Temperature, Heat, Energy, Joules, Conductor, Insulator.
	Topic	Chemistry strand 3 – Chemical Reactions
	Content covered, including knowledge and skills.	Chemical and Physical changes, conservation of mass and reactions in solutions
	Links to prior learning.	KS2 physical and chemical changes
	Links to British Values, SMSC and work-related learning	Careers – Chemical industry Life of Percy L Julian
	Literacy: Key words and terminology	Chemical reaction; physical reaction; reactants; products; conservation of mass; precipitate
Spring 1	Topic	Biology strand 2 – Ecology
	Content covered, including knowledge and skills.	Respiration, Photosynthesis, food chains and adaptations.

	Links to prior learning.	Lower KS2 (Y4) links to food chains, producers, predators and prey.
	Links to British Values, SMSC and work-related learning	SMSC – Food security, poverty and famine Careers – Agriculture, research, surveying, conservation and pollution.
	Literacy: Key words and terminology	Respiration, photosynthesis, mitochondria, chloroplasts, consumer, producer, predator, prey, competition, extinction, adaptations, pollution.
	Topic	Physics strand 2 - Waves and Fields
	Content covered, including knowledge and skills.	Types of waves, Light, Sound, Electrical conductors, series circuits and circuit symbols. Skills: Following a method and making observations.
	Links to prior learning.	KS2 – Light and Electricity. Thermal conductors and insulators in Autumn 2.
	Links to British Values, SMSC and work-related learning	Cultural Capital: Understanding the discoveries of Issac Newton with light. Careers link: Sound engineer, Electrician.
	Literacy: Key words and terminology	Longitudinal, Transverse, Light, ROYGBIV, Series and parallel.
Spring 2	Topic	Chemistry strand 2 – Particles and structure
	Content covered, including knowledge and skills.	The particle model for solids, liquids, gases and solutions and the model of the atom.
	Links to prior learning.	KS2 links to materials

	Literacy: Key words and terminology	Dissolving; precipitate; atoms
	Topic	Biology strand 3 – Genetics and Inheritance
	Content covered, including knowledge and skills.	Reproduction in animals and plants, fertilisation and seed dispersal.
	Links to prior learning.	Upper KS2—Living things and their habitat: life process of reproduction in some plants and animals
	Links to British Values, SMSC and work-related learning	British Values: Reference to the rule of law, pupils follow laboratory rules for the safety of all; Engage in teamwork and show mutual respect. Cultural Capital: UK farming; Chelsea Flower show; Helen Sharman’s agricultural experiments in space Careers links: Farming, Florists, Landscaping, Wildlife management
	Literacy: Key words and terminology	Fertilisation, Pollination, Offspring, Ova, Germinate, Seed dispersal
	Topic	Physics strand 3 – Forces and their effects
Summer 1	Content covered, including knowledge and skills.	Forces basics including push, pull and twist, springs, pressure and speed. Skills: Identifying variables, making observations, calculations and conclusions.
	Links to prior learning.	Upper KS2 – Forces – This includes ideas about gravity, friction and levers.
	Links to British Values, SMSC and work-related learning	British Values: The battle of Britain in WW2 and the contribution of British engineers.

		<p>Cultural Capital: Road testing new cars, the effects of friction and pressure in different situations.</p> <p>Careers links: Aviation, Formula 1 and the automotive industry.</p>
	Literacy: Key words and terminology	Push, Pull, Twist, Balanced, Unbalanced, Newton meter, Extension, Pressure, Area, Speed, Acceleration.
	Topic	Chemistry strand 4 – Earth Chemistry
	Content covered, including knowledge and skills.	Resources from the Earth, layers of the Earth, types of rock and weathering.
	Links to prior learning.	Lower KS2 (Y3) – Rocks
	Links to British Values, SMSC and work-related learning	<p>British Values – Prioritising and leaving space for population and wildlife.</p> <p>Cross-curricular links to Geography</p>
	Literacy: Key words and terminology	Earth, crust, mantle, core, grains, porosity, rock types (igneous, sedimentary, metamorphic), physical weathering, erosion.
	Topic	Biology strand 4 – Evolution and Biodiversity
Summer 2	Content covered, including knowledge and skills.	Classification of organisms, kingdoms and objects.
	Links to prior learning.	Upper KS2—Evolution and Inheritance: How animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Links to British Values, SMSC and work-related learning	<p>British Values: British Museum of Natural History and Linnaean Society's contributions to science.</p> <p>Cultural Capital: Communication of Science ideas and concepts</p> <p>Career Links: Medical illustrator, Palaeontologist, Museum curator</p>
Literacy: Key words and terminology	<p>Binomial Classification, Carolus Linnaeus, Vertebrate, Invertebrate, exoskeleton, KPCOFGS (kingdom, phylum, class, order, family, genus, species), <i>Homo sapiens</i></p>
Topic	<p>Physics strand 4 – Astronomy and Radiation</p>
Content covered, including knowledge and skills.	<p>The solar system, stars, night and day, the seasons, phases of the moon, advancing technology and exploration.</p>
Links to prior learning.	<p>KS2 – Space Physics – The main features of the solar system.</p>
Links to British Values, SMSC and work-related learning	<p>British values – British contribution to the Scientific community.</p> <p>Cultural capital: Understanding how humans began and continue to explore further away from the Earth. The evolution of technology and contribution of British scientists in understanding the universe.</p> <p>Career links: Astronomer, Meteorologist.</p>
Literacy: Key words and terminology	<p>Stars, Planets, Satellites, Axis, Tilt, telescopes.</p>

