	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Year 7 Science	**Content delivered:** **HSW Project:** Working scientifically seed dispersal **Biology** Food chains and food webs Ecosystems Ecology Competition Flowers and pollination Fertilisation and germination Seed dispersal	**Content delivered:** **Chemistry** The particle theory States of matter Changes of state Diffusion Sublimation Solutions Solubility Pure substances and mixtures **Physics** Food and fuels	**Content delivered:** **Physics** Renewable and non-renewable energy Energy and power **Chemistry** Acids and alkalis Indicators and pH Neutralisation Making salts	**Content delivered:** **Chemistry** Elements Metals & non metals Metals and acids Metals and oxygen Displacement reactions **Physics** Current and potential difference Series and parallel circuits	**Content delivered:** **Physics** Resistance **Biology** Levels of organisation Cells Microscopy Specialised cells Diffusion **Biology** The skeleton Muscles and joints	**Content delivered:** **Physics** The night sky Solar system **Chemistry** Structure of the Earth Types of rocks Rock cycle Ceramics **End of year review and recap**
Key Words **Level 2** **Level 3**	Independent, dependent, control, hypothesis, prediction, conclusion, ecosystem, habitat, organism, species, energy, predator, prey, consumer, producer, respiration, excretion, herbivore, carnivore, omnivore, stigma, anther, pollination, pollen, pollinator, germination, organism, species, herbivore, predator, bioaccumulation, population, fertilisation, germination, anther, stigma, ovum, conductor, insulator, charge, flow, complete circuit, resistance, ohm, voltage, parallel, series	Solid, liquid, gas, density, kinetic energy, order/ordered, random, melting, freezing, temperature, thermometer, rate, pure, impure, solvent, solute, solution, diet, energy, joule, kilojoule, nutrient	Atomic, chemical, elastic potential, gravitational potential, kinetic, conservation, nuclear, strain, thermal, transfer, biofuel, coal, electricity, fossil, fuel, renewable, non-renewable, oil, geothermal, hydroelectric, solar, wind turbine, pH, strength, concentration/concentrated, dilute, oxidation, alkali, displacement, reactive/reactivity, neutralisation, indicator	Reversible, irreversible, chemical, physical, element, compound, mixture, metal, non-metal, conductor, insulator, charge, flow, complete circuit, resistance, ohm, voltage, parallel, series	Conductor, insulator, charge, flow, complete circuit, resistance, ohm, voltage, parallel, series, objective lens, magnification, eyepiece, microscope slide, nucleus, cell membrane, cell wall, cytoplasm, mitochondria, ribosome, chloroplast, vacuole, micrometre, differentiated, concentration gradient, tendon, ligament, muscle, joint, antagonistic pair, cartilage	Evaluation, thrust, acceleration, gravity, mantle, crust, inner/outer core, diameter, radius, crystal/crystallisation, grain size, layers, fossils, sedimentation, extrusive, intrusive, weathering, erosion, deposition, transportation
Where previous knowledge has occurred and future development **KS2 → KS3 → KS4 → KS5**	**Biology** KS2: The role of flowers; constructing & using food chains KS2: Constructing and analysing simple series circuits KS3: Y8 Adaptations KS4: Y10 Electricity (P4.2) KS4: Y11 Ecology (B4.7) KS5: Y12 Ecological relationships	**Chemistry** KS2: Dissolving solids in liquids & changes of state KS3: Year 8 Elements and compounds KS4: Year 10 Bonding (C4.2) KS4: Year 11 Purity (C4.8)	**Physics** KS3: Year 8 Energy KS4: Y10 Energy (P4.1) KS4: Y10 Particle model of matter (P4.3) **Chemistry** KS2: Describing chemical changes & describing how to recover a substance from a solution KS3: Year 8 Periodic table KS4: Y10 Atomic structure (C4.1) KS4: Y10 Chemical changes (C4.4) KS5: Y13 Acids, bases and buffers	**Chemistry** KS2: Describing chemical changes & describing how to recover a substance from a solution KS3: Year 8 Periodic table KS4: Y10 Atomic structure (C4.1) KS4: Y10 Chemical changes (C4.4) KS5: Y13 Acids, bases and buffers **Physics** KS2: Comparing how electrical components function KS3: Y8 Electromagnets KS4: Y10 Electricity (P4.2) KS5: Year 12 Electrical circuits	**Biology** KS2: Human skeleton and muscles KS3: Digestion & breathing KS4: Year 10 Cells (B1.1) KS5: Y12 Cells KS5: Y12 Sliding filament theory **Physics** KS2: Comparing how electrical components function KS3: Y8 Electromagnets KS4: Y10 Electricity (P4.2) KS5: Year 12 Electrical circuits	**Physics** KS2: Describing the movement of planets in the solar system; explaining day and night KS4: Year 11 Space physics (C4.8) KS5: Year 13 Space KS5: Year 13 Entropy **Chemistry** KS2: What rocks are made of and comparing types of rocks KS3: Year 7 Elements KS4: Year 10 Chemical changes (C4.4) KS4: Year 11 Chemistry of the atmosphere (C4.9) KS4: Year 11 Ecology (B4.7) KS5: Year 13 Enthalpy of combustion, polymerisation
Common Misconceptions	The direction of arrows in food chains and food webs	That solutes get absorbed by the solution Correct drawing of particles in particle model	The electricity is an energy store. That strong acids have a high pH.	Elements are the smallest thing Batteries and cells are the same Earth wires and fuses do the same thing	That bones are solid The older you are the more energy you need	The relative sizes of objects in space.
Literacy	Scientific writing (HSW): Seed dispersal project write up NHTW reviews as starter activities	Scientific writing (HSW): Burning fuels NHTW reviews as starter activities	Scientific writing (HSW): Making salts NHTW reviews as starter activities	Scientific writing (HSW): Investigating current NHTW reviews as starter activities	Scientific writing (HSW): Microscopy NHTW reviews as starter activities	NHTW reviews as starter activities
Numeracy	Choosing and drawing appropriate graphs Presenting data using tables Drawing graphs and tables	Rearranging formulae Calculating and converting masses	Drawing appropriate graphs Rearranging formulae Unit conversions	Calculating means Drawing graphs and tables	Calculating means Drawing graphs and tables	Drawing graphs and tables
Homework	Completion of Kerboodle/Seneca/Carousel quizzes	Completion of Kerboodle/Seneca/Carousel quizzes	Completion of Kerboodle/Seneca/Carousel quizzes	Completion of Kerboodle/Seneca/Carousel quizzes	Completion of Kerboodle/Seneca/Carousel quizzes	Completion of Kerboodle/Seneca/Carousel quizzes
Assessment this half-term	GL Assessment Unit test for biology	Unit test for chemistry	Unit test for physics	Unit test for chemistry	Unit test for biology	End of year test

Career opportunities Employment Links		LIFE SKILLS: Understanding how to separate substances and the roles of cells in the body EMPLOYMENT: Forensic scientist	LIFE SKILLS: Understanding how electricity is made and the importance of renewable energies. EMPLOYMENT: Pharmacist	LIFE SKILLS: Understanding how neutralisation works EMPLOYMENT: Welder	LIFE SKILLS: Understanding how muscles and joints work & understanding where electricity comes from EMPLOYMENT: Physiotherapist	LIFE SKILLS: Dangers of electricity EMPLOYMENT: Electrician LIFE SKILLS: Understanding tides and temperatures for changing states
Enrichment	REACT roadshow			Nancy Rothwell Award	STEM Week Activities	Planetarium / Forensics workshop
Practical activities/HSW	Ecology Flower dissection	Separation techniques Changing states Diffusion Burning fuels	Metals and acids Displacement reactions Testing pH Making salts	Measuring current Series and parallel circuits Resistivity	Dissection of trotter or chicken wing Microscopy	Moon craters
Employability Skills	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive	Aiming high Literacy Creativity Numeracy Leadership Independence Listening Communication Presenting Teamwork Problem solving Staying positive
IT Skills	IT1 & IT2: Appropriate websites and research for homework as well as recall quizzes	IT1 & IT2: Appropriate websites and research for homework as well as recall quizzes	IT1 & IT2: Appropriate websites and research for homework as well as recall quizzes	IT1 & IT2: Appropriate websites and research for homework as well as recall quizzes	IT1 & IT2: Appropriate websites and research for homework as well as recall quizzes	IT1 & IT2: Appropriate websites and research for homework as well as recall quizzes
Notes/developments /standardisation comments						