THE ABBEY SCHOOL
A BUSINESS & ENTERPRISE ACADEMY

Subject: Science

Year 7
Scheme of Learning 2025-2026

Subject leader: Mr S Brock

Topics by term	Topic overview for Year 7					
	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Topics taught	Passport to Science and Working Scientifically		PHY – Energy Transfer and Sound	CHEM – Mixing, Dissolving, and separating	BIO – Getting the energy your body needs	PHY – Exploring contact and non-contact forces
			BIO – Eating, Drinking and Breathing	PHY – Forces and their Effects	CHEM – Explaining Physical changes	CHEM – Explaining Chemical Change

Term 3							
	Topic 2: Eating drinking and breathing						
How does the food we eat and the air we breathe get used in our bodies?	What does it mean to have a healthy diet and lifestyle?	To explain the factors involved in a healthy lifestyle.	1. Describe the components of a healthy diet. 2. Compare the energy requirements of people of different ages and with different lifestyles 3. Plan ways of communicating ideas about preventing malnutrition disorders.	food group, nutrient, balanced die, energy, respiration, kilojoule (kJ), obesity, starvation, malnutrition, deficiency disease, vitamin, scurvy, rickets, anaemia	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	Sense of enjoyment and fascination in learning about themselves, others and the world around them. Willingness to participate in a variety of social settings, cooperating well with others and being able to resolve conflicts effectively. Understanding and appreciation of the wide range of cultural influences that have shaped their own heritage
	What substances are in the foods we eat?	To investigate the key component food groups of the food we eat.	1. Test foods for starch, sugars, protein and fat. 2. Predict the results of food tests for a range of foods. 3. Evaluate the risks involved in carrying out food tests.	starch, sugar, protein, fat, risk	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	How does our food make it into our bodies?	To describe the stages of digestion and the functions of the digestive organs.	1. Identify the organs of the human digestive system. 2. Explain the role of digestion.	digestion, digestive system, chemical energy, respiration, circulatory system, faeces, adaptation, oesophagus,	Weekly homework task depending on class, set according to	Knowledge organiser, Collins textbook, Standardised lesson presentation.	

			3. Explain how the structure of each of the organs is adapted to its function.	stomach, pancreas, small intestine	homework timetable. Termly assessment focussed on Scientific working.	Practical resources in lesson where appropriate.	and those of others.
	How do we break food down into pieces smaller than we can see?	To explain how enzymes act on food to break it down chemically.	1. Describe what is meant by chemical and physical digestion. 2. Explain the lock and key model for enzyme action. 3. Suggest how results can demonstrate that digestion begins in the mouth.	physical digestion, saliva, enzyme, chemical digestion, amylase, starch, sugar, catalyst	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	How do our bodies take in oxygen?	To describe the features and specialisation of the lungs.	1. Describe the mechanism of breathing in and out. 2. Explain how the features enable gases to be exchanged. 3. Evaluate how well adapted the human gas exchange system is to its function.	lungs, diaphragm, pressure, vital capacity, independent variable, dependent variable, control variable, alveoli, respiration, capillaries	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	

	What are the changes in the air that we breathe in and out?	To explain which gases are used up in the body and which waste products are removed.	1. Describe what is meant by lung volume and identify some simple methods to measure it. 2. Compare the gas composition of inhaled and exhaled breath. 3. Interpret and evaluate data linked to lung volume.	Oxygen, carbon dioxide, respiration, waste, inhale, exhale	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	How to substances move into and out of our body's cells?	To describe the process of diffusion of materials into and out of cells.	1. Explain how diffusion makes breathing possible. 2. Observe the effects of diffusion. 3. Apply diffusion to our breathing system and ask questions to develop understanding.	Diffusion, concentration, gradient, particles	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	How can disease and lifestyle affect the way our bodies work?	To compare lifestyles and factors that can affect the health of our bodies.	1. Describe the physical effects of disease and lifestyle on the breathing system. 2. Explain the physical effects of disease and lifestyle on the breathing system.	asthma, nicotine, tar, cilia, carcinogen	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	

			3. Describe how our understanding about the effects of smoking has changed over time.		Scientific working.		
Term 4							
	Topic 1: Mixing, dissolving and separating						
How can we tell substances apart and separate them when mixed together?	What are the differences between substances, materials and elements?	To recognise the difference between materials, substances and elements.	1. Explain the terms solvent, solution, solute and soluble. 2. Identify elements by their names and symbols. 3. Explain what is meant by a chemically pure substance.	material, compound, element, symbol, molecule, pure, solvent, solution, soluble, solute, concentration	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	Sense of enjoyment and fascination in learning about themselves, others and the world around them. Willingness to participate in a variety of social settings, cooperating well with others and being able to resolve conflicts effectively. Understanding and appreciation of the wide range of cultural
	How can we separate mixtures of different substances?	To explain techniques used to separate substances from a mixture	1. Describe how to separate simple mixtures. 2. Choose and explain appropriate separation techniques. 3. Clearly explain the choice and method of separation using the correct terms.	filter, mixture, filtration, insoluble, immiscible	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	What techniques can we use when a substance is dissolved?	To describe the process of evaporation as a	1. Separate a soluble substance from water.	soluble, solubility, crystallisation, crystal, saturated	Weekly homework task depending on	Knowledge organiser, Collins textbook,	

		separation technique	2. Form crystals from solutions. 3. Use data to draw conclusions about solubility.		class, set according to homework timetable. Termly assessment focussed on Scientific working.	Standardised lesson presentation. Practical resources in lesson where appropriate.	influences that have shaped their own heritage and those of others.
	How can we extract pure salt from rock salt?	To use a combination of separation techniques to extract a pure substance	1. Identify that in a mixture there may be more than one substance to separate. 2. Apply a range of separation techniques to separate this mixture. 3. Evaluate the cost implications in the final product compared to other methods of extraction.	filter, mixture, filtration, insoluble, immiscible, soluble, solubility, crystallisation, crystal, saturated	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	How can we separate two liquids that have been mixed together?	To explain how a range of boiling points can be used to separate a mixture of liquids	1. To state what distillation is. 2. Use distillation to separate substances. 3. Explain why distillation can purify substances.	vapour, condense, distillation, Liebig condenser, purify	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	

					Scientific working.		
	How can we tell which colours make up an ink?	To use the process of chromatography to separate coloured compounds from a solution	1. Identify mixtures using chromatography. 2. Describe how to separate a mixture using chromatography. 3. Draw conclusions using results from chromatography to explain the composition of mixtures.	mixture, separate, paper chromatography, chromatogram, dye	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	Where are the applications of being able to separate colours?	To explain and describe how chromatography is used in industry for a range of applications.	1. Use chromatography to identify unknown substances. 2. Draw conclusions from evidence. 3. Identify similarities and differences between chromatography and DNA analysis.	mixture, separate, paper chromatography, chromatogram, dye	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	How do we use mixtures and separating in our day-to-day lives?	To evaluate the different uses of solvents in our day-to-day lives.	1. Recognise pure substances and mixtures. 2. Use a simple model to explain what happens to mass during dissolving.	forensic, reliable, chromatography, accurate, evidence	Weekly homework task depending on class, set according to homework timetable.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in	

			3. Use a simple model to explain dissolving and separation.		Termly assessment focussed on Scientific working.	lesson where appropriate.	
	Topic 2: Forces and their effects						
What are the things that forces can do to change objects and their movement ?	What is a force and how can we measure them?	To list and describe some forces and represent these as a free body diagram.	1. List some types of force and label diagrams to show the direction of forces. 2. State the main types of force and draw force diagrams to show the size and direction of forces. 3. Describe the main types of force and accurately draw force diagrams to explain the relative size and direction of applied forces and their effects.	pushing force, pulling force, turning force Newton, Newton meter, precision, weight, gravity, mass	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	Sense of enjoyment and fascination in learning about themselves, others and the world around them. Willingness to participate in a variety of social settings, cooperating well with others and being able to resolve conflicts effectively. Understanding and appreciation of the wide range of cultural
	Why does weight change on the moon? (And other planets)	Describe the force of gravity and how its effect changes in different environments	1. Explain the meaning of 'weightless'. 2. Investigate weight on the Moon and on different planets. 3. Identify the link between weight and gravitational attraction.	gravity, weightless, action force, reaction force	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	

	How do springs behave and how can we predict this?	Measure the effect of a force on a spring within its elastic limit and describe what happens beyond this limit.	1. Explain the relationship between an applied force and the change of shape of an object. 2. Investigate forces involved in compressing and stretching materials. 3. Generate data to produce a graph and analyse outcomes.	compress, stretch, elastic behaviour, elastic limit, brittle, extension, Hooke's Law, elastic limit	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	influences that have shaped their own heritage and those of others.
	What is friction and how can it be useful?	Explain how friction is used to help movement	1. Identify the force of friction between two objects. 2. Describe the effects of friction. 3. Understand that friction acts in the opposite direction to the direction of movement.	friction, contact force, lubricant	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	Why is it more difficult to travel faster?	Identify the factors that will resist motion and describe how this effect can be reduced.	1. Link frictional forces between surfaces to 'drag' between objects in a fluid. 2. Discuss examples of frictional drag in air and in water. 3. Evaluate the use of data collected from investigations of drag.	air resistance, water resistance, terminal velocity, particle, collide, streamlined, evaluate, turbulence	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	

	How can forces affect the motion of objects?	Use information from free body diagrams to explain how objects can be moved.	1. Recognise that for an object to start moving there must be a force applied. 2. Describe the effects of balanced and unbalanced forces. 3. Explain and calculate the significance of balanced and unbalanced forces on a moving object.	balanced (forces), unbalanced (forces), reaction force, horizontally, vertically	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	What can forces do to the speed of objects?	Recall, apply and use the equation for speed in a variety of situations.	1. List the factors involved in defining speed. 2. Explain a simple method to measure speed. 3. Use the speed formula in a range of situations and for all variables.	distance, speed, unit, formula, average	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	How can forces turn or rotate objects?	Describe and explain the turning effect of forces in terms of moments.	1. State and use the law of moments. 2. Describe how turning forces can be increased. 3. List some examples of levers used as force multipliers.	turning force, pivot, fulcrum, Moment, lever, load, effort, force multiplier	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	

					Scientific working.		
Term 5							
	Topic 1: Getting the energy your body needs						
How do our bodies get the energy they need to live?	What are the key bones that make up the human skeleton?	Recall the key structures of the skeleton.	1. Identify bones of the human skeleton. 2. Explain why we have different shapes and sizes of bones. 3. Estimate height using bone-measurement calculations and suggest reasons for differences between people.	bones, skeleton, calcium, marrow, support, protect, blood cells, joint, cartilage	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	Sense of enjoyment and fascination in learning about themselves, others and the world around them. Willingness to participate in a variety of social settings, cooperating well with others and being able to resolve conflicts effectively. Understanding and appreciation of the wide range of cultural influences that have shaped their
	How do bones join together?	Recall the different types of joints and explain their movements.	1. Describe the roles of tendons, ligaments, joints and muscles. 2. Compare different joints in the human skeleton. 3. Analyse the roles of tendons, ligaments, muscles and compare the movement allowed by different joints	ligament, muscle, tendon	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	What makes bones move?	Use the term antagonistic pairs	1. Describe antagonistic	contracted, relaxed, force, Newton,	Weekly homework task	Knowledge organiser,	

		to explain how muscles make bones move around a joint.	muscles and give examples. 2. Explain how antagonistic muscles bring about movement. 3. Evaluate a model of antagonistic muscles.	antagonistic muscles, bicep, triceps, quadricep	depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	own heritage and those of others.
	What does respiration do to help the body?	Recall and use the equation of respiration to describe energy release for cellular activity.	1. Recall the equation for respiration and describe what it shows. 2. Explain the importance of respiration. 3. Apply what we know about respiration.	energy, respiration, glucose, aerobic respiration	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	Why do our bodies need to respire?	Identify processes in the body that require energy and explain how respiration helps with this.	1. Recall that respiration takes place in plants and animals. 2. Explain how some systems and respiration are dependent. 3. Suggest the consequences of a failure in linked body systems.	digestive system, breathing system, circulatory system, phloem, stomata	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	

	What happens in respiration if there isn't enough oxygen?	Describe and explain the key differences between aerobic and anaerobic respiration.	1. Describe what is meant by anaerobic respiration. 2. Explain why some sports involve more aerobic or more anaerobic respiration. 3. Explain what is meant by oxygen debt.	anaerobic respiration, lactic acid, oxygen debt, glycogen	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	How do creatures respire without oxygen?	Give examples and equations for organisms that respire without oxygen and some of their uses.	1. Recall that plants and microbes carry out anaerobic respiration. 2. Describe some evidence to show that anaerobic respiration can produce carbon dioxide. 3. Construct a method to show what is produced in anaerobic respiration.	fermentation, microbe, yeast, brewing, fossil fuel, independent variable, dependent variable	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	What are the differences between the types of respiration?	Explain the key differences between organisms that respire aerobically and those who respire anaerobically.	1. Describe some similarities and differences between aerobic and anaerobic respiration. 2. Work responsibly within a team to summarise respiration. 3. Explain the differences in energy output and	Catalyst, lactic acid, oxygen debt	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	

		Evaluate these differences.	link this to the living conditions of organisms.		Scientific working.		
	Topic 2: Explaining physical changes						
What physical changes take place in chemistry and how can we tell?	What model can we use to explain the properties of solids, liquids and gases?	Describe the microscopic structure of chemicals as particles and their associated behaviours.	1. Use accurate observations to draw inferences about the properties of solids, liquids and gases. 2. Draw circle diagrams and other models to demonstrate the differences between the arrangement of particles in solids, liquids and gases. 3. Use particle diagrams to explain the differences in energy and the forces on the particles in different states of matter.	malleable, strength, hardness, soluble, conduct, alloy, viscosity, compressed, solubility	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	Sense of enjoyment and fascination in learning about themselves, others and the world around them. Willingness to participate in a variety of social settings, cooperating well with others and being able to resolve conflicts effectively. Understanding and appreciation of the wide range of cultural influences that have shaped their
	How do solids, liquids and gases behave?	Explain how the particle model leads to the behaviours of solids, liquids and gases.	1. Describe some properties of solids, liquids and gases. 2. Design and carry out an investigation to compare the viscosity of different liquids. 3. Use the particle model to explain experimental data and applications of	malleable, strength, hardness, soluble, conduct, alloy, viscosity, compressed, solubility	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	

			solids, liquids and gases.				own heritage and those of others.
	What happens to change the state of a solid, liquid or gas?	Use particle theory to explain the changes in particles when there is a change in state.	1. Recognise changes of state as being reversible changes. 2. Use scientific terminology to describe changes of state. 3. Explain changes of state using the particle model and ideas about energy transfer.	sublimation, melting point, boiling point, latent heat, evaporation, boiling, surface area	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	What is density and why is it useful?	Use the density definition and equation to explain differences in matter and states.	1. Make predictions about floating and sinking using ideas about density. 2. Calculate the densities of solids and liquids. 3. Use the particle model to explain factors relating to density.	density, mass, volume, float	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	How do chemical reactions balance?	Explore the conservation of mass in a range of situations.	1. Recognise that mass is conserved in all physical processes and chemical reactions. 2. Use mass to find the efficiency of	Law of Conservation of Mass, chemical reaction, physical change, efficiency	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in	

			separating sand from salt. 3. Explain what happens to unexpected changes in mass using the particle model.			lesson where appropriate.	
	What are the differences between physical and chemical changes?	Explain the differences between reversible and irreversible changes.	1. Describe the features of physical changes and chemical changes. 2. Explain how mass is conserved in all changes. 3. Use the particle model to explain physical changes and chemical changes.	physical change, reversible, chemical change, exothermic, endothermic	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	How do mixtures behave and how is this different to pure substances?	Describe the changes when a mixture is subject to physical change and compare these changes to a pure substance.	1. Describe different types of colloids. 2. Explain the properties of different colloids using the particle model. 3. Use the particle model to explain the properties of colloids, and how solutions affect melting and boiling points.	emulsion, colloid, foam, gel	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	What else can we explain using the particle model?	Describe and evaluate other	1. Use particle models to explain	particle model	Weekly homework task	Knowledge organiser,	

		phenomena using particle theory.	separation processes. 2. Use particle models to explain how the solubilities of solids and gases change with temperature. 3. Explain the effectiveness of different models in explaining chemical changes.		depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
Term 6							
	Topic 1: Exploring contact and non-contact forces						
How can forces change objects by touching and at a distance?	What is a magnetic field and what shape does it have?	Describe the interaction between a magnetic field and the materials around it.	1. Explain magnetic attraction and repulsion. 2. Apply the concept of poles and the laws of attraction and repulsion. 3. Predict the effects of arrangements of magnetic poles.	non-contact force, attract, pole, repel, magnetic field, strength, field lines, core	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	Sense of enjoyment and fascination in learning about themselves, others and the world around them. Willingness to participate in a variety of social settings, cooperating well with others and being able to resolve
	How can insulators move electrical charge around?	Explain how a static charge can be produced and the effects of this on materials around.	1. Explain static charge in terms of electron transfer. 2. Apply this explanation to various examples.	electron, positive charge, proton, negative charge, neutral, field, attract, repel	Weekly homework task depending on class, set according to homework timetable. Termly	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in	

			3. Use the concept of electron transfer to explain the effectiveness of charging and discharging		assessment focussed on Scientific working.	lesson where appropriate.	conflicts effectively. Understanding and appreciation of the wide range of cultural influences that have shaped their own heritage and those of others.
	Why do we need to take care in a lightning storm?	Describe the effects of a built-up charge and the effects a discharge can have.	1. Describe the electric field around a charged object. Explain how we can use the idea of a field in relation to static charge. 2. Use the idea of induced charge to explain field effects and compare this with magnetism.	electrostatic field, induced, electrostatic attraction, lightning	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	How can we use static electricity?	Apply the knowledge of a built-up static charge to everyday situations and identify those that are useful and potentially dangerous.	1. Describe some examples and applications of static electricity. 2. Explain various examples of applications of static electricity in terms of charge mechanism. 3. Compare and contrast useful and dangerous instances of static charge in terms	electrostatic field, induced	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	

			of charge mechanism.				
	How does the force of gravity affect us?	Explain the force of gravity as acting at a distance from the centre of an object and explain how this impacts objects in its field.	1. Explain the effects of gravity. 2. Compare gravity to other non-contact forces. 3. Use the concept of a gravitational field.	gravity, weight, gravitational field, accelerate	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	Why do we need to account for gravity in space?	Applying the understanding of gravity to other planets and places in the universe.	1. Apply ideas about gravity on Earth to other places. 2. Explore how gravitational fields vary. 3. Consider the effects of these changes.	air resistance	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	What happens to the pressure in a deeper liquid?	Explain how pressure in liquids behaves and what the consequences of this are.	1. Describe how pressure increases with depth in a liquid and some effects of this. 2. Explain why pressure increases with depth in a liquid. 3. Identify the causes and	pressure, depth, decompression	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	

			implications of pressure increase with depth in a liquid.				
	How can objects float and sink?	Apply concepts of gravity, density, water pressure and forces to explain why some objects float and some sink.	1. Explain why some objects float and others sink. 2. Relate floating and sinking to density, displacement and upthrust. 3. Explain the implications of these ideas.	density, buoyancy, upthrust, displaced,	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	Topic 2: Explaining chemical change						
What happens during a chemical reaction?	Why are some substances acidic or alkaline?	Describe the properties and recall examples of acidic and alkaline substances.	1. Recognise acids and alkalis used in everyday life. 2. Describe what all acids and alkalis have in common. 3. Evaluate the hazards that acids and alkalis pose.	acid, corrosive, irritant, hydrogen	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	ense of enjoyment and fascination in learning about themselves, others and the world around them. Willingness to participate in a variety of social settings, cooperating well with others and being able to resolve
	How can we tell if a substance is an acid or an alkali?	Use indicators and universal indicator to explain the differences in acidity and alkalinity.	1. Use indicators to identify acids and alkalis. 2. Analyse data from different indicators. 3. Compare the effectiveness of	indicator, acid, alkali, litmus, neutral	Weekly homework task depending on class, set according to homework timetable. Termly assessment	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in	

			different indicators.		focussed on Scientific working.	lesson where appropriate.	conflicts effectively. Understanding and appreciation of the wide range of cultural influences that have shaped their own heritage and those of others.
	What happens when acids and alkalis react?	Recall and write balanced equations for the reactions between acids and alkalis.	1. Describe examples of neutralisation. 2. Use indicators to identify chemical reactions. 3. Explain colour changes in terms of pH and neutralisation.	neutralisation, titration, water, neutral, salt, equation	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	What happens when acids and metals react?	Recall and write balanced equations for the reactions between acids and metals.	1. Describe the reaction between acids and metals. 2. Explain the reaction between acids and metals. 3. Compare the reactivities of different metals.	chemical reaction, salt, hydrogen, reactivity	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	What happens when acids and metal carbonates react?	Recall and write balanced equations for the reactions between acids and metal carbonates.	1. Describe the reaction between acids and carbonates. 2. Explain the reaction between acids and carbonates. 3. Write word equations for the reactions	carbonate, carbon dioxide, limewater	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	

			between acids and carbonates.		Scientific working.		
	How can we use acids and alkalis in the home and beyond?	Describe how neutralisation reactions are useful in a range of household applications.	1. Classify common useful chemicals as acids or alkalis. 2. Explain the importance of acids and alkalis in everyday life. 3. Explore common misconceptions about acids and alkalis.	indigestion, heartburn, antacid, base, neutralisation, fertiliser	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	What happens when a fuel burns?	Recall and predict the products of combustion for a range of fuels.	1. Explain the terms fuel and combustion. 2. Recall what is needed for combustion. 3. Analyse the fire triangle and apply it to putting out fires.	chemical reaction, fuel, combustion, fire triangle	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	
	What are the products of fuels burning and what are the dangers of them?	Evaluate the consequences of combustion and incomplete combustion at both a human and planetary scale.	1. Summarise combustion using an equation. 2. Compare complete and incomplete combustion. 3. Explain what is meant by the conservation of mass.	exothermic, energy, alcohol	Weekly homework task depending on class, set according to homework timetable. Termly assessment focussed on Scientific working.	Knowledge organiser, Collins textbook, Standardised lesson presentation. Practical resources in lesson where appropriate.	