Science – PROGRAMME OF STUDY			**KEY STAGE 3 Traded**		
	Living Things and Their Habitats	**Animals, including Humans**	**Evolution and Inheritance**	**Light**	**Electricity**
Prior learning	• describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals • give reasons for classifying plants and animals based	• identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • describe the ways in which nutrients and water are transported within animals, including humans	• recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • identify how animals and plants are adapted to suit their environment in	• recognise that light appears to travel in straight lines • use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye • explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes • use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	• associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit • compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches • use recognised symbols when representing a simple circuit in a diagram

	on specific characteristics		different ways and that adaptation may lead to evolution		
	Biology	**Chemistry**	Physics	**Working scientifically**	
Taught content: Knowledge/ Skills	Know: features of plant and animal cells and be able to describe their basic function.	Know: three states of matter and identify common materials into one of these states	Know: the names of different energy resources	Know: the different variables in an experiment	
Subsequent learning	Do: observe looking at something with magnifying lens, match features and functions of a cell.	Do: compare the similarities and differences between states of matter and use a model to represent them in a diagram	Do: compare advantages and disadvantages of resources	Do: plan a fair experiment	
	Know: Three main types of joint in the body and how muscles move the bones	Know: difference between an element and a compound (in words and pictures)	Know: the different energy stores and transfers		
	Do: Demonstrate the types of joint working by flexing different parts of the body.	Do: identify the elements from the name of a compound	Do: Describe how energy transfers from one place to another		

	Demonstrate antagonistic muscles working by moving their arm.				
	Know: names and basic functions of the main parts of the digestive system	Know: Definitions of solute, solvent and solution	Know: that light travels in straight lines at high speeds		
	Do: Identify parts of the digestive system from a diagram and describe the process by using story telling	Do: Complete basic dissolving experiment with water and sugar/salt	Do: observe the phenomena of light		
	Know: names and basic functions of the main parts of the respiratory system	Know: how filtration and evaporation works	Know: how sounds are made and travel to your ear		
	Do: Demonstrate breathing in and out and use this to describe process of breathing	Do: complete a basic chromatography experiment	Do: draw what happens to sound waves that are louder/quieter and higher/lower in pitch		

Science– PROGRAMME OF STUDY				**KEY STAGE 3 Traded**
	Biology	**Chemistry**	Physics	**Biology**

Taught content/ knowledge and skills	Know: what is needed for, and made by, photosynthesis.	Know: the signs that a chemical reaction has taken place.	Know: know the names of common forces.	Know: the parts of the male and female reproductive system
	Do: explain why photosynthesis is important	Do: write word equations for chemical reactions.	Do: draw free body diagrams of forces	Do: describe the process of reproduction in humans
	Know: what the reactants and products are for respiration.	Know: the definition of combustion and understand the fire triangle.	Know: how to calculate speed.	Know: that some drugs are medicinal and some drugs are recreational
	Do: compare aerobic and anaerobic respiration.	Do: describe some oxidation reactions.	Do: describe motion from a distance time graph.	Do: descrive the effects that drugs can have on the body including disease
	Know: the main components of a food chain and web.	Know: which numbers on the pH scale correspond to acidic or alkaline solution.	Know: how to calculate pressure and weight using the equation.	Know: how to construct a Punnett square
	Do: describe how a food chain can be affected by a variety of factors.	Do: compare methods for finding the pH of a substance.	Do: describe how the shape of objects increase or decrease pressure	Do: work out the probability of offspring inheriting characteristics
	Know: who discovered the double helix structure of DNA	Know: the products made for an acid + alkali reaction and metal + acid reaction.	Know: how to calculate density using the equation.	Know: the benefits of variation
	Do: Compare and sort by size the nucleus, chromosomes, genes and DNA.	Do: name the salts made, depending on the reactants.	Do: describe how density changes if you change the volume or mass	Do: describe natural selection and selective breeding in relation to variation

Science– PROGRAMME OF STUDY				KEY STAGE 3 Traded
	Chemistry	**Physics**		
Taught content/ knowledge and skills	Know: the basic features of the periodic table	Know: that objects can be charged through friction		
	Do: identify and use symbols in formulae for elements from the periodic table	Do: describe how charged objects interact with each other		
	Know: the periodic table can show us which metals are more reactive	Know: know the shape and direction of a magnetic field on its own and during attraction and repulsion		
	Do: predict the order of reactivity of some metals based on observations of reactivity	Do: describe how to determine which materials are magnetic		
	Know: the three types of rock and the structure of the Earth	Know: the basic circuit symbols and the difference between current and potential difference		
	Do: describe the rock cycle	Do: describe how current and potential difference behave in a series circuit and in a parallel circuit		

	Know: the composition of the atmosphere	Know: the basic circuit symbols and the difference between current and potential difference		
	Do: describe how increasing greenhouse gases increases global warming	Do: the basic circuit symbols and the difference between current and potential difference		
Subsequent learning	**Key Stage 4 (KS4)** Key Stage 4 encompasses Years 10 and 11 and prepares students for the General Certificate of Secondary Education (GCSE) examinations. The curriculum includes: • Biology, Chemistry, and Physics are studied in even greater depth, with an emphasis on the application of scientific concepts to real-world situations • Practical skills are developed through experiments and investigative processes that are integral to their assessments • Application to Everyday Life - the curriculum highlights the relevance of scientific understanding in everyday contexts, environmental issues, health, and technological advancements, conducting independent investigations, and enhancing students' ability to form hypotheses, conduct experiments, and evaluate outcomes			