BPS SCIENCE
UKS2 ODD

UKS2: ODD				
Autumn		**Spring**		**Summer**
Changing Circuits	**Life Cycles inc. plants**	**Classifying Living Things**	**Evolution & Inheritance**	**Investigating materials and their properties**
Key Vocabulary Static electricity, symbols, components, motor, bulb, buzzer, series, parallel, brightness, voltage, battery, brightness **N.C. Y6 PoS - Electricity**	**Key Vocabulary** Reproduction, asexual, sexual, reproduce, gestation period, species, environment, eggs, reptiles, amphibians, seed dispersal, pollination, germination, mammal **N.C. Y5 PoS – Living things and their habitats**	**Key Vocabulary** Grouping, organisms, characteristics, similar, different, classification, Linnaeus, classify, sort, group, vascular, non-vascular **N.C. Y6 PoS – Living things and their habitats**	**Key Vocabulary** Offspring, adapation, evolution, suit, Darwin, variations, environment, evolve, develop, generation, adapt, advantageous adaptations **N.C. Y5 PoS**	**Key Vocabulary** Solid, liquid, gas, reversible, irreversible, cooling, heating, solution, separate, combine, evaporate, filter, sieve, mixture, reactions, magnetic, flexible, burning, oxidisation, hardness, solubility, conductivity **N.C. Y5 PoS – Properties and changes of materials**
Scientific Concepts				
Systems Interactions Energy Diversity Life Cycles				

Scientific Knowledge to be covered throughout the year				
Term	Working Scientifically	Biology	Chemistry	Physics
Autumn 1: Changing Circuits	<u>Comparative and fair testing</u> • **Y5:** Know that some variables need to be controlled. • **Y5:** Know that results can lead to further prediction			• 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

	and the design of further comparative tests. • **Y5:** Know that methods can be improved. • **Y6:** Know that there are explanations behind needing to control variables. • **Y6:** Know that there are reasons for improving methods. • **Y6:** Know that the correct units must be used when measuring accurately and precisely. **Identifying and classifying** • **Y5:** Know that dichotomous classification models can be used to sort living and non-living things • **Y6:** Know that own classification methods [branching & dichotomous] can be chosen and developed in order to sort living and non- living things. **Gathering and recording** • **Y5:** Know that causal relationships can be identified.			of buzzers and the on/off position of switches. • Use recognised symbols when representing a simple circuit in a diagram.
Autumn 2: Life Cycles inc. plants		• Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. • Describe the life process of reproduction in some plants and animals. *Relate knowledge of plants to studies of all living things.*		
Spring 1: Classifying Living Thngs		• Describe how living things are classified into broad groups according to common observable characteristics. • Give reasons for classifying plants and animals based on specific characteristics.		
Spring 2: Evolution & inheritence		• 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 different ways and that adaptation may lead to evolution. *• Relate knowledge of plants to studies of evolution and inheritance.*		

Summer 1 & 2: Investigating materials and their properties	• **Y5:** Know that data can be interpreted to find patterns. • **Y5:** Know that data can be gathered, recorded, classified and presented in a variety of ways which include scientific diagrams, labels, keys, graphs and tables. • **Y5:** Know that repeated and precise recordings must be taken. • **Y6:** Know that patterns can be found in the natural environment. • **Y6:** Know that evidence can support / refute causal relationships		• Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets. • Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. • Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. • Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. • Demonstrate that dissolving, mixing and changes of state are reversible changes. • Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidisation and the action of acid on bicarbonate of soda.	