BPS SCIENCE
LKS2 ODD

LKS2: ODD					
Autumn		**Spring**		**Summer**	
Electricity	**Forces & Magnets**	**Flowering Plants**	**Space**	**Sound**	**Light & Shadows**
Key Vocabulary Circuit, appliance, switch, buzzer, bulbs, conductors, insulators, battery, open circuit, plugs, mains, energy, short circuit N.C. Y4 PoS	**Key Vocabulary** Contact, objects, surfaces, poles, Newton's, force meter, magnetic force, materials, magnetic field, conduct N.C. Y3 PoS	**Key Vocabulary** Roots, transported, pollination, seed formation, seed dispersal, capillaries, reproduction, photosynthesis, energy N.C. Y3 PoS	**Key Vocabulary** Rotate, spherical, day , night, moon phases, seasons, solar system, planets, hemisphere, orbit, geocentric, heliocentric N.C. Y5 PoS	**Key Vocabulary** Vibrate, pitch, waves, muffle, low, high, thickness, tightness, source, volume, air vibrating N.C. Y4 PoS	**Key Vocabulary** Behave, change, reflection, UV light, travel, straight line, reflective, light source, natural, man-made, opaque, transparent, translucent N.C. Y3 PoS
Scientific Concepts		**Scientific Concepts**		**Scientific Concepts**	
Systems Energy Interactions		Systems Energy Interactions Life Cycles Diversity		Systems Energy Interactions	

Scientific Knowledge to be covered throughout the year				
Term	Working Scientifically	Biology	Chemistry	Physics
Autumn 1: Electricity	<u>Comparative and fair testing</u> • **Y3:** Know that an investigation includes simple, practical enquiries. • **Y3:** Know that measurements can be taken using a range of equipment. • **Y3:** Know that comparative tests can be carried out			• Identify common appliances that run on electricity. • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. • Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.

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	• **Y4:** Know that an experiment has variables • **Y4:** Know that experiments have to be fair **<u>Identifying and classifying</u>** • **Y3:** Know that identified criteria will determine how living and non-living things are classified. • **Y3:** Know that keys can be used when grouping, sorting and classifying. • **Y4:** Know that scientific ideas and processes determine how living and non- living things are classified and sorted using branching keys. **<u>Gathering and recording</u>** • **Y3:** Know that patterns can be naturally occurring. • **Y3:** Know that conclusions can be formed based on findings. • **Y3:** Know that a range of bar charts, tables and pictograms are used to show measurements. • **Y4:** Know that patterns can be identified in results.			• Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. • Recognise some common conductors and insulators, and associate metals with being good conductors.
Autumn 2: Forces & Magnets				• Compare how things move on different surfaces. • Notice that some forces need contact between two objects, but magnetic forces can act at a distance. • Observe how magnets attract or repel each other and attract some materials and not others. • Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. • Describe magnets as having two poles. • Predict whether two magnets will attract or repel each other, depending on which poles are facing.
Spring 1: Flowering Plants		• Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers. • Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. • Investigate the way in which water is transported within plants.		

	• **Y4:** Know that patterns can be identified through data collection.	• Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.		
Spring 2: Space				• *Describe the movement of the Earth relative to the Sun in the solar system.* • *Describe the movement of the Moon relative to the Earth.* • Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. • Describe the movement of the Moon relative to the Earth. • Describe the Sun, Earth and Moon as approximately spherical bodies. • Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.
Summer 1: Sound				• Identify how sounds are made, associating some of them with something vibrating. • Recognise that vibrations from sounds travel through a medium to the ear.
Summer 2: Light & Shadows				• Recognise that they need light in order to see things and that dark is the absence of light. • Notice that light is reflected from surfaces. • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.

				• Recognise that shadows are formed when the light from a light source is blocked by a solid object. • Find patterns in the way that the size of shadows change.