Science

	Big Idea: Comparison					
National Curriculum	Working Scientifically Identify and classify. Everyday materials Compare and group together a variety of everyday materials on the basis of their simple physical properties. Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.	Working Scientifically Identify and classify. Living things & their habitats Explore and compare the differences between things that are living, dead, and things that have never been alive.	Working Scientifically Identify differences, similarities and changes related to simple scientific ideas and processes. Forces & magnets Observe how magnets attract or repel each other and attract some other materials and not others. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.	Working Scientifically Identify differences, similarities and changes related to simple scientific ideas and processes. Electricity Identify common appliances that run on electricity.	Working Scientifically Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Living things & their habitats Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.	Living things & their habitats 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.

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	ASPECT: Physical Things					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Skills	Compare and group materials in a variety of ways, such as based on their physical properties; being natural or man-made and being recyclable or non-recyclable.	Compare and group things that are living, dead or have never been alive.	Investigate and compare a range of magnets (bar, horseshoe and floating) and explain that magnets have two poles (north and south) and that opposite poles attract each other, while like poles repel each other.	Compare common household equipment and appliances that are and are not powered by electricity.	Compare the life cycles of animals, including a mammal, an amphibian, an insect and a bird.	Compare the living things in two contrasting areas of a habitat (top vs bottom of a hill, full sun vs shade, exposed location vs sheltered location or well-trodden path vs unused area).
Knowledge	Materials can be grouped according to their properties.	Living things are those that are alive. Dead things are those that were once living but are no longer. Some things have never been alive.	Magnets have two poles (north and south). Opposite poles (north and south) attract each other, while like poles (north and north, or south and south) repel each other.	Electricity is a type of energy. It is used to power many everyday items, such as kettles, computers and televisions. Electricity can also come from batteries. Batteries eventually run out of power and need to be recycled or recharged. Batteries power devices that can be carried around, such as mobile phones and torches.	A life cycle is the series of changes in the life of a living thing and includes these basic stages: birth, growth, reproduction and death. Mammals' life cycles include the stages: embryo, baby, adolescent and adult. Amphibians' life cycles include the stages: egg, larva (tadpole), adolescent and adult. Some insects' (butterflies, beetles and bees) life cycles include the stages: egg, larva, pupa and adult. Birds' life cycles include the stages: egg, baby, adolescent and adult.	Environmental factors can affect the distribution of living things within a habitat. These factors include light (intensity and duration), weather, altitude, soil type and humans, such as when we mow or trample grass.
Topic / Coverage	Moon Zoom!	Beachcombers	Tremors– Stand alone science lesson	Blue Abyss (stand alone lesson leading up to making lighthouses)	Covered in weekly science lessons – animals (including humans)	Weekly science lessons - plants

Science

	ASPECT: Phenomena					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
National Curriculum	Seasonal changes Observe and describe weather associated with the seasons and how day length varies.	Working scientifically Observe closely, using simple equipment. Use their observations and ideas to suggest answers to questions.	Forces & magnets Compare how things move on different surfaces.	Working Scientifically Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Use straightforward scientific evidence to answer questions or to support their findings. Sound Recognise that sounds get fainter as the distance from the sound source increases.	Forces Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.	Electricity 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.

Science

Skills	Compare shadows made by different objects and materials.	Compare the volume and pitch of sounds made by instruments, their voices or other objects.	Compare how objects move over surfaces made from different materials.	Compare how the volume of a sound changes at different distances from the source.	Compare and describe, using a range of toys, models and natural objects, the effects of water resistance, air resistance and friction.	Compare and give reasons for variations in how components in electrical circuits function (brightness of lamps; volume of buzzers and function of on or off switches).
Knowledge	Shadows are normally the same shape as the object that cast them. Shadows change during the day as the Sun appears to change position in the sky. Shadows occur where light is blocked by an opaque object.	Volume is how loud or quiet a sound is. Pitch is how high or low a sound is.	Friction is a force between two surfaces as they move over each other. Friction slows down a moving object. Smooth surfaces usually generate less friction than rough surfaces.	Sounds are louder closer to the sound source and fainter as the distance from the sound source increases.	Friction, air resistance and water resistance are forces that oppose motion and slow down moving objects. These forces can be useful, such as bike brakes and parachutes, but sometimes we need to minimise their effects, such as streamlining boats and planes to move through water or air more easily, and using lubricants and ball bearings between two surfaces to reduce friction.	A circuit needs a power source, such as a battery or cell, with wires connected to both the positive and negative terminals. Other components include lamps, buzzers or motors, which an electric current passes through and affects a response, such as lighting a lamp or turning a motor. When a switch is open, it creates a gap and the current cannot travel around the circuit. When a switch is closed, it completes the circuit and allows a current to flow all the way around it.
Topic / Coverage	Moon Zoom	Tunnel, Turrets and Towers	Tremors– Stand alone science lesson for 'Forces & Magnets'.	Playlist	Weekly science lesson - forces	Weekly science lesson – electricity