LKS2 YEAR A	Autumn 1 & 2	Spring 1	Spring 2	Summer 1	Summer 2
	States of Matter **(Year 4)**	**Plants** **(Year 3)**	**Living Thing and Their Habitats** **(Year 4)**	**Electricity** **(Year 4)**	**Light** **(Year 3)**
Knowledge	Understand that materials can be compared and grouped, according to whether they are solids, liquids or gases. Understand that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). Understand the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	Understand the functions of different parts of flowering plants: roots; stem/trunk; leaves; and flowers. Understand 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. Understand the way in which water is transported within plants. Understand the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Recognise that living things can be grouped in a variety of ways. Understand that classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things.	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. 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,	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 an opaque object. Recognising patterns in the way that the size of shadows changes.

				and associate metals with being good conductors.	
Vocabulary	solid, liquid, gas, heating, cooling, state change, melting, freezing, melting point, boiling, boiling point, evaporation, condensation, temperature, water cycle	photosynthesis, pollen, insect/wind pollination, male, female, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal), air, nutrients, minerals, soil, absorb, transport	Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate	Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol	light, light source, Sun, sunlight, dangerous
Scientific Skills	Observe closely and classify a range of solids. Observe closely and classify a range of liquids. Explore making gases visible e.g. squeezing sponges under water to see bubbles, and showing their effect e.g. using straws to blow objects, trees moving in the wind.	Observe what happens to plants over time when the leaves or roots are removed. Observe the effect of putting cut white carnations or celery in coloured water. Investigate what happens to plants when they are put in different conditions e.g. in darkness, in the cold,	Observe plants and animals in different habitats throughout the year. Compare and contrast the living things observed. Use classification keys to name unknown living things. Classify living things found in different habitats based on their features.	Construct a range of circuits. Explore which materials can be used instead of wires to make a circuit. Classify the materials that were suitable/not suitable for wires. Explore how to connect a range of different switches	Explore how different objects are more or less visible in different levels of lighting. Explore how objects with different surfaces, e.g. shiny vs matt, are more or less visible. Explore how shadows vary as the distance between a light

	Classify materials according to whether they are solids, liquids and gases. Observe a range of materials melting e.g. ice, chocolate, butter. Investigate how to melt ice more quickly. Observe the changes when making rocky road cakes or ice-cream. Investigate the melting point of different materials e.g. ice, margarine, butter and chocolate. Explore freezing different liquids e.g. tomato ketchup, oil, shampoo. Use a thermometer to measure temperatures e.g. icy water (melting), tap water, hot water, boiling water (demonstration). Observe water evaporating and condensing e.g. on cups	deprived of air, different types of soil, different fertilisers, varying amount of space. Spot flowers, seeds, berries and fruits outside throughout the year. Observe flowers carefully to identify the pollen. Observe flowers being visited by pollinators e.g. bees and butterflies in the summer. Observe seeds being blown from the trees e.g. sycamore seeds. Research different types of seed dispersal. Classify seeds in a range of ways, including by how they are dispersed. Create a new species of flowering plant.	Create a simple identification key based on observable features. Use fieldwork to explore human impact on the local environment e.g. litter, tree planting. Use secondary sources to find out about how environments may naturally change. Use secondary sources to find out about human impact, both positive and negative, on environments.	and investigate how they function in different ways. Choose switches to add to circuits to solve particular problems, such as a pressure switch for a burglar alarm. Apply their knowledge of conductors and insulators to design and make different types of switch. Make circuits that can be controlled as part of a DT project.	source and an object or surface is changed. Explore shadows which are connected to and disconnected from the object e.g. shadows of clouds and children in the playground. Choose suitable materials to make shadow puppets. Create artwork using shadows.

	of icy water and hot water. Set up investigations to explore changing the rate of evaporation e.g. washing, puddles, handprints on paper towels, liquids in containers. Use secondary sources to find out about the water cycle.				

LKS2 YEAR B	Autumn 1 & 2	Spring 1	Spring 2	Summer 1	Summer 2
	Animals including humans (Year 3)	**Sound (Year 4)**	**Forces and magnets (Year 3)**	**Animals including humans (Year 4)**	**Living things and their habitats (Year 4)**
Knowledge	Understand that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food – they get nutrition from what they eat. Understand that humans and some other animals have skeletons and muscles for support, protection and movement.	Understand how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Understand the patterns between the pitch of a sound and features of the object that produced it. Understand the patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases.	Understand how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Understand how magnets attract or repel each other and attract some materials and not others. Understand a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. Recognise magnets as having two poles. Recognise through predictions whether two magnets will attract or repel	Recognise the simple functions of the basic parts of the digestive system in humans. Understand the different types of teeth in humans and their simple functions. Understand and interpret a variety of food chains, identifying producers, predators and prey.	Recognise that living things can be grouped in a variety of ways. Understand that classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things.

			each other, depending on which poles are facing.		
Vocabulary	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine	Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation	Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole	Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain	Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate
Scientific Skills	Classify food in a range of ways. Use food labels to explore the nutritional content of a range of food items. Use secondary sources to find out the types of food that contain the different nutrients. Use food labels to answer enquiry questions e.g. How much fat do different types of pizza contain? How	Classify sound sources. Explore making sounds with a range of objects, such as musical instruments and other household objects. Explore how string telephones or ear gongs work. Explore altering the pitch or volume of objects, such as the length of a guitar string, amount of water in bottles, size of tuning forks.	Carry out investigations to explore how objects move on different surfaces e.g. spinning tops/coins, rolling balls/cars, clockwork toys, soles of shoes etc. Explore what materials are attracted to a magnet. Classify materials according to whether they are magnetic. Explore the way that magnets behave in relation to each other.	Research the function of the parts of the digestive system. Create a model of the digestive system using household objects. Explore eating different types of food to identify which teeth are being used for cutting, tearing and grinding (chewing). Classify animals as herbivores, carnivores or omnivores according to the type of teeth they have in their skulls.	Observe plants and animals in different habitats throughout the year. Compare and contrast the living things observed. Use classification keys to name unknown living things. Classify living things found in different habitats based on their features.

	much sugar is in soft drinks? Plan a daily diet to contain a good balance of nutrients. Explore the nutrients contained in fast food. Use secondary sources to research the parts and functions of the skeleton. Investigate patterns asking questions such as: Can people with longer legs run faster? Can people with bigger hands catch a ball better? Compare, contrast and classify skeletons of different animals	Measure sounds over different distances. Measure sounds through different insulation materials.	Use a marked magnet to find the unmarked poles on other types of magnets. Explore how magnets work at a distance e.g. through the table, in water, jumping paper clips up off the table. Devise an investigation to test the strength of magnets.	Use food chains to identify producers, predators and prey within a habitat. Use secondary sources to identify animals in a habitat and find out what they eat.	Create a simple identification key based on observable features. Use fieldwork to explore human impact on the local environment e.g. litter, tree planting. Use secondary sources to find out about how environments may naturally change. Use secondary sources to find out about human impact, both positive and negative, on environments.