

Teach a child in the way they should go and when they are old, they will not depart from it! Proverbs 22:6

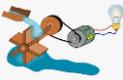


Lacock C of E Primary School Knowledge Progression



	EYFS	KS1	Lower KS2	Upper KS2	
Seasonal Change, Earth and Space 	Identify the different signs of the seasons Understand the effects of the changing seasons on the natural world around them	Identify the four seasons and describe what happens. Describe the weather associated with each season and the length of the day. Gather evidence to describe some features of their surroundings, themselves, animals, and plants that change over seasons. Identify seasonal change Describe and collect weather data Go on seasonal walks and learn about local trees, plants. Describe the length of the day and how it changes	Discover habitat changes during the year Search for patterns in the size of shadows throughout the day and explain how and why they change.	Explain day and night. Explain it in different parts of the earth. Explain the movement of the moon. Understand that the Sun, Earth and Moon are spherical and the scientific evidence for that. Name order and describe the features of the planets in the solar system. Explain how planets move in our solar system.	
	Animals and Humans 	Explore and learn about the natural world around them.	Identify and name a range of animals	Construct food chains - prey, predator, producers.	Identify and name the parts of the human circulatory system.
		Know that some animals are nocturnal	Sort animals by different features.	Group living thing	Describe the main functions of the circulatory system.
		Know about lifecycles of animals	Label animal body parts	Explain how animals get nutrition from what they eat and what they need.	Explain how water and nutrients are transported.
		Know the difference between a carnivore and a herbivore	Name specific animals that are mammals birds, reptiles, amphibians and fish.	Build and label a human body and digestive system model.	Describe how diet and exercise impact on bodies.
Know the key features of the lifecycle of an animal.	Classify animals according to what they eat.	Label the bones in the skeleton and explore what a body would be like without bones.	Impact of drug and alcohol on the body.		
Know why we need to respect and care for the natural environment and living things.	Know that some animals eat other animals, some eat plants and some eat both. Describe how animals and humans have offspring. Describe basic needs of animals and humans need for survival. Importance of exercise, diet and hygiene for humans. Life cycles of humans and animals. Identify different parts of the human body. Name/label different body parts. Identify the 5 senses and link to different body parts. Compare and measure various body parts (hands, feet, eyes, hair etc)	Identify different human teeth and consider their uses. Compare to animal teeth. Explain the differences between healthy and unhealthy food and plan a healthy lunchbox. Explain how muscles help us move and support and protect internal organs.	Describe stages of human development. Explain how babies grow and develop in their first year. Describe and explain the main changes that occur during puberty. Identify the changes that take place in old age. Gestation periods for animals. Record and complex data on life expectancy. Describe different life cycles in different mammals. Compare lifecycles of amphibians and insects. Compare lifecycles of plants/mammals/amphibians/insects and birds. Explain scientific concept of inheritance. Understand scientific meaning of adaptation. Identify key ideas for the theory of evolution. Identify evidence for fossil records. Understand of human beings evolved. Explain adaptation can result in advantages and disadvantages. Explain how human intervention affects evolution. Give reasons for classifying animals based on similarities and differences. Describe how living things are classified into groups. Identify main characteristics of animals. Describe and investigate microorganisms. Identify the characteristics of different types of microorganisms		

Plants 	To know about seeds and care for growing plants.	Grow seeds and bulbs.	Label the parts of a flower (stem, trunk, leaves, roots)	Describe how plants reproduce.
	To know about changes in plants as they grow and talk about them.	Observe and gather data of plants growing over time.	Explain what the life requirements for a plant are (air, water, nutrients from the soil and room to grow).	Describe lifecycle on plants.
	Know about the key features of the the lifecycle of a plant.	Determine what plants need in order to grow.	Explain the lifecycle of a plant from pollination, seed formation, seed dispersal.	
	To know how to harvest grown fruit and veg.	Plant garden vegetables in outdoor area to observe over time.	Understand the part bees play in pollination.	
		Identify and name at least 5 wild and garden plants and evergreen and deciduous trees.	Explore how plants need light and water to grow. Investigate water transportation within plants.	
	Describe changes in deciduous trees.	Classify and name flowers and group according to flowering and non flowering using identification charts.		
	Label the parts of a plant (roots, stem, leaves, flower)			
	Make close observations of plants and monitor changes over time.			
Living Things and Habitats 	Know about key physical features of the local area - river, soil, hill	Sort objects including animals that are living, dead or have never been alive.	Group living things in a variety of ways.	Classify organisms found in their local habitat.
	Know about different habitats.	Animal habitats - describe animal features that are suited to their habitat	Consider changing environments and the threat to living things.	
		Plant habitats - describe why a plant suits a particular habitat.	Discover habitat changes during the year	
		Create simple food chains for familiar animals.		
	Microhabitats - study these within outdoor learning area.			
Materials, States of matter and Rocks and soils 	Know how to explore natural materials with all their senses.	Differentiate between objects and materials.	Sort materials according to state - solid, liquid or gas.	Compare materials according to their properties.
	Know that collections of materials can have similar or different properties to each other.	Describe materials by their properties. Look at wood, plastic, glass metal, water and rock.	Describe solids and not changing shape.	Investigate thermal conductors and insulators.
	To know about differences between materials and changes they notice.	Classify objects by material type or property.	Describe liquids as pours, fills and stays level.	Investigate which electrical conductors make a bulb shine brightest.
	To know some techniques about joining materials.	Test materials for various properties.	Understand that gases disperse to fill all space and has no fixed shape.	Investigate which materials will dissolve.
	To know about similarities between some materials.	Uses of everyday materials	Describe melting as the process of heat from solid to liquid.	Use different processes to separate mixtures of materials
	Know that materials can change state.	Identify materials in objects and make a link to its everyday use and properties of that material.	Describe freezing as liquid changins to solid and know that freezing point is 0°C.	Identify and explain irreversable chemical changes.
		Material properties also look at brick, paper and cardboard.	Explain that boiling point is 100°C.	
		Test materials for properties.	Explain that the rate of evaporation accelerates with temperature.	
		Know that materials can change state.	Understand that condensation is the state of gas returning to liquid caused by colder temperature.	
			Explain the water cycle in full and know that water evaporates into gas, which cools and condenses into clouds until they get too heavy and fall as snow/rain to refill rivers. Research temperatures associated with this.	
		Compare and group rocks by appearance and properties.		
		Describe uses of different rocks. Sandstone/Limestone and slate.		
		Recognise that soils are made from rocks and organic matter.		
		Explore the water retention of different soils.		
		Test the hardness of different rocks.		
		Discover changes to soil and rock over time.		
		Investigate erosion and understand that rock changes over time.		
		Search and identify fossils and rocks.		
Forces and magnets 		Identification of magnetic materials	Identify forces acting on objects.	
		Observe whether two magnets repel or attract and discover why.	Explore the effect of gravity on objects and how it was discovered.	
		Explore why magnetic forces act at a distance.	Effects of air resistance.	
		Group materials based on magnetism.	Effects of water resistance.	
		Describe two poles. Explore how objects move on different surfaces linked to friction.	Effects of friction.	
	Research Gravity.	Expore and design mechanisms.		

<p>Electricity</p> 			<p>Identify common appliances that use electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>Label components in a circuit</p> <p>Recognise that a switch open and closes a circuit.</p> <p>Identify successful and unsuccessful circuits and explain why a circuit is unsuccessful.</p> <p>Recognise and name common metal conductors - incorporate these into a circuit.</p> <p>Describe and understand common conductors and insulators.</p> <p>Investigate and explore alternatives to using wires to make a simple circuit.</p> <p>Make a simple electrical game.</p>	<p>Explain the importance of major discoveries in electricity.</p> <p>Observe and explain the effects of differing volts in a circuit.</p> <p>Recognise symbols in a circuit.</p> <p>Plan an electricity investigation - building on and developing findings.</p> <p>Investigate which electrical conductors make a bulb shine brightest.</p>
<p>Light and Sound</p> 			<p>To explain that light is needed for vision and safety.</p> <p>To know that shadows are formed when a light source is blocked by an opaque object.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object.</p> <p>Search for patterns in the size of shadows throughout the day and explain how and why they change.</p> <p>Explore the reflection of light on different surfaces and search for patterns of visibility.</p> <p>Use the vocabulary relating to light - transparency, opaque, translucent relating to different materials.</p> <p>To know that looking directly at the sun is dangerous and understand the need to protect their skin</p> <p>Identify sound sources and classify according to producer.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Explain why sounds get fainter as the distance from the sound source increases.</p> <p>Discuss and find patterns between the volume of sound and the strength of the vibrations that produced it.</p> <p>Explore and investigate sound insulators.</p>	<p>Explain that light travels in straight lines and this is how we see.</p> <p>Understand how mirrors reflect light.</p> <p>Investigate refraction.</p> <p>Investigate how prisms change the ray of light.</p> <p>Investigate how light enables us to see colour.</p> <p>Shadows.</p>
<p>Scientists and Inventors</p> 			<p>Mary Anning</p> <p>Isaac Newton</p>	<p>Stephen Hawking</p> <p>Lubbock Hyman</p> <p>Alexander Fleming</p> <p>Mary Leakey</p> <p>Steve Jobs</p> <p>David Attenborough</p> <p>Margaret Hamilton</p> <p>Eva Crane</p> <p>Jane Goodall</p> <p>Scientific discovery for CSI work</p> <p>DNA</p>