

EYFS

Communication and language

- Communicate awareness of the world around them (e.g. seasonal changes)
- Listen attentively and respond to discussions
- Learn new vocabulary and use throughout the day

Personal, Social, Emotional Development

- Understand importance of personal hygiene (e.g. brushing teeth)
- Understand the importance of healthy food choices

Physical Development

- Be aware of the 5 senses
- Understand main body parts
- Be aware of how the body is moving

Literacy

- Practice writing scientific terms
- Write sentences based on the world around them

Mathematics

- Talk about the shapes of objects
- Count the number of animals, plants etc.
- Estimate the number of animals, plants etc.
- Spot patterns in the environment around them

Understanding the World

- Explore the natural world around them, making observations and drawing pictures of animals and plants
- Describe what they see, hear and feel whilst outside
- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Expressive Arts and Design

- Become familiar with a range of materials
- Use a variety of materials
- Tell stories based on the world around them
- Sing a range of well-known nursery rhymes and songs; perform songs, rhymes, poems and stories with others, and – when appropriate – try to move in time with music.

Animals, including humans						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge progression	Humans	<ul style="list-style-type: none"> • Understand that animals, including humans, have offspring • Understand that offspring grow into adults (e.g. egg-chick – chicken; spawn – tadpole – frog; baby – toddler – child – teenager – adult) • Describe the basic needs of animals (including humans) for survival (water, food, air) 		<ul style="list-style-type: none"> • Describe the functions of the human skeleton, including support, protection, and movement. • Compare and contrast the skeletal systems of different animals, including endoskeletons and exoskeletons. • Explain the importance of a balanced diet and 	<ul style="list-style-type: none"> • Describe the changes as humans develop to old age • Name the stages of the human life cycle; infancy, childhood, adolescence, adulthood, and old age. • Describe the gestation period of different mammals • Explain the changes that take place to the body during puberty 	<ul style="list-style-type: none"> • Identify the main parts of the circulatory system • Describe the functions of the heart, blood vessels and blood • Recognise the impact of diet, exercise, drugs and lifestyle have on the body and its function • Describe the ways in which nutrients and water are transported within animals
	<ul style="list-style-type: none"> • Identify, name, draw and label basic parts of human body • Associate parts of the body with each sense 					

	<ul style="list-style-type: none"> Identify and name common animals that are carnivores, herbivores and omnivores Describe and compare the structure of a variety of common animals - fish, amphibians, reptiles, birds, and mammals. 	<ul style="list-style-type: none"> Describe the importance of exercise, a balanced diet and hygiene to stay healthy 		<p>understanding the functions of what they eat – proteins for growth and repair, carbohydrates for energy, etc.</p> <ul style="list-style-type: none"> Describe the simple functions of the basic parts of the digestive system in humans Identify different types of teeth in humans Understand the function of the different types of teeth Construct and interpret food chains, identifying producers, predators and prey 		
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Earth and space						
Knowledge progression	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						<ul style="list-style-type: none"> Identify the Sun as a Star: Pupils should understand that the Sun is a typical star at the centre of our solar system and recognise its central role in providing the conditions needed for life on Earth. Order of Planets: Pupils ought to be able to name the planets in the solar system and describe their positions relative to the Sun and each other. Orbits of Planets and Moons: Year 5 pupils need to know that the Earth, and other planets, orbit the Sun, and that the Moon orbits the Earth. They should understand how these movements relate to days, years, and lunar months. Rotation and Revolution: Define and distinguish between the Earth's rotation on its axis and its revolution around the Sun, explaining

					<p>how these movements lead to day and night and the changing seasons.</p> <ul style="list-style-type: none"> • Tilt of the Earth: Pupils should be able to describe the tilt of the Earth’s axis and relate this tilt to seasonal variations in the United Kingdom and across the world. • Phases of the Moon: Pupils must recognise the different phases of the Moon and understand the pattern of these phases. • Star Constellations: They should gain knowledge of a number of star constellations and the stories or myths associated with them 	
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Knowledge progression	Electricity					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<ul style="list-style-type: none"> • Identify common appliances that run on electricity • Identify and name its basic parts, including cells, wires, bulbs, switches and buzzers • Construct simple series electrical circuits 	<ul style="list-style-type: none"> • 		<ul style="list-style-type: none"> • 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

			<ul style="list-style-type: none"> Identify whether or not a lamp will light in 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 a lamp lights in a simple circuit Recognise some common conductors and insulators, and associate metals with being good conductors 			<p>of bulbs, the loudness of buzzers and the on/off position</p> <ul style="list-style-type: none"> Use recognised symbols when representing a simple circuit in a diagram
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Evolution and inheritance						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge progression						<ul style="list-style-type: none"> 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 Understand that normally offspring vary and are not identical to their parents Identify how animals and plants are adapted to suit their environment in different ways Understand that adaptation may lead to evolution

Forces and magnets						
Knowledge	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Knowledge progression			<ul style="list-style-type: none"> To understand that forces can be a push or a pull Notice that some forces need contact between 2 objects Notice how 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 2 poles Predict whether 2 magnets will attract or repel each other, depending on which poles are facing 		<ul style="list-style-type: none"> Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. The force on an object in units called newtons (N). Explain how gravity is responsible for keeping the planets in orbit around the Sun Identify the effects of air resistance, water resistance and friction that act between moving surfaces. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. 	
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Light						
Knowledge progression	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<ul style="list-style-type: none"> Recognise that light is needed in order to see things Light travels in straight lines Understand that dark is the absence of light Notice that light is reflected from surfaces Recognise that light from the sun can be dangerous and protection is needed to protect eyes Recognise that shadows are formed when light from a light source is blocked by an opaque object Find patterns in the way that the size of shadows change 			<ul style="list-style-type: none"> Recognise that light appears to travel in straight lines Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them

Living Things and Their Habitats						
Knowl edge	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

	<ul style="list-style-type: none"> • Explore and compare the differences between things that are living, dead, and things that have never been alive • Describe how animals obtain their food from plants and other animals • (Term 4 – Animals) Pupils should understand how animals and plants are suited to and may adapt to their environment in different ways. • Identify that most living things live in habitats to which they are suited • Describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other • Identify and name a variety of plants and animals in their habitats, including microhabitats • Use simple food chains to identify and name different sources of food 	<ul style="list-style-type: none"> • Recognise that living things can be grouped in a variety of ways • Explore and use 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. 		<ul style="list-style-type: none"> • 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 • Pupils should be able to list and describe the seven life processes of living organisms (movement, respiration, sensitivity, growth, reproduction, excretion, and nutrition) and recognise that these define living things (MRS GREN). • Ability to describe how changes to an environment (human and natural) could endanger living things. 	<ul style="list-style-type: none"> • 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 • Give reasons for classifying plants and animals based on specific characteristics
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Materials (including states of matter)							
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Knowledge progression	<p>Distinguish between an object and the material from which it is made:</p> <ul style="list-style-type: none"> Pupils should be able to identify the distinction between an object (e.g., cup, plate) and the material from which it is made (e.g., plastic, ceramic). <p>Identify and name a variety of everyday materials:</p> <ul style="list-style-type: none"> Pupils should be able to correctly name everyday materials such as wood, plastic, glass, metal, water, paper, and rock. <p>Describe the simple physical properties of everyday materials:</p> <ul style="list-style-type: none"> Pupils should be able to describe materials based on observable properties such as hard, soft, stretchy, waterproof, transparent, opaque, and absorbent. <p>Compare and group materials based on their properties:</p> <ul style="list-style-type: none"> Pupils should have the ability to sort and group materials on the basis of characteristics such as hardness, absorbency, and flexibility. They should be able to give reasons for their groupings using appropriate vocabulary. 	<ul style="list-style-type: none"> Identify and compare the suitability of variety of everyday materials (inc. wood, metal, plastic, glass, brick, rock, paper and cardboard) for particular uses Pupils should be able to describe the simple physical properties of a variety of everyday materials. Understand the difference between natural and man-made material and identify examples of each. They should observe and explore how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching 			<ul style="list-style-type: none"> Pupils should be able to identify, classify and describe the characteristics of the three states of matter: solid, liquid, and gas. Pupils should understand and be able to explain processes through which materials change state, such as melting, freezing, condensation, and evaporation and the importance of temperature as a key factor Pupils must learn the basic elements of the water cycle, including evaporation and condensation. Pupils should be able to compare and group materials based on their states and properties, such as their ability to flow or maintain a shape. Understand that some materials can change state when they are mixed with other materials or when other forces or reactions act upon them. 	<ul style="list-style-type: none"> Know that some materials will dissolve in liquids to form a solution Describe how to recover a substance from a solution Use knowledge of solids, liquids and gases (Y4) to decide how mixtures might be separated, including through: filtering, sieving and evaporating Give reasons based on evidence for the uses of everyday materials 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 	<p>Recap key knowledge from Year 5</p> <p>Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</p>

Identify the most suitable materials for specific purposes:					
	<p>Pupils should be able to suggest what materials might be best for particular objects based on their properties, such as glass for windows due to its transparency or metal for coins because of its durability.</p>				

Plants						
Knowledge progression	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge progression	<ul style="list-style-type: none"> • Pupils should be able to identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. • Pupils should be able to identify and describe the basic structure of a variety of common flowering plants, including trees. Key terminology includes petals, stems, leaves, roots, bulb, trunk, branches, and twigs. • Pupils should understand that plants need light and water to grow, and that they also require a suitable temperature. • Pupils should be able to observe and describe how seeds and bulbs grow into mature plants • Pupils should learn how to take care of plants by 	<ul style="list-style-type: none"> • Pupils should be able to identify and describe the basic structure of a variety of common flowering plants, including trees. • Pupils should understand that plants need light and water to grow and stay healthy. • Pupils should be able to observe and describe how seeds and bulbs grow into mature plants. • Children should appreciate how plants need space to grow and how they can be affected by the environment and other living things. • Pupils should recognise and describe the life cycle of flowering plants from seed to full growth. • Learners should understand the process of pollination, seed formation, and seed dispersal. 	<ul style="list-style-type: none"> • Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, 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 • To know the way in which water is transported within plants • Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal • Pupils should recognise and describe how plants need light, air, water, and a suitable temperature to grow optimally, and they should be able to identify and investigate the effects of varying these conditions 			

Knowledge progression	<p>ensuring they receive the right amounts of water, light, and a suitable temperature.</p> <ul style="list-style-type: none"> • Pupils should observe and describe how day length varies and be able to relate these changes to how plants grow across the seasons. • Pupils should be able to sort and classify plants, including trees, according to simple characteristics. • 					

Rocks						
Knowledge progression	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<ul style="list-style-type: none"> • Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • They should confidently identify sedimentary, igneous, and metamorphic rocks using various characteristics, such as grain size, texture, or patterns and including how they are formed. • Describe in simple terms how fossils are formed when things that have lived are trapped within rock • Recognise that soils are made from rocks and organic matter 			

Seasons and weather						
Knowledge progression	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Knowledge progression	<p>To be taught across the year as 'seasons' change.</p> <ul style="list-style-type: none"> • Understand changes across the four seasons (summer, autumn, winter, spring) • Observe and describe weather associated with seasons • Observe and describe how day length varies with seasons • How seasonal changes affect animals e.g., availability of food, hibernation, migration (link this specific point as part of the Animals, including humans topic) 					
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Sound						
Knowledge progression	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				<ul style="list-style-type: none"> • Pupils should comprehend that sounds are made when objects vibrate and that these vibrations travel through a medium to the ear. • They must be able to explain that when an object vibrates, it causes the air around it to vibrate as well, and these air vibrations enter our ears allowing us to perceive sound. • Recognise that vibrations from sounds travel through a variety of materials and mediums to the ear • Pupils should learn the basic structure of the human ear and have a rudimentary understanding of how the ear works to convert vibrations 		

				<p>into electrical signals that the brain interprets as sound</p> <ul style="list-style-type: none">• They should be able to describe in simple terms, how the ear's different parts (outer ear, ear canal, eardrum and inner ear) contribute to the process of hearing• Find patterns between the pitch of a sound and features of the object that produced it• Find 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		
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