

Science Overview

	Autumn		Spring		Summer
	Marvellous Me	Let there be light	People who help us	Castles and kings	All creatures great and small
SCIENCE Reception/y1 Cycle 1	<p><u>Autumn 1</u></p> <p>+ <u>Seasonal Changes</u></p> <p>Observe and describe the changes across the 4 seasons and associated weather.</p> <p>Explore how the seasons affect local organisms, e.g. what happens to flowers, trees and grass, or what happens to squirrels, rabbits and woodlice or the fish in the pond. They could begin to relate the temperature changes through the year to how well plants grow or why some animals hibernate in winter.</p>		<p><u>Spring 1</u></p> <p><u>Biology - Growing Plants</u></p> <p>Identify and describe the basic structure of a variety of common flowering plants including trees.</p> <p>Identify and name a variety of common wild and garden plants (deciduous and evergreen)</p>		<p><u>Summer 1</u></p> <p><u>Biology - Animals including Humans</u></p> <p>Describe and compare the structure of a variety of different animals</p> <p>Identify, name, draw and label basic parts of the body and associated with each sense.</p> <p>Identify and name a variety of common animals and classify as carnivores, herbivores and omnivores.</p>
	<p><u>Autumn 2</u></p> <p><u>Everyday Materials</u></p> <p>Distinguish between an object and the material it is made from. Compare and group together a variety of everyday materials based on properties.</p>		<p><u>Spring 2</u></p> <p>+ <u>Seasonal Changes</u></p> <p>Observe and describe the changes across the 4 seasons and associated weather.</p>		<p><u>Summer 2</u></p> <p>+ <u>Seasonal Changes</u></p> <p>Observe and describe the changes across the 4 seasons and associated weather.</p>

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		Autumn	Spring	Summer
		Journeys	Explorers pirates/space	Oh we do like to be beside the seaside
SCIENCE	Reception/Y1	<p><u>Autumn 1</u></p> <p><u>Physics - Pushes and Pulls</u></p> <p>Compare how things move on different surfaces.</p> <p>Provide children with a variety of experiences with moving objects, such as toys - inside and outside - balls and hoops in PE.</p> <p><u>Autumn 2</u></p> <p>+ <u>Seasonal Changes</u></p> <p>Observe and describe the changes across the 4 seasons and associated weather</p>	<p><u>Spring 1</u></p> <p><u>Chemistry - Everyday Materials</u></p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Identify and name everyday materials such as wood, plastic, glass, metal, water and rock.</p> <p><u>Spring 2</u></p> <p>+ <u>Seasonal Changes</u></p> <p>Observe and describe the changes across the 4 seasons and associated weather.</p> <p>Study a variety of plants and animals within their habitat and observe how living things depend on each other.</p> <p>Identify the local wildlife, so identification charts that contain the local wildlife will need to be constructed.</p>	<p><u>Summer 1</u></p> <p><u>Animals including humans</u></p> <p>Describe the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans.</p> <p>Study the process of reproduction and growth in animals: egg, caterpillar, pupa, butterfly; spawn, tadpole, frog.</p> <p>Growing into adults can include reference to baby, toddler, child, teenager and adult.</p> <p>+ <u>Seasonal Changes</u></p> <p>Observe and describe the changes across the 4 seasons and associated weather.</p>
		Cycle 2		

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SCIENCE Year 1/2 Cycle 1	Autumn	Spring	Summer
	Let there be light	Buildings and Homes	Amazing Animals
	<p>Autumn 1</p> <p>Biology - Health and Growth</p> <p>Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Identify, name, draw and label basic parts of the body and associated with each sense.</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p>Notice that animals, including humans, have offspring which grow into adults</p> <p>Autumn 2</p> <p>+ Seasonal Changes</p> <p>Observe and describe the changes across the 4 seasons and associated weather.</p> <p>Study a variety of plants and animals within their habitat and observe how living things depend on each other.</p> <p>Identify the local wildlife, so identification charts that contain the local wildlife will need to be constructed.</p>	<p>Spring 1</p> <p>Chemistry - Sorting and using materials</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Distinguish between an object and the material it is made from. Compare and group together a variety of everyday materials based on properties.</p> <p>Identify and name everyday materials such as wood, plastic, glass, metal, water and rock.</p> <p>Spring 2</p> <p>Plants</p> <p>Observe and describe how seeds and bulbs grow into mature plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p>Identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>+ Seasonal Changes</p> <p>Observe and describe the changes across the 4 seasons and associated weather.</p>	<p>Summer 1</p> <p>Biology - Animals</p> <p>Describe and compare the structure of a variety of different animals</p> <p>Identify and name a variety of common animals and classify as carnivores, herbivores and omnivores.</p> <p>Compare how different animals move in different ways to help them survive</p> <p>Explore how exercise keeps animals' bodies in good condition and increases survival chances</p> <p>Summer 2</p> <p>Animal senses</p> <p>Use names for the main parts of their body, including sense organs.</p> <p>Explore how senses aid survival</p> <p>Explore how we hear with our ears and how we can make different sounds, and that these sounds can be described using terms high and low, loud and quiet.</p> <p>+ Seasonal Changes</p> <p>Observe and describe the changes across the 4 seasons and associated weather.</p>

Science Overview

		Autumn	Spring	Summer
		Transport	Aliens and Outer Space	Oh we do like to be beside the seaside
SCIENCE Year 1/2 Cycle 2	<u>Autumn 1</u> <u>Use of everyday materials</u> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching Compare how things move on different surfaces.	<u>Spring 1</u> <u>Chemistry - grouping and changing materials</u> Find out how the shape of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Identify and compare the suitability of a variety of everyday materials including wood metal, plastic, glass, brick, rock, paper and cardboard for different uses	<u>Summer 1</u> <u>Biology - Animals</u> Describe and compare the structure of a variety of different animals Identify, name, draw and label basic parts of the body and associated with each sense. Identify and name a variety of common animals and classify as carnivores, herbivores and omnivores.	
	<u>Autumn 2</u> <u>+ Seasonal Changes</u> Observe and describe the changes across the 4 seasons and associated weather. Explore how the seasons affect local organisms, e.g. what happens to flowers, trees and grass, or what happens to squirrels, rabbits and woodlice or the fish in the pond. They could begin to relate the temperature changes through the year to how well plants grow or why some animals hibernate in winter.	<u>Spring 2</u> <u>Physics - Pushes and Pulls</u> Compare how things move on different surfaces. Provide children with a variety of experiences with moving objects, such as toys - inside and outside - balls and hoops in PE <u>+ Seasonal Changes</u> Observe and describe the changes across the 4 seasons and associated weather.	<u>Summer 2</u> <u>Biology - Living things and their habitats</u> 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, using the idea of a simple food chain, and identify and name different sources of food. Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other <u>+ Seasonal Changes</u> Observe and describe the changes across the 4 seasons and associated weather.	

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		Autumn	Spring	Summer
		Superheroes	Time-travellers	Hidden treasure
SCIENCE Year 3/4 Cycle 1	<u>Autumn 1</u> Physics - Forces and Magnets Y3 Notice that some forces need contact between 2 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 2 poles Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.	<u>Spring 1</u> Solids Liquids, gases and state changes. Y4 Compare and group materials together, according to whether they are solids, liquids or gases. Observe that some materials change state when heated or cooled and measure or research the temperatures at which this happens in degrees Celsius. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	<u>Summer 1</u> Physics - light and shadows Y3 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. 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	
	<u>Autumn 2</u> Chemistry - Rocks and Soils Y3 Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties 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.	<u>Spring 2</u> Biology: Digestion Describe the digestive system - mouth, tongue, teeth, oesophagus, stomach and intestine Investigate how blood carries everything the body needs to where it is needed, so food needs to be broken into small enough pieces to get into the blood from the intestines. Explore questions that help them to understand their special functions. Identify the lifestyles of extinct animals and consider how carnivores and herbivores are adapted to what they eat.	<u>Summer 2</u> Circuits and conductors Y4 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, and associate metals with being good conductors.	

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		Autumn	Spring	Summer
		Rainforest	All About Africa	Being British
SCIENCE Year 3/4 Cycle 2	<u>Autumn 1</u> Biology - teeth and eating Y3 Identify 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 Identify the different types of teeth in humans and their simple functions Construct and interpret a variety of food chains identifying producers, predators and prey.	<u>Spring 1</u> Biology - helping plants grow well/ Y3 Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal 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 Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers Investigate the way in which water is transported within plants	<u>Summer 1:</u> <u>+ Sound</u> Y4 Identify how sounds are made, associating some of them with something vibrating Recognise that vibrations from sounds travel through a medium to the ear 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	
	<u>Autumn 2</u> Animal Skeletons and movement. Y4 Identify that humans and some other animals have skeletons and muscles for support, protection and movement. Explore how animals are adapted to eat different things.	<u>Spring 2</u> <u>Habitats</u> Y4 Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment Recognise that living things can be grouped in a variety of ways Construct and interpret a variety of food chains, identifying producers, predators and prey Recognise that environments can change and that this can sometimes pose dangers to living things.	<u>Summer 2:</u> <u>Variation and Evolution</u> Investigate how the organisms within a habitat change with the seasons. Explore human induced environmental change and the effects of short-term changes like drought or long periods of cold. Compare the effects of growing under glass or poly tunnels. Identify and begin to classify vertebrate animals into groups, such as fish, amphibians, reptiles, birds and mammals; and invertebrates into snails and slugs, worms, spiders and insects.	

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		Autumn	Spring	Summer
		Living in a Global Village	Imagine That!	Who do you think you are? 1
S C I E N C E Y e a r 5 / 6 C y c l e 1	<u>Autumn 1</u> <u>Biology- Life Cycle</u> Y5 Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life processes of reproduction in some plants and animals. <u>Autumn 2</u> <u>Interdependence and adaptation</u> Y6 Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution 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, but normally offspring vary and are not identical to their parents	<u>Spring 1</u> <u>Physics - Forces</u> Y5 Explain that unsupported objects fall towards the earth because of the force of gravity acting between the earth and the falling object. 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. <u>Spring 2</u> SATS	<u>Summer 1</u> <u>Biology - Living things and their habitats</u> Y6 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. <u>Summer 2</u> <u>How we see things</u> Y6 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. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. 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.	

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		Autumn	Spring	Summer
		Incredible India	Who were the Ancient Greeks	Who do you think you are? 2
SCIENCE Year 5/6	Cycle 2	<p><u>Autumn 1</u></p> <p><u>Physics - Earth, Sun and moon</u></p> <p>Y5 Describe the sun, earth and moon as approximately spherical bodies</p> <p>Use the idea of the earth's rotation to explain the apparent movement of the sun across the sky.</p> <p>Use the idea of the earth's rotation to explain day and night.</p> <p>Describe the movement of the moon relative to the earth.</p> <p>Describe the movement of the earth, and other planets, relative to the sun in the solar system.</p> <p><u>Autumn 2</u></p> <p><u>Animals including Humans</u></p> <p>Y5 Describe the changes as humans develop to old age.</p> <p>Y6 Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p>	<p><u>Spring 1</u></p> <p><u>Physics - Changing Circuits</u></p> <p>Y6 Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>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.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p> <p><u>Spring 2</u></p> <p><u>SATS</u></p>	<p><u>Summer 1</u></p> <p><u>Chemistry - Changing state</u></p> <p>Y5 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. Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a Solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood, and plastics. 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, including changes associated with burning and the action of acid on bicarbonate of soda.</p> <p><u>Summer 2</u></p> <p><u>Sound</u> Identify the way sound is made through vibration in a range of different musical instruments from around the world; and find out how the pitch and volume of sounds can be changed. explore how the pitch and volume of simple instruments and objects changes and relate this to vibrations explore the ways in which sound is transmitted as vibrations, e.g. using string telephones explore how sound can be blocked by using materials that absorb, e.g. ear muffs and soundproofing walls Explore how to make louder and softer and higher and lower sounds. Investigate how the loudness of a sound varies with distance from the source.</p>