

Science Curriculum 2025/26 – Years 5 & 6

	Autumn 1	Autumn 2
Topic	<p>Evolution and inheritance</p> <p>Children will explore the concept of species as a set of distinct individuals. They will learn how offspring inherit different characteristics from both of their parents, causing variation. Children will learn about the theory of evolution and natural selection, that species adapt in response to environmental conditions in order to survive, and as a result, living things have changed over millions of years. Children will understand that we are continuing to learn about what life was like in the past due to the work of scientists and also from fossils.</p>	<p>Electricity</p> <p>Children will learn to recognise and use symbols to draw a simple circuit as a diagram. They will learn that components function differently depending on the voltage, and they will systemically measure the effects of changing one component at a time, looking at the effects of changes on the brightness of a bulb, the loudness of a buzzer, positions of switches etc. Children will be reminded of the dangers of electricity and will be taught necessary precautions of how to stay safe.</p>
Prior Learning	<p>Years 3 & 4 Sticky Knowledge, Rocks and soils:</p> <ul style="list-style-type: none"> Identify different kinds of rocks based on their appearance and properties (crystals, grains and fossils) 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, and that soils are different 	<p>Years 3 & 4 Sticky Knowledge, Electricity:</p> <ul style="list-style-type: none"> Know that electricity can be dangerous and there are precautions we need to take in order to work safely with electricity Know the names of the basic parts of a simple series circuit, including batteries, wires, bulbs, motors and buzzers Know that a simple series circuit needs to have a complete loop and a battery in order for a bulb to light Know that a switch open and closes a circuit and that this determines whether or not a bulb will light in a simple series circuit Know that some common materials are conductors and insulators and associate metals as conductors
Knowledge	<p>Knowledge</p> <ul style="list-style-type: none"> Know that living things have changed over time, and that fossils (studied by palaeontologists) provide information about living things that inhabited the Earth millions of years ago. Know that living things produce offspring of the same kind and pass on characteristics, but normally offspring vary and are not identical to their parents, for instance, different breeds of dog. Know that species adapt over time to suit their environment in order for the species to survive, known as Natural selection (a scientific theory used by biologists, such as Charles Darwin and Alfred Wallace). <ul style="list-style-type: none"> Know how Dr Konstantina Drosou's use science by looking at Ancient Egyptian DNA to uncover what life was like in the past. <p>Skills</p> <ul style="list-style-type: none"> Know how to research and discuss the different kinds of living things whose fossils are found in sedimentary rock Know how to raise questions about local animals and how they are adapted to their environment Know how to compare how some living things are adapted to survive in extreme conditions, for example, cactuses, polar bears and camels. Know how to identify scientific evidence that has been used to support or refute ideas or arguments, in relation to The Theory of Evolution Know how to record data and results of increasing complexity, using tables and bar graphs 	<p>Knowledge</p> <ul style="list-style-type: none"> Know that electricity is a type of energy that builds up in one place (static), or flows from one place to another (current electricity). Know of and use recognised symbols when representing a simple circuit in a diagram. Know how to construct a simple series circuit to answer questions about what happens when different components are added, for example: switches, bulbs, buzzers and motors. Know that the brightness of a bulb or the volume of a buzzer is associated with the number of cells used in a circuit. Know the necessary precautions for working safely with electricity (for example: no trailing cables, don't overload sockets and avoid contact with power lines) and the need for fuses. <p>Skills</p> <ul style="list-style-type: none"> Know how to systemically identify the effect of changing one component at a time in a simple series circuit, deciding on what components to change and which to keep the same. Know how to report and present findings from enquiries, including conclusions, causal relationships, in oral and written forms such as presentations. Know how to use findings to make appropriate, linked predictions and ask further questions.
Vocab	<p>evolution, natural selection, adaptation, inheritance, genes, DNA, palaeontologist, species, reproduction, offspring, characteristics, appearance, variation, fossils, sedimentary rock, extinct</p>	<p>simple series circuit, components, static, current, fuses, filament, resistance (Note: cells and batteries are used interchangeably)</p>



Science Curriculum 2025/26 – Years 5 & 6

	Spring 1	Spring 2
Topic	<p>Light</p> <p>Children will revisit light work from year 3 and be clear about light sources and objects that reflect light. They will learn how light travels and how we see things. They will learn the function of the pupil in our eye, and they will observe how it changes size in relation to how much light is present. Children will understand that shadows have the same shape as objects that cast them, in relation to the idea that light travels in straight lines. They will also learn about Newton’s discovery, that light does not reveal colour, but is responsible for producing colour by refracting white light.</p>	<p>Living things in their habitats (classifying)</p> <p>Children will build on their learning from year 4 by looking at the classification system in more detail. They will learn how to classify plants, animals and microorganisms into broad groups, and they will be introduced to the idea that broad groupings can also be sub-divided. Through direct observation, where possible, they should classify plants and animals. They should discuss reasons why living things are placed in one group and not another. Pupils will find out about the work of scientists such as Carl Linnaeus and Jackie Litzgus.</p>
Prior Learning	<p>Years 3 & 4 Sticky Knowledge, Light:</p> <ul style="list-style-type: none"> • Know we need light in order to see things and that darkness is the absence of light • Know that light is reflected from surfaces • Know that shadows are formed when the light from a light source is blocked by an opaque object, and that the size of them changes 	<p>Years 3 & 4 Sticky Knowledge, Living things in their habitats:</p> <ul style="list-style-type: none"> • Know that animals can be grouped in a variety of ways, including vertebrates and invertebrates • Know that plants can be grouped in a variety of ways- flowering plants and non-flowering; garden plants and wild; plants in different habitats; or grouped by their appearance • Know that classification keys can help us to group, identify and name living things
Knowledge	<p>Knowledge</p> <ul style="list-style-type: none"> • Know that light travels in straight lines (until it hits an object that bends it). • Know that objects are seen because they give out or reflect light into the eye. • Know that we see things because light travels from light sources to objects and then to our eyes and then to our brain. • Know that shadows have the same shape as objects that cast them, using the idea that light travels in straight lines. • Know that Isaac Newton came up with the theory of light and colour <p>Skills</p> <ul style="list-style-type: none"> • Know how to use results to draw conclusions about how light travels. • Know how to use scientific evidence to answer questions about how objects are seen. • Know how to use scientific evidence to support findings about the shape of shadows. • Know how to present observations using labelled diagrams. 	<p>Knowledge</p> <ul style="list-style-type: none"> • Know that vertebrates are classified into broad groups including: fish, amphibians, reptiles, birds and mammals, according to common observable characteristics (body coverings, legs, habitat, size and other features. For example: fish – fins, gills, scales, live in water, cold blooded) and based on similarities and differences of their key features • Know that invertebrates are classified into broad groups including: insects, spiders, snails and worms, according to common observable characteristics and based on similarities and differences • Know that plants are classified in to broad groups including: plants that produce seeds and do not produce seeds; flowering and non-flowering; trees including conifers; shrubs; mosses; and grasses, according to common observable characteristics and based on similarities and differences, and discuss reasons why they are placed in one group and not another. • Know that microorganisms are classified into broad groups including: bacteria, fungi and viruses; and also, that some are helpful whilst others are harmful. • Know about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification; and Jackie Litzgus, a herpetologist, who studies reptiles and amphibians. <p>Skills</p> <ul style="list-style-type: none"> • Know how to make direct observations to identify animals and plants in their immediate environment. • Know how to use keys and charts to classify unfamiliar plants and animals, based on specific characteristics.
Vocabulary	light source, light wave, straight lines, pupil, reflect, shadow, opaque, transparent, translucent, prism, spectrum	micro-organism, fungi, bacteria, virus, vertebrate, invertebrate, reptile, amphibian, mammal, fish, bird, insects, spiders, snails, worms, (vocab for characteristics e.g. fur, feathers, scales, skin, cold blooded,



warm blooded, exoskeleton, hydrosekeleton, soft-bodied, body segments etc), moss, fern, conifers, shrubs flowering, non-flowering, seeds

Science Curriculum 2025/26 – Years 5 & 6

	Summer 1	Summer 2
Topic	<p>Animals Including Humans Pupils build on their learning from years 3 and 4 about the main parts and internal organs (skeletal, muscular and digestive system) to explore and answer questions that help them to understand how the circulatory system enables the body to function. Children will explore the position, size and shape of the heart, and they will watch a demonstration of a heart being dissected. They will understand that the main blood vessels take blood in and out of the heart. They will learn about blood and that it carries oxygen around the body to every part that needs to function. Children will explore the work of a cardiologist and the importance of this line of work.</p>	<p>Animals Including Humans Learning is continued across the term. Pupils will learn how to keep their bodies healthy, by eating a balanced diet and exercising regularly, and how their bodies might be damaged – including how some drugs and other substances can be harmful to the human body. They will carry out an investigate how too much sugar in our diet may increase the risk of a heart attack. Pupils will explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health, and they will learn that Alexander Fleming was the founder of penicillin and of the impacts that this discovery has had.</p>
Prior Learning	<p>Years 3 & 4 Sticky Knowledge, Animals including humans:</p> <ul style="list-style-type: none"> Know that the mouth, tongue, teeth, oesophagus, stomach, small and large intestine and the anus are the main body parts associated with the digestive system Know that a balanced diet will help our digestive system to function (e.g. calcium for teeth; fibre for digestion; water for the large intestine) Know about the different types of teeth in humans (incisors, canines, pre-molars and molars) and their simple functions Know that a food chain includes producers, predators and prey 	
Knowledge	<p>Knowledge</p> <ul style="list-style-type: none"> Know about the position, size and shape of the heart, what it is made of and of its function, that is pumps blood and oxygen around the body. Know what blood is made up of and of its function, that is transports materials around the body and protects it against disease. Know that the heart, lungs, arteries, veins and blood are the main parts of the human circulatory system. Know the function of blood vessels, that arteries carry oxygen around the body and veins carry waste out of the lungs. Know the ways in which nutrients and water are transported within animals, including mammals, fish and insects. <p>Skills</p> <ul style="list-style-type: none"> Know about the work of Dr Yaso Emmanuel (a cardiologist) and understand the impacts of her work. Know how to present knowledge in a variety of ways, including labelled diagrams, written descriptions and verbal presentations. 	<p>Knowledge</p> <ul style="list-style-type: none"> Know that our diet, learning about the special functions of the five main food groups, impacts on the way our bodies function Know that we can keep our bodies healthy by exercising regularly and investigate how exercise impacts on the way our bodies function. Know that lifestyle can impact on the way our bodies function, including the amount of sleep we have. Know that drugs impact on the way our bodies function, both positively and negatively <ul style="list-style-type: none"> Know that Alexander Fleming was the founder of penicillin and understand the impacts of this discovery. <p>Skills</p> <ul style="list-style-type: none"> Know and explain when to take repeat measurements in order to conduct a fair test. Know how to take accurate measurements, including using pulse meters and stop watches. Know how to gather, record and present data of how our heart rate changes over time in tables and line graphs. Know how to use scientific evidence to answer questions about the relationship between diet, exercise, drugs, lifestyle and health.
Vocab	<p>circulatory system, heart, muscles, lungs, blood, oxygen, waste, blood cells, blood vessels, arteries, veins, organs, nutrients, cardiologist</p>	<p>balanced diet, carbohydrates, protein, dairy, fruit & vegetables, fats, sugar, nutrients, obesity, hydration, exercise, pulse, fitness, nicotine</p>



Science Curriculum 2026/27 – Years 5 & 6

	Autumn 1 and Autumn 2
Topic	<p>Properties and changes of materials</p> <p>Pupils develop a deeper understanding of everyday materials by exploring their properties, such as hardness, solubility, transparency and conductivity. They learn how solids, liquids and gases behave, how materials can be separated or dissolved, and how substances can be recovered from solutions. Pupils investigate reversible and irreversible changes, recognising when new materials are formed, and use fair tests to observe, record and explain changes. This learning builds on prior knowledge of states of matter, magnetism and electricity, while introducing key scientists and scientific vocabulary. They will learn about the work of scientists: Silver Spencer, who is famous for inventing the adhesive used to help create the Post-it Notes and Stephanie Kwolek, who invented a strong fibre used in bulletproof vests.</p>
Prior Learning	<p>Years 3 & 4 Sticky Knowledge, States of matter:</p> <ul style="list-style-type: none"> • Know simple descriptions of each state of matter, for example: solids hold their shape; liquids form a pool not a pile; gases escape from an unsealed container • Know that water changes state when it is heated or cooled and know the temperature at which this happens in degrees Celsius (°C) • Know that the rate of evaporation is affected by temperature • Know the part played by evaporation and condensation in the water cycle
Knowledge	<p>Knowledge</p> <ul style="list-style-type: none"> • Know that everyday materials can be grouped together using properties such as: hardness, solubility, transparency, conductivity. • Know about solids, liquids and gases and the difference in the particles of these • Know that solids, liquids and gases can be separated through filtering, sieving and evaporation. • Know that some materials will dissolve in liquid form to form a solution. • Know how to recover a substance from a solution. • Know and identify reversible and irreversible changes. • Know that some changes result in the formation of new materials and that this is not usually reversible. • Know that some changes are difficult to transfer. • Know about the scientists Silver Spencer and Stephanie Kwolek and understand the impact of their work <p>Skills</p> <ul style="list-style-type: none"> • Know how to conduct a comparative and fair test. • Know how to record data and results of increasing complexity, using tables and bar graphs • Know how to observe and compare the changes that take place • give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
Vocab	Dissolve, soluble, solution, particles, sieving, filtering, evaporation, reversible changes, irreversible changes, separate, solid, liquid, gas, hardness, solubility, transparency, conductivity



Science Curriculum 2026/27 – Year 5 and 6

	Spring 1	Spring 2
Topic	<p>Earth & Space Children learn about the Earth, sun and moon, understanding that they are spherical bodies and that the sun is a star at the centre of our solar system with eight orbiting planets. They explore how the Earth's rotation causes day and night, how the moon moves around the Earth, and how planets move around the sun. Pupils develop skills by creating models, comparing time in different places, and using simple instruments such as sundials, while learning key scientific vocabulary and safety around observing the sun.</p>	<p>Living Things and their Habitats (life cycles and reproduction) Children learn about the life cycles of different animals, including mammals, amphibians, insects and birds, and how plants reproduce. They explore similarities and differences in how living things grow and reproduce, both in the local environment and around the world. Pupils develop scientific skills by observing changes over time, asking questions, growing plants, and studying animals, while learning about the work of naturalists such as David Attenborough and Jane Goodall.</p>
Prior Learning	<p>Years 3 & 4 Sticky Knowledge, Plants:</p> <ul style="list-style-type: none"> Know the structure and functions of different parts of flowering plants: roots, stem, trunk, leaves and flowers (the idea that every part has a job to do) Know plants require air, light, water, nutrients from the soil and room to grow in order to survive, and that this varies from plant to plant Know the part played by flowers in the life cycle of flowering plants: pollination, seed formation and seed dispersal 	<p>Years 3 & 4 Sticky Knowledge, Sound:</p> <ul style="list-style-type: none"> Know that sounds are made when something is vibrating, and that vibrations from sounds (sound waves) travel through a medium to the ear Know that the features of an object alter the pitch and volume of a sound Know that sounds get fainter as the distance from the sound source increases
Knowledge	<p>Knowledge</p> <ul style="list-style-type: none"> Know to describe the sun, Earth and moon as approximately spherical bodies. Know that the sun is a star at the centre of our solar system and that it has 8 planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). Know how to describe the movement of the Earth and other planets relative to the sun in the solar system. Know how to describe the movement of the moon relative to the Earth. Know how to use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. Know that it is not safe to look directly at the sun, even when wearing dark glasses. <p>Skills</p> <ul style="list-style-type: none"> Know how to compare the time of day at different places on the Earth through internet links and direct communication. Know how to create a simple model of the solar system. Know how to construct a simple shadow clock and sundial, calibrated to show midday and the start and end of the school day; 	<p>Knowledge</p> <ul style="list-style-type: none"> Know how to describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Know how to describe the life process of reproduction in some plants. Know how to study and raise questions about the local environment throughout the year. Know how to observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment. Know about the work of naturalists and animal behaviourists including David Attenborough and Jane Goodall. Know about different types of reproduction, including in plants. <p>Skills</p> <ul style="list-style-type: none"> Know how to observe and compare the life cycles of plants and animals in their local environment with other plants and animals around the world. Know how to ask pertinent questions and suggest reasons for similarities and differences. Know how to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. Know how to observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow.
Vocab	sun, moon, planets, stars, solar system, Earth, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, dwarf planet, asteroids, comets, day, night, orbit, rotate, tilt, axis, gravity, spherical bodies, phases of the moon	life cycle, mammal, amphibian, insect, bird, life process, reproduction, naturalist, reproduce



Science Curriculum 2026/27 – Year 5 and 6

	Summer 1 & 2
Topic	<p>Forces</p> <p>Children learn about different types of forces and how they affect movement, including gravity, friction, air resistance and water resistance. They investigate how forces can make objects start moving, speed up, slow down or stop, and explore how simple machines such as levers, pulleys and gears can increase the effect of a force. Building on earlier learning about magnets, pupils work scientifically by planning fair tests, making predictions, taking accurate measurements, and recording results, while learning about key scientists such as Galileo and Newton.</p>
Prior Learning	<p>Years 3 & 4 Sticky Knowledge, Forces and magnets:</p> <ul style="list-style-type: none"> • Know that things move differently on different surfaces: grass, gravel, sand, road • Know that some forces need contact between two objects • Know that magnets have two poles: North and South • Know that some forces need contact between two objects, but magnetic forces can act at a distance • Know that two magnets will attract or repel each other, depending on which poles are facing • Know which materials are magnetic
Knowledge	<p>Knowledge</p> <ul style="list-style-type: none"> • Know and experience forces that make things begin to move, get faster or slow down • Know that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • Know the effects of air resistance, water resistance and friction, that act between moving surfaces • Know how to explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall • Know that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect • Know how to explore the effects of friction on movement and find out how it slows or stops moving objects • Know how to explore the effects of levers, pulleys and simple machines on movement • Know how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation. <p>Skills</p> <ul style="list-style-type: none"> • To plan and carry out a fair test • To make sensible predictions • To take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • To record findings using a table and graph
Vocab	force, friction, gravity, gravitational pull, air resistance, water resistance, surfaces, levers, pulleys, gears, theory



