

Curriculum overview for parents and carers

Science

Summary of key Science learning for EYFS to Year 5/6.



Autumn	Living things and their habitats Animal adventures Exploring habitats where animals big and small live—from spiders to sloths and farms to forests—pupils use their observations to sort animals based on their similarities and differences. They observe and compare the homes and behaviours of various animals, understanding how different environments meet their needs. Through outdoor activities, songs and creative tasks, pupils develop a deeper connection to the natural world.		
Spring	Materials I am a scientist Exploring processes and changes in the natural world, children build important foundations for working scientifically. Through hands-on activities, they compare and test materials, discovering similarities and differences between them. Pupils begin to guess what might happen and learn that observations help to answer questions. They discover that materials have different textures, can change shape and respond to pushes and pulls.		
Summer	Plants Our beautiful planet Exploring the outdoor environment, pupils describe what they see and feel as they observe a range of plants. They examine different plant parts and draw their observations. By planting their own seeds, pupils discover that water and light are essential for growth. They also learn the importance of caring for the planet and consider practical ways they can help protect it.	Across the year	Forces, Earth and space Changing seasons Observing how the natural world transforms through the year, children discover how these changes affect plants, animals and daily life. In autumn, they create a class weather chart and collect the treasures that the season brings. They learn how some animals prepare for winter. In spring, they explore new life and the life cycle of a butterfly through dance. During summer, they experiment with sand and water to find the perfect mixture for building sandcastles.

Year 1/2 Cycle B

Autumn 1

Animals, including humans

Sensitive bodies

Familiarising themselves with the basic parts of the human body, children investigate their senses through stimulating experiences that highlight how we interact with the world around us. They work scientifically, using their senses to make observations, spot patterns and use data to answer questions. They develop an understanding of how science can support those who have lost sensory function and consider how firefighters use their senses at work.

Autumn 2

Materials

Everyday materials

Identifying the difference between objects and materials, children explore their surroundings to find examples of each. They work scientifically by planning tests, making observations and recording data. Pupils use results to answer questions and sort and group materials based on their properties.

Spring 1

Animals, including humans

Comparing animals

Studying both local and global animals, children recognise common characteristics and physical features. They use this information to make comparisons and classify animals. Pupils consider the most effective way to collect data about class pets and record their findings in a block chart. They develop their understanding of classification by comparing the dietary habits of different animals and role play as Jane Goodall carrying out research into chimpanzees in the wild.

Spring 2

Materials

Uses of everyday materials

Building on their knowledge of everyday materials and their properties, pupils recognise that materials are suited to specific purposes and explore how actions such as stretching and bending affect the shape of solid objects. They compare the suitability of materials; gather and record data in tables and block graphs and use their results to answer questions. Children also learn about the harmful effects of plastic and explore eco-friendly alternatives.

Summer 1

Living things and their habitats

Microhabitats

Developing their understanding of scientific enquiry, pupils learn that scientists use a range of skills to answer questions. They discover that microhabitats provide what minibeasts need to survive and carry out a survey to find out where different minibeasts live in the school grounds. They practise asking scientific questions and follow a method to investigate which conditions woodlice prefer. Pupils explore the job role of a botanist by identifying flowering plants.

Summer 2

Making connections

Fairytale science

Using familiar fairytales, pupils develop their working scientifically skills through practical investigations. Prompted by 'The Tortoise and the Hare', children compare animal features and speed. Investigating materials with 'The Gingerbread Man', they test properties such as waterproofing and strength. Exploring 'Goldilocks', pupils investigate temperature differences and sensitivity of touch. With 'The Princess and the Pea', they record results and present findings using block graphs.

Year 3/4 Cycle B			
Autumn 1	Forces, Earth and space	Autumn 2	Materials
	Forces and magnets Investigating the movement of vehicles on different surfaces, children learn about the impact of friction and compare uses and drawbacks. They broaden their experience in writing scientific methods and recording data as they investigate contact and non-contact forces. Pupils explore the properties of different magnets and use this to understand their uses.		States of matter Investigating the properties of solids, liquids and gases, children learn about the different states of matter. They explore changes of state using relatable examples and use this to explain changes to water through the water cycle. Pupils investigate the relationship between temperature and rate of evaporation while broadening their experience of working scientifically.
Spring 1	Energy	Spring 2	Animals, including humans
	Sound and vibrations Exploring different ways of producing sounds, children learn about the relationship between vibrations and what they hear. They study dolphins and whales to develop their understanding of how sound travels between objects and investigate the role of insulation to protect our ears. Pupils explore how pitch and volume can be altered and make their own musical instruments to demonstrate these principles.		Classification and changing habitats Identifying different ways to group living things, children make classification keys to explore which grouping methods are most effective. Pupils study how habitats change over time and understand that humans can have both positive and negative effects on their surroundings. They play the role of conservationists and design conservation pamphlets.
Summer 1	Plants	Summer 2	Making connections
	Plant reproduction Building on their prior knowledge of plant structures, children describe the functions of named parts and use evidence to explain their significance in plant development. They investigate factors that may affect plant growth and how water is transported. They explore how seeds vary and create models to show seed dispersal methods.		How does wind force affect seed dispersal? Using different wind speeds to disperse seeds, pupils measure how force affects the distance they travel. They consider how seeds are shaped differently and how this links with the way they are dispersed. Extending the enquiry, pupils measure the volume of different wind speeds to better explain their results. They explore biomimicry, considering how seed shapes have contributed to product design.

Year 5/6 Cycle B

**Autumn
1**

Living things and their habitats

Life cycles and reproduction

Studying animal life cycles, children learn about the significance of reproduction for a species' survival. Pupils compare asexual and sexual reproduction in plants and grow cuttings to measure and plot root growth over time. Children compare the life cycles of mammals, birds, amphibians and insects identifying key differences. They analyse secondary data to investigate how the amphibian life cycle is affected by predators and climate change.

Autumn 2

Forces, Earth and space

Unbalanced forces

Building on their knowledge of forces, children explore gravity, air resistance and water resistance in more depth and consider the effect of these forces being unbalanced. They demonstrate key principles in the classroom and plan investigations to further their understanding of the effects of these forces. Pupils test their ideas using models and compete to build the most effective pulley system.

**Spring
1**

Living things and their habitats

Classifying big and small

Children broaden their knowledge of how vertebrates, invertebrates, plants and micro-organisms are grouped using shared characteristics. They discover how Carl Linnaeus developed the Linnaean and binomial systems for classifying and naming living things. Pupils use and produce classification keys to sort and identify organisms.

**Spring
2**

Energy

Circuits, batteries and switches

Using their prior knowledge of electrical circuits, children learn to draw conventional circuit diagrams and use models to explain current, resistance and voltage. They compare different batteries and consider the effect on bulb brightness. Pupils apply their knowledge of switches and electrical circuits to design and produce their own practical devices.

**Summer
1**

Living things and their habitats

Evolution and inheritance

Studying patterns in humans and other species, children learn about characteristics that are inherited from parents and those that are environmental. Through the eyes of Darwin and Wallace, they learn how observations lead to theories and explore natural selection. By modelling the variation and natural selection of Darwin's finches, they begin to explain how species evolve over time and the role of fossil evidence that supports this theory.

Summer 2

Animals, including humans

Human timeline

Studying human development and changes, children identify key stages and consider what data may help determine if a child is growing normally. They describe how puberty affects girls and boys and produce graphs to compare how gestation periods vary across different mammals, including humans.

Making connections

How does light affect the direction of plant growth?

Developing their working scientifically skills, pupils explore how plants respond to their environment. Prompted by observing phototropism, pupils plan and carry out a comparative test to investigate how light direction affects plant growth. Gathering and analysing observational data, they draw conclusions and evaluate the reliability of their results. Pupils extend their understanding by debating the evolutionary advantages of plants growing towards light.