

Science Curriculum Overview

Year 5 and 6 - Year A



Autumn 1	Autumn 2
<p align="center">Forces, Earth and Space</p>	<p align="center">Materials</p>
<p align="center">Imbalanced forces</p> <p>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 imbalanced. 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.</p>	<p align="center">Properties and changes</p> <p>Broadening their experience of the properties of materials, children investigate hardness, transparency and conductivity and consider how these properties influence the uses of materials. They explore reversible changes, including dissolving and changes of state. Children compare these to irreversible changes, including rusting, burning and mixing vinegar and bicarbonate of soda.</p>
Spring 1	Spring 2
<p align="center">Materials</p>	<p align="center">Animals, including humans</p>
<p align="center">Mixtures and separation</p> <p>Pupils explore different types of mixtures and the different methods that can be used to separate them. They dissolve a range of substances, identify different solutions and investigate how temperature affects the time taken to dissolve. They design and create a water filter, sieve soil and evaporate solutions.</p>	<p align="center">Circulation and health</p> <p>Studying the human circulatory system, children learn about the role of the heart, blood and blood vessels and use models to demonstrate their function. They explore how lifestyle choices affect our health and use secondary sources to help them play the role of healthcare professionals advising patients. Pupils devise their own investigation to look at the relationship between exercise and heart rate, applying their knowledge of variables and then analysing secondary data to understand fitness better.</p>
Summer 1	Summer 2
<p align="center">Forces, Earth and Space</p>	<p align="center">Making Connections</p>
<p align="center">Earth and space</p> <p>Exploring some of the key celestial bodies in our Solar System, children learn their names and compare their movements. Pupils discover the relationship between the Earth's rotation and daylight, making models to represent their knowledge. They make their own sundials and consider how and why humans' ideas about the universe have changed over time.</p>	<p align="center">Making connections between their science learning from throughout the year, pupils apply key knowledge and work scientifically to answer an enquiry question.</p>

Science Curriculum Overview

Year 5 and 6 - Year B



Autumn 1	Autumn 2
Energy	Energy
<p>Light and reflection</p> <p>Proving that light travels in a straight line, children use this information to explain observations of reflection and shadows. They explore how our eyes allow us to see and how mirrors can be used in a variety of ways. Pupils investigate factors affecting the size of shadows and the laws of reflection. Children apply what they have learned about light by exploring real-life uses of mirrors.</p>	<p>Circuits, batteries and switches</p> <p>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.</p>
Spring 1	Spring 2
Living things and their habitats	Living things and their habitats
<p>Life cycles and reproduction</p> <p>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.</p>	<p>Evolution and inheritance</p> <p>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.</p>
Summer 1	Summer 2
Living things and their habitats	Animals, including humans
<p>Classifying big and small</p> <p>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.</p>	<p>Human timeline - Making connections</p> <p>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.</p>