



INSPIRE

SCIENCE



“The Science of today is the Technology of tomorrow” – Edward Teller



Science

Intent

At Inspire, we hope our children will develop their scientific knowledge through carefully planned exciting Science opportunities. Our Science sessions aim to embed previous learning and deepen understanding. We aim to support children to develop an understanding of the process and methods of Science by providing a range of Scientific enquiries, investigations and questions to help them explore the world around them. We hope to develop and nurture our children's curiosity by not only following the National Curriculum, but following also following their questions and interests to hopefully develop a love, passion and appreciation for Science.

For Key Stage One, the focus is to enable pupils to experience and observe the world around them. Following on from Understanding the World during their time in Early Years Foundation Stage children need time to deepen prior learning and engage in first hand experiences and begin to use simple scientific language. During their time in Lower Key Stage Two, the emphasis is all around children having opportunities to broaden their Scientific view of the world around them. Children are still encouraged to talk, test and make links. During their time in Lower Key Stage Two children are encouraged to speak about their findings and later write about what they have found. Finally, in Upper Key Stage Two, children principal focus is to allow children time to deepen and develop their understating of a range of Scientific ideas. Here we encourage our children to select the most appropriate way to answer and record their Scientific findings.

Our intention throughout school is to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. During their time at Inspire, we aim to equip children with the knowledge required to use and implement Science today, tomorrow and for their futures.

Breadth of Study

The following is the breadth of study that our pupils will cover from Year One through to Year Six. All statutory requirements taken from the National Curriculum.

Key Stage 1	Key Stage 2
<p>Working scientifically Across all year groups scientific knowledge and skills should be learned by working scientifically. (This is documented in the Essentials for progress section.)</p> <p>BIOLOGY</p> <p>Plants</p> <ul style="list-style-type: none">• Identify, classify and describe their basic structure.• Observe and describe growth and conditions for growth. <p>Habitats</p> <ul style="list-style-type: none">• Look at the suitability of environments and at food chains. <p>Animals and humans</p> <ul style="list-style-type: none">• Identify, classify and observe.• Look at growth, basic needs, exercise, food and hygiene. <p>All living things*</p> <ul style="list-style-type: none">• Investigate differences. <p>CHEMISTRY</p> <p>Materials</p> <ul style="list-style-type: none">• Identify, name, describe, classify, compare properties and changes.• Look at the practical uses of everyday materials <p>PHYSICS</p> <p>Light*</p> <ul style="list-style-type: none">• Look at sources and reflections. <p>Sound*</p> <ul style="list-style-type: none">• Look at sources. <p>Electricity*</p> <ul style="list-style-type: none">• Look at appliances and circuits. <p>Forces</p> <ul style="list-style-type: none">• Describe basic movements.	<p>Working scientifically</p> <p>Plants</p> <ul style="list-style-type: none">• Look at the function of parts of flowering plants, requirements of growth, water transportation in plants, life cycles and seed dispersal. <p>Evolution and inheritance</p> <ul style="list-style-type: none">• Look at resemblance in offspring.• Look at changes in animals over time.• Look at adaptation to environments.• Look at differences in offspring.• Look at adaptation and evolution.• Look at changes to the human skeleton over time. <p>Animals and humans</p> <ul style="list-style-type: none">• Look at nutrition, transportation of water and nutrients in the body, the muscle and skeleton system of humans and animals.• Look at the digestive system in humans.• Look at teeth.• Look at the human circulatory system. <p>All living things</p> <ul style="list-style-type: none">• Identify and name plants and animals• Look at classification keys.• Look at the life cycle of animals and plants.• Look at classification of plants, animals and micro organisms.• Look at reproduction in plants and animals, and human growth and changes.• Look at the effect of diet and exercise and drugs. Across all year groups scientific knowledge and skills should be learned by working scientifically. <p>Biology</p> <p>Rocks and fossils</p> <ul style="list-style-type: none">• Compare and group rocks and describe the formation of fossils. States of matter• Look at solids, liquids and gases, changes of state, evaporation, condensation and the water cycle.

Earth and space

- Observe seasonal changes.

Materials

- Examine the properties of materials using various tests.
- Look at solubility and recovering dissolved substances.
- Separate mixtures.
- Examine changes to materials that create new materials that are usually not reversible.

Light

- Look at sources, seeing, reflections and shadows. • Explain how light appears to travel in straight lines and how this affects seeing and shadows.

Sound

- Look at sources, vibration, volume and pitch.

Electricity

- Look at appliances, circuits, lamps, switches, insulators and conductors.
- Look at circuits, the effect of the voltage in cells and the resistance and conductivity of materials.

Forces and magnets

- Look at contact and distant forces, attraction and repulsion, comparing and grouping materials.
- Look at poles, attraction and repulsion.
- Look at the effect of gravity and drag forces.
 - Look at transference of forces in gears, pulleys, levers and springs. Earth and space
- Look at the movement of the Earth and the moon.
- Explain day and night.

Science

Whole School Coverage

The following grid shows the coverage of Science units across the Primary age range at our school. Each unit has been carefully and progressively planned to build upon pupil's historical knowledge, making relevant links to their lives and local area where possible. Within each unit, pupils will learn knowledge about different categories and these will be linked to key historical concepts.

	Autumn Term	Spring Term	Summer Term
Year 1	Animals including Humans Materials	Seasonal changes Animals including Humans	Animals including Humans Plants
Year 2	Materials	Animals including Humans Habitats	Plants
Year 3	Rocks Light	Forces & Magnets Plants	Living things & their habitats Animals including Humans
Year 4	Sound States of Matter	Animals including humans – digestive system	Living things & their habitats Electricity
Year 5	Forces Earth & Space	Living Things & their habitats	Properties & changes of materials Animals including Humans
Year 6	Electricity Light	Evolution and Inheritance Living Things and Their Habitats	Animals including Humans

