



Science



At Fawkham CEP School

INTENT: Here at Fawkham, we deliver a high-quality science education to provide the foundations for understanding the world. We develop scientific, substantive knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. We have chosen to incorporate exploratory physics units into key stage 1 to ensure a breadth of science coverage from the earliest stages. We encourage our children to confidently ask questions and investigate in order to develop a deeper understanding of the world in which we live. We provide exciting and practical hands-on experiences that encourage curiosity and questioning. Through this challenging and stimulating curriculum, we aim to inspire and excite our children and foster a thirst for knowledge, which delves into the scientific world around them. A range of science enquiry approaches are used which help the children to answer scientific questions and to develop understanding of the nature, processes and methods of science. Investigative (disciplinary) science skills and enquiry types are central within every science lesson encouraging the children to have the skills to be successful scientists. The children here at Fawkham, have little exposure to scientists in their everyday lives. Therefore, throughout their science journey, children will learn about the key achievements of scientists throughout history including female scientists and scientists from different cultures.

Year	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
EYFS	Understanding the World					
	T1 - Life cycles of humans T1 -Taking care of themselves T1 -Senses T1 -Families T5 -Life cycles	T2 -Identify electrical devices T2 -Use battery powered devices T2 -Explore light sources T2 -Shine light on or through different materials T2 -Explore shadows T3 -Exploring rainbows T2 -Learn about the Earth, Sun, Moon, planets and stars T2 -Learn about space travel Throughout year – seasons	T3 -Explore forces T3 -Feel forces T3 -Explore how things work T3 -Explore how to change how things work T3 -Explore how the wind can move objects T3 -Explore how objects move in water	T4 -Explore a range of materials T4 -Observe, measure and record how materials are changed when they are heated and cooled T4 -Compare how materials change over time and in different conditions	T5 -Comparing adult/baby animals T5 -Growing animals	T6- Name and describe animals that live in different habitats T6 -Describing habitats. T6 -Explore plants and animals in a contrasting natural environment.
KS1 – cycle A	Forces (exploratory unit) Christopher Cockerell (1910-1999)	Everyday materials (physical changes) (Y1) John Boyd Dunlop (1840 – 1921)	animals including humans (naming animals and body parts) (Y1) Amy Vedder (1951 -)	Seasonal changes (Y1) Gabriel Fahrenheit (1686 – 1736)	Plants (names & structure) (Y1) Barbara McClintock (1902 – 1992)	
KS1 – cycle B	Light (exploratory unit)	Animals including humans (health and growth) (Y2)	Living things and their habitats (Y2)	Uses of everyday materials (Y2 + Y1) + Y1 -distinguish between the object and the	Plants (conditions for growing) (Y2 + Y1) + Y1 -identify and describe	

	Thomas Young (1773 – 1829)	George Forrest (1873 – 1932)	Kate Humble (1968 -	material from which it is made. +Y1 – identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock	the basic structure of a variety of common flowering plants including trees	
LKS2 – cycle A	Rocks (incl. fossil formation) (Y3) Inge Lehmann (1888-1993)	Light (Y3) James Clerk Maxwell (1831- 1879)	Plants (growth, function and lifecycle) (Y3) Jagdish Chandra Bose (1958 – 1937)	States of matter (Y4) Alfred Barnhard Nobel (1833- 1896)	Sound (Y4) Robert Boyle (1627- 1691)	
LKS2 – cycle B	Animals incl humans skeletons (Y3) Diane France (1954 -)	Animals incl humans- teeth, eating & digestion] (Y4) Charles Elton (1900 – 1991)	Electricity (Y4) Andre-Marie Ampere (1775- 1836).	Living things and their habitats (Y4) Carl Linnaeus (1707 – 1778)	Forces and magnets (Y3) Hans Christian Oersted (1777 – 1851)	
UKS2 – cycle A	Living things and their habitats (lifecycles and habitats) (Y5) Heather M. Briggs (graduate of University of California)	Living things and their habitats (classification incl micro- organisms) (Y6) Evelyn Cheesman (1881 – 1969)	Electricity (Y6) Benjamin Franklin (1706- 90)	Properties of materials (Y5) Marie Curie (1967-1934)	Animals including humans – changes to old age (Y5) Professor Robert Winston (1940 -)	Evolution and inheritance (Y6) Charles Darwin (1809 – 1882)
UKS2 – cycle B	Forces 1 – gravity, friction, air resistance, water resistance (Y5) Archimedes (c.287 - c.212 BC)	Forces 2 – levers, pulley and gears (Y5) Sir Isaac Newton (1642 – 1727)	Animals including humans – health and circulation (Y6) William Harvey (1578 – 1657)	Light (Y6) Sir David Brewster (1781 – 1868)	Changes of materials (Y5) Dmitri Mendeleyev (1834 - 1907)	Earth and Space (Y5) Galileo Galilei (1564 – 1642).

KEY

Biology Male
Chemistry Female
Physics Multicultural

IMPLEMENTATION:

EYFS

In the Foundation Stage, children are taught science through the key area of learning set out within the EYFS Statutory Framework. Science skills in EYFS are built on by Key Stage 1. The characteristics of effective learning from the Statutory Framework for the Early Years Foundation Stage are the foundations on which the working scientifically/disciplinary skills build in Key Stage 1

Through a broad range of teacher-led, child-initiated and continuous learning opportunities, children will be taught to:

- . Use their senses to investigate a range of objects and materials
- . Find out about, identify and observe the different features of living things, objects and worldly events
- . Look closely at similarities, differences, patterns and change
- . Ask questions about why things happen and why things work
- . Talk about their findings, sometimes recording them
- . Identify and find out about features of the natural world around them.

Key Stage1 and Key Stage 2

We believe that through our implementation of our science curriculum, children will have the opportunities to:

- Develop scientific, substantive knowledge and conceptual understanding through the specific disciplines of Biology, Chemistry and Physics.
- Build their scientific knowledge in a sequential manner and be able to make links.
- Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.
- Develop the essential scientific enquiry skills and disciplinary skills to deepen their scientific knowledge.
- Develop a richer vocabulary which will enable them to articulate their understanding of taught concepts
- develop transferable skills such as observation, communication and teamwork and allow mathematical skills to be applied.
- Develop an enthusiasm and enjoyment of scientific learning and discovery leading to wonder and awe moments.
- Celebrate science, engineering, technology and maths (STEM) in our annual British Science Week activities

IMPACT:

We believe that the science opportunities we provide will enable the children to be able to talk about their science learning confidently and enthusiastically. The children will know more, remember more and understand more about the curriculum. They will retain prior-learning and explicitly make connections between what they have previously learned and what they are currently learning. We want to encourage the children to challenge scientific theories and encompass the skills required to question their findings through research and investigations. Through the teaching of science within Fawkham, the children will be motivated to continue to explore the world around them, beyond the classroom and even beyond their time at primary school. We endeavour to unlock pupils' potential for future life choices sharing with them possible career options available to them within the field of science.