



Vision and rationale for Science

Science at St. Aidan's is a vital part of our school curriculum in order to prepare children for a world that is rapidly evolving. It excites and promotes children's natural curiosity whilst fostering awe and wonder within every child about the phenomena and events in the world around them. We aim for every child to develop a key set of skills throughout the school to allow them to plan, work and think scientifically through practical investigations as well as allowing them to build on their knowledge and understanding of different scientific concepts of their world.

We aim for our children to have the confidence and knowledge to question and discuss science-based issues that may affect their own lives. We intend for them to understand that science is an everyday and important part of their world and will be even more so in the future.

By understanding and building on what children already know, children are inspired through excellent, high quality science teaching. Teachers create a positive, inclusive attitude to science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in science. Teachers continuously adapt and extend the curriculum to match all pupils' needs. Children are provided with first hand experiences to bring a varied and rich curriculum to life in imaginative, purposeful and enjoyable ways. Teachers are well skilled to give clear and accurate explanations, offering skilful and higher thinking questioning, whilst making links with other subjects, including English, mathematics, geography and history. We encourage the use of outdoor learning in the local and wider environment which enables children to have first-hand experiences of the world.

At St. Aidan's science is taught in weekly lessons, allowing for clear progression in knowledge, skills and curriculum coverage throughout the school. We follow the 'The National Curriculum programmes of study for Science' set out in 2014. Careful progression and sequencing of substantive and disciplinary knowledge over time, supports the hierarchical nature of science and achieves rigour. Pupils are guided from concrete to abstract concepts, both within lessons and wider schema.

In Lower Key Stage 2 (Years 3 and 4) the children follow the Haringey primary Science curriculum. Scope, rigour, sequencing and coherence are the four key principles which underpin the Haringey primary Science curriculum. These principles ensure all pupils develop a deep knowledge and understanding across Biology, Chemistry and Physics. In September 2022 Upper Key Stage 2 (Years 5 and 6) will also follow this curriculum. Lessons focus on the substantive knowledge and disciplinary skill pupils need to learn, before carrying out investigations thus developing the skills of working scientifically. Our approach to teaching science encourages children to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers for themselves in a range of different contexts. Children share their knowledge with each other and use the correct scientific vocabulary.

The successful approach at St. Aidan's results in a fun, engaging, high-quality science education, that provides children with the foundations for understanding the world around them and equipping them with the foundations to progress into secondary education with an extensive knowledge of Science. Children will develop an understanding that science has changed history and will continue to do so in the future; a subject that is vital in everyday life.

	Autumn term	Spring term	Summer term
Year 1	Animals including humans -Senses, basic knowledge of parts of human body and comparing animals	Everyday materials describing properties Seasonal changes plants and trees	Animals -including humans Plants and trees
Year 2	Use of everyday materials - describing properties Super Scientists	Animals including humans -needs for survival- Offspring, healthy eating and hygiene. Living things and their habitats - living/non living. Explore a variety of habitats, simple food chains.	Plants - What plants need to grow
Year 3- HEP curriculum	Plants - Parts of plants, needs of plants and their life cycle. Rocks - Comparing different rocks, fossils, soil formation	Light - Light sources, How light is reflected off objects, how shadows form, changing shadows, eye protection. Animals including humans - Nutrition, muscular, skeletal system for support, movement, and protection	Forces and magnets Non-contact forces, attraction and repulsion of magnets, magnetic materials and the N and S pole of magnets. Bee project - A look at the relationship between bees and their environment; importance in pollination, food, light and earth's magnetic field

Year 4- HEP curriculum	States of matter solids, liquids and gases- Group materials based on their properties, changes of state, heating and cooling, the water cycle Animals including humans - Eating, teeth, digestive system and food chains, producers, predators and prey.	Sound - Making sounds, vibrations, the ear, changes in pitch and volume Living things and their habitats - classification, characteristics, and the effects of environmental changes	Electricity Appliances, building circuits and identifying components, circuit diagnostics, conductors and insulators
Year 5	Earth and Space Earth, Sun and Moon, the solar system Forces - gravity, air resistance, water resistance, friction	Living things and their habitats - life-cycles and reproduction in humans and plants	Properties and changes of materials dissolving, separating materials, reversible and irreversible Animals including humans - human development from birth to old age (RSE)
Year 6	Evolution and inheritance - how living things have changed over time, fossils, dinosaurs, adaptation to environment Light - how it travels, how we see, shadows	Animals including humans - circulatory system, diet and exercise, healthy living Living things and their habitat - classification, characteristics of plant and animal groups	Electricity - voltage and power in circuits, circuit components, symbols and diagrams