Court de Wyck Church School
Science Policy

Growing Together, Belonging and Achieving

Everybody in our caring Christian Community inspiring, nurturing and challenging each other to do their best in mind, body and spirit to achieve more than they ever thought possible.

John 10:10 'Life in all its fullness'

Our Curriculum Intent

At Court de Wyck Church School our curriculum is child-centred, aspirational and purposeful in order to instil within our pupils the knowledge, skills and confidence needed for their ever-changing futures. Its focus is on nurturing pupils' natural curiosity and a life-long love of learning, supporting them to develop resilience and understanding of the world around them. It encourages pupils to make connections and to be creative, independent thinkers who relate their learning to real-life experiences. At the heart of our curriculum are our Christian values and the dedication to working collaboratively to achieve more than we ever thought possible.

Our Science Intent

- It develops pupil's 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.
- It equips pupils with the scientific knowledge required to understand the uses and implications of science, today and for the future.
- It develops pupils' enjoyment and interest in Science and an appreciation of its contribution to all aspects of everyday life.
- It builds on pupils' curiosity and sense of awe of the natural world.
- It uses a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of Science.
- It introduces pupils to the language and vocabulary of Science.
- It develops pupils' basic practical skills and their ability to make accurate and appropriate measurements.
- It extends their learning through the use of outdoor areas.
- It promotes a 'healthy lifestyle' in our pupils.

Our Science curriculum is based on the following principles:

- Ensure pupils build a positive attitude towards science and an awareness of how fascinating it can be.
- Build pupil's understanding of science through a process of enquiry and investigation.
- Teaching should develop confidence and competence in scientific knowledge, concepts and skills.

- Give pupils the opportunity to reason, predict, think logically and to work systematically and accurately.
- Encourage pupils to communicate scientifically.
- Ensure pupils understand how to use and apply science across the curriculum and real life.

Intent Overview by Key Stage

At Court de Wyck, pupils are provided with a broad and balanced curriculum in Science which is tailored to be inclusive for all. We have variable mixed aged classes and so we plan the progression of learning for pupils in cycles. These ensure that pupils have the pre-requisite knowledge to learn new material, make links and remember more. This is a summary of what the pupils will learn in each key stage. More detail about an individual cycle is available.

Early Years Foundation Stage

We follow EYFS Guidance for Science which is included in 'Understanding the World', capitalising on natural events as they happen and the world around them. Through first – hand practical experiences pupils will use familiar equipment to engage in simple investigations, making predictions and taking about what they notice and what they have found. The use of scientific language and vocabulary will be modelled by the teacher in preparation for Key Stage 1.

During the EYFS, pupils should:

- Make comments about what they have heard and ask questions to clarify their understanding.
- Understand the importance of healthy food choices and oral health to promote health
- Explore the natural world around them, making observations and drawing pictures of animals and plants.
- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

Y1-Y6 are on a carefully planned bespoke topic programme using Curriculum Maestro which enables all children to learn an ambitious and engaging curriculum to inspire future career aspirations. The science projects are well sequenced to provide a coherent subject scheme that develops children's science knowledge, skills and subject disciplines. Key concepts and skills, such as; questioning, predicting, setting up experiments, gathering and recording data, observing, recording and reporting data and evaluating, are revisited throughout all projects and are developed over time.

Key Stage 1

Everday Materials This project teaches children that objects are made from materials. They identify a range of everyday materials and their sources. Children investigate the properties of materials and begin to recognise that a material's properties define its use.	**Human Senses** This project teaches children that humans are a type of animal known as a mammal. They name and count body parts and identify similarities and differences. They learn about the senses, the body parts associated with each sense and their role in keeping us safe.	**Seasonal Changes** This project teaches children about the seasons, seasonal changes and typical seasonal weather and events. They learn about measuring the weather and the role of a meteorologist. Children begin to learn about the science of day and night and recognise that the seasons have varying day lengths in the UK.
Plant Parts This project teaches children about wild and garden plants by exploring the local environment. They identify and describe the basic parts of plants and observe how they change over time.	**Animal Parts** This project teaches children about animals, including fish, amphibians, reptiles, birds, mammals and invertebrates. They identify and describe their common structures, diets, and how animals should be cared for.	

Lower Key Stage 2

Animal Nutrition and Skeletal System This project teaches children about the importance of nutrition for humans and other animals. They learn about the role of a skeleton and muscles and identify animals with different types of skeleton.	**Forces and Magnets** This project teaches children about contact and non-contact forces, including friction and magnetism. They investigate frictional and magnetic forces, and identify parts of a magnet and magnetic materials.	**Plant Nutrition and Reproduction** This project teaches children about the requirements of plants for growth and survival. They describe the parts of flowering plants and relate structure to function, including the roots and stem for transporting water, leaves for making food and the flower for reproduction
Light and Shadows This project teaches children about light and dark. They investigate the phenomena of reflections and shadows, looking for patterns in collected data. The risks associated with the Sun are also explored.		

Upper Key Stage 2

Forces and Mechanisms This project teaches children about the forces of gravity, air resistance, water resistance and friction, with children exploring their effects. They learn about mechanisms, their uses and how they allow a smaller effort to have a greater effect.	**Earth and Space** This project teaches children about our Solar System and its spherical celestial bodies. They describe the movements of the Earth and the other planets relative to the Sun, the Moon relative to Earth, and the Earth's rotation to explain day and night.	**Human Reproduction and Ageing** This project teaches children about animal life cycles, including the human life cycle. They explore human growth and development to old age, including the changes experienced during puberty and human reproduction.
Properties and Changes of Material This project teaches children about the wider properties of materials and their uses. They learn about mixtures and how they can be separated using sieving, filtration and evaporation. They study reversible and irreversible changes, and use common indicators to identify irreversible changes		

Implementation

At Court de Wyck, pupils are provided with an ambitious curriculum in science which is tailored to be inclusive for all. Our mixed aged classes enjoy a rolling program which covers the National Curriculum Programme of Study and is tailored to ensure good progression across the key stages. These run across the whole school to support children with developing their scientific understanding and skills year on year to enable children to effectively know more and remember more.

Throughout their learning in science, we ensure that pupils become scientists by:

- Allowing pupils to gain an understanding of scientific processes by helping them to acquire practical scientific skills.
- Developing the skills of investigation – including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Developing the use of scientific language, recording skills and techniques.
- Encouraging the use of ICT in investigating and recording as well as utilising their mathematical knowledge to collect, present and analyse data.
- Helping pupils to become effective communicators of scientific ideas, facts and data.
- Assisting pupils in building up a body of key foundational knowledge and concepts.
- Encouraging pupils to recognise the power of rational explanation and to develop a sense of excitement and curiosity about natural phenomena.

Impact

At Court de Wyck, we intend for the impact of our high-quality Science curriculum to be that pupils will learn the curriculum each year so that by the end of their time at school they will have a strong understanding of what it means to be a scientist and have learnt the key knowledge they need to succeed and prosper. Disadvantaged pupils and pupils with SEND will acquire the knowledge and skills needed to move on to the next stage of their education.

Our impact is measured through regular book looks, learning walks and informal assessment of children's understanding and progress by the class teacher. Each classroom utilises a working wall display to support and track children's progress through a unit of work and support with use of appropriate scientific vocabulary. Before the start of each topic children will complete elicitation tasks to assess prior knowledge. Knowledge Organisers are used for each unit of work, which are: shared with parents, displayed and used in the classroom and are referred to when reviewing prior learning in lessons. Regular revisiting of learning is an integral part of each lesson and enables teachers to use AfL effectively to move children's learning forward.