



West End Primary School - Science Policy September 2022

Our vision is to create young scientists who explore, investigate and ask questions.

Purpose of study

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Scientists at West End Primary School ask questions!



Our Core values and Principles

Science is great when...

- 💡 Children are inspired to be real scientists by amazing teachers, visitors and visits.
- 💡 Children use scientific vocabulary with confidence.
- 💡 Children talk and share ideas.
- 💡 Children ask questions and find out the answers through investigations.
- 💡 Learning takes place inside and outside the classroom.

The nature, processes and methods of science

'Working scientifically' specifies the understanding of the nature, processes and methods of science

'Working scientifically' is embedded within the content of biology, chemistry and physics, focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions. These types of scientific enquiry include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair

testing (controlled investigations); and researching using secondary sources. Pupils will seek answers to questions through collecting, analysing and presenting data.

Aims and Objectives

We live in an increasingly scientific and technological age where children need to acquire the knowledge, skills and attitudes to prepare them for life in the 21st century. We, at West End Primary School, believe that the teaching of science develops in children an interest and curiosity about the world in which they live, and fosters in them a respect for the environment. Through the framework of the National Curriculum, science aims to ensure that all pupils

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- 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
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

The Philosophy and Ethos

We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Through the programmes of study in the National Curriculum science document, children will acquire and develop these skills throughout their Primary years.

We believe that science promotes communication in a specific and precise language, involving mathematical and logical thinking. It allows children to develop ways of finding out for themselves and gives them practice in problem solving.

As their knowledge and understanding increases and they become more proficient in selecting and using scientific equipment and collating and interpreting results they will become increasingly confident in their growing ability to come to conclusions based on real evidence. Science fosters a healthy curiosity in children about our universe and promotes respect for the living and the non-living. It allows children to develop original ideas and a questioning attitude.

In science, pupils are encouraged to be open-minded and to try and make sense of what they see and discover. The main focus of our approach will be through open-ended activities where we encourage children to recognise the need for fair testing.

Equal Opportunities

At West End Primary School we are committed to providing all children with an equal entitlement to scientific activities and opportunities regardless of race, gender, culture or class.

Science is taught within the guidelines of the school's equal-opportunities policy.

- We ensure that all our children have the opportunity to gain science knowledge and understanding regardless of gender, race, class, physical or intellectual ability.
- Our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias.
- We aim to teach science in a broad global and historical context, using the widest possible perspective and including the contributions of people of many different backgrounds.
- We draw examples from other cultures, recognising that simple technology may be superior to complex solutions.
- We value science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their science experiences.
- In our teaching, science is closely linked with literacy and mathematics.
- We recognise the particular importance of first-hand experience for motivating children with learning difficulties.
- We exploit science's special contribution to children's developing creativity; we develop this by asking and encouraging challenging questions and encouraging original thinking.

Inclusion

In school we aim to meet the needs of all our children by differentiation in our science planning and in providing a variety of approaches and tasks appropriate to ability levels. This will enable children with learning and/or physical difficulties to take an active part in scientific learning and practical activities and investigations and to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress, whilst more able children will be challenged through differentiated activities. By being given enhancing and enriching activities, more able children will be able to progress to a higher level of knowledge and understanding appropriate to their abilities.

Assessment and Record Keeping

Assessment for learning is continuous throughout the planning, teaching and learning cycle. Children are assessed in KS1 and KS2 using a variety of methods

- Observing the children at work, individually, in pairs, in a group and in classes.
- Questioning, talking and listening to children.
- Considering work/materials/investigations produced by children together with discussion about this with them.
- End of unit assessments.

Children's progress is continually monitored and tracked throughout their time at West End Primary School.

Health and Safety

All staff should make themselves conversant with the following;

We are a member of CLEAPPS which Where appropriate, reminders will be given to children about potential hazards and care of the equipment they are handling.

Any trips should have been planned with due regard to the school policy on taking children on outings. LEA guidance may need to be sought on trips involving farms etc.

How science is structured through the school

Planning for science is a process in which all teaching staff are involved. Delivering a broad and balanced science education to our children is a core principle of our school.

Science teaching in the school is about excellence and enjoyment. We adapt and extend the curriculum to match the unique circumstances of our school.

KS1 and Foundation stage teachers teach science for a minimum of one hour thirty minutes each week.

KS2 teachers teach science for a minimum of two hours per week.

In KS1 and Foundation stage, a minimum of one third of lessons overall include practical scientific enquiry.

In KS2, a minimum of 50% of lessons overall include practical scientific enquiry.

The school ensures that a broad and balanced science curriculum is followed in which enquiry is at the heart of our children's scientific learning.

Our science planning is available on the school website and was agreed after whole-staff discussion. It ensures progression between year groups and guarantees topics are revisited. Teachers adapt and modify the model plans to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available. [As a maintained school we ensure that any modification does not omit any of the NC]

Science is taught every half term throughout the school year. Some units may be taught in collaboration with outside agencies, including neighbouring secondary schools.