



Overstone Science Policy 2022

AIMS

Science is a body of knowledge built up through experimental testing of ideas. Science is also about methodology, a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation which is contextualized in an engaging curriculum.

We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability.

Our aims in teaching science include the following:

- To enable children to have a greater understanding of our world through practical, enriching activities and observations rather than purely amassing facts.
- To encourage children to keep an open mind, seek patterns, ask questions, try to solve problems by logical thinking and to develop skills using tools and apparatus.
- To communicate findings to others in a variety of ways.
- To show that Science is for all and that men and women from all cultures have contributed to scientific discovery.

Science learning develops children's skills through:

- Interpreting and carrying out instructions.
- Asking questions and devising fair tests
- Looking for patterns, relationships and differences
- Making predictions and drawing evidence-based conclusions
- Handling equipment and materials responsibly
- Measuring accurately
- Recording their findings carefully, in a variety of ways i.e. notes, graphs, drawings, charts
- Using reference materials appropriately (both paper and ICT based)
- Understanding that in many cases there can be more than one conclusion to draw from an investigation
- Topics link to real life learning

CROSS CURRICULAR OBJECTIVES

In line with our curriculum, Science is linked with our creative curriculum approach. Science is carried out as part of an integrated unit where children will be applying a range of knowledge and skills from

different subject areas to pursue a key line of enquiry. This will help to make the children's science more meaningful and will therefore enhance their learning.

Mathematical skills very often link naturally, in terms of measurement and recording. Much of the work will be tackled collaboratively and the subsequent interaction will enhance language skills. English reading and writing skills will complement the Science curriculum as children report their learning to others, either in a written form or orally. Art and DT is also incorporated into the curriculum especially for older pupils as they begin drawing and labelling accurate diagrams and creating working models for specific scientific aspects.

HOW SCIENCE IS STRUCTURED THROUGH THE SCHOOL

Statutory Requirements:

Statutory requirements for the teaching and learning of Science are laid out in, The National Curriculum in England Framework Document for Teaching, September 2014 and the Statutory framework for the Early Years Foundation Stage, September 2020. The national curriculum for 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. Our role is to teach science enquiries through the contexts of the three main content areas. Children in the foundation stage are taught the science elements of the Early Years Foundation Stage curriculum through the area 'Understanding the World.'

Planning for science is a process in which all teachers are involved to ensure that the school gives full coverage of National Curriculum and the Foundation stage. Science will be taught either weekly or blocked into weekly units over a half term to ensure coverage of the curriculum. The children will tackle the skills of 'working scientifically' throughout all key stages and these will be built and developed upon as children progress through the school. The progression within this will be based upon the children being able to use the skills more independently as they get older.

SCIENCE PLANNING

The school follows the National Curriculum for science. Teachers are provided with clear questions which have been threaded into the creative curriculum by the Science and Curriculum lead. This ensures progression between year groups and guarantees topics are revisited. Teachers are expected to use these to create plans to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available. We must ensure that any modification does not overlook any areas of the science curriculum.

ASSESSMENT/RECORD KEEPING/EVALUATION

Target Tracker is updated regularly with statements completed and achievements at the end of every half term, e.g. below, working towards, working at. From Summer term 2022, short knowledge assessments will be completed at the beginning and end of each unit of learning to assure accurate assessment and attainment recordings. This outcome will aid the teacher's judgement and link to TT statements. Target tracker (TT) is cross checked with books to ensure that assessments reflect learning.

Reports to parents are made verbally and written once a year, describing each child's attitude to science, his/her progress in scientific enquiry and understanding of the content of science.

EQUAL OPPORTUNITIES

- 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 English and Mathematics.
- We recognise the particular importance of first-hand experiences for motivating children with learning difficulties.
- We ensure Science develops children's creativity; we develop this by asking and encouraging challenging questions and encouraging original thinking whilst ensuring lessons are engaging, purposeful and enriched through visits and visitors.

SPECIAL NEEDS

For children with learning difficulties practical activities are thought to be most valid because:

- Involvement can occur without the need for a high level of formal literacy skills.
- Self-esteem can be developed without the need for skills in literacy.
- They can reduce the pressure of recording/writing skills when the outcome of an investigation is a tangible record in itself. (Photographic evidence)
- They can help children to co-operate and integrate. Children with special needs may require extra help to support and direct them.
- It encourages learning through 'play'/physical activities and also a curiosity for how the world works, feeding into a greater understanding of science

RESOURCES

Children will at times work individually, in small groups or as a whole class. A variety of resources are available for first-hand experience and children will be expected to be responsible for them within the classroom. These are based in a Resources Room. Teachers can apply for new resources through the Science lead.

SUPPORT

Teachers will be given access to in-service training and can discuss planning issues within and across teams in school. Contact will be maintained with advisors and advisory teachers where possible.

MONITORING

The science coordinator and Senior Leadership Team monitor Science in the school in a variety of ways including: lesson observations, work sampling, looking at termly plans, discussing science work with groups of children and making observations of classroom displays, science areas and resources in classrooms.

HEALTH AND SAFETY (REFER TO HEALTH AND SAFETY POLICY)

Appropriate risk assessments are in place to ensure children are able to carry out a range of scientific enquiry safely. Refer also to the ASE's Be Safe publication which outlines health and safety guidelines for science in schools.