Wallsend Jubilee Primary School

SCIENCE POLICY

Updated July 2022

Wallsend Jubilee Primary School Science Guidelines

At Wallsend Jubilee Primary school we understand the need for all pupils to develop their Scientific ability through STEM, as an essential component of all subjects and as a subject in its own right. A good understanding of scientific knowledge and conceptual understanding helps to support pupils work across the curriculum.

Aims

At Wallsend Jubilee Primary School teaching and learning in Science will:

- Enable children to develop skills in scientific thinking.
- Build upon children's natural sense of curiosity about the world around them.
- Provide opportunities for children to acquire the necessary skills to communicate scientific ideas, facts and data effectively.
- Develop an understanding of the nature of 'scientific method' which involves making predictions and hypothesis, designing a fair and controlled experiment, collecting appropriate data and drawing meaningful conclusions.
- Create, where possible, opportunities for science learning to be achieved through investigative and practical activities.
- Begin to build up a body of scientific knowledge and understanding which will serve as a foundation for future enquiry.

Teaching and Learning

- Children will be taught science in a way that is appropriate to their needs and learning styles; linking current learning to previous learning is essential:
- Children across all phases will be given the chance to explore and make predictions.
- Learning intentions will be shared with the class or groups and success criteria (expectations about outcomes) made clear.
  Teachers will plan time within lessons for children to discuss scientific ideas.
- The Working Scientifically strands of Science will run across each Key Phase (KS1, LKS2, UKS2) and are given equal weight to Knowledge and Understanding.
- In Early Years, opportunities to teach scientific knowledge and develop scientifical skills are planned carefully teach term, considering all areas of provision, both indoor and outdoor.
- Teachers will incorporate ICT into science lessons whenever it enhances the teaching and learning.
- Science visitors and visits to places of scientific interest are encouraged and valued. Our school grounds and locality are fully utilised, including our local country park.

Science is taught regularly. New science topics are studied every half term and taken from the school's Long Term Plan.
In the Foundation Stage, science is taught through the EYFS curriculum.

Classroom environment and resources

Science resources aim to encourage investigative science. Resources are stored in labelled boxes in the resource rooms. Teachers should see the science subject leader if they are

aware of gaps in resource provision or if they need something specific. Our school grounds and locality are fully utilised, including our local country park.

Scheme of work and cross curricular links

Medium term planning ensures learning appropriate to levels of achievement. Science medium term plans are drawn up by the teacher, taken from the statutory requirements of the national curriculum, and added to and adapted by as required. Long term planning for Science is available on the school website.

Assessment

At Wallsend Jubilee, we believe Assessment for Learning is the most powerful assessment tool.

- Class teachers use success criteria, so children know their strengths and what they need to do to improve. These success criteria may be established with the children or by the teacher using learning objectives found on medium term plans. Children are encouraged to use success criteria to assess their own progress.
- Observation and questioning of children are used by teachers to assess children's ability to work scientifically.
- Pre and post unit assessments are used to determine children's levels of knowledge and understanding.
- Teachers evaluate every science lesson against the learning objective for that lesson and plan subsequent learning based on these evaluations.
- Class teachers assess children annually using Key Performance Indicators on Target Tracker. The data is then uploaded to Target Tracker so that progress between years and across the school can be easily analysed.
- Formal assessment of pupils meeting or not meeting the expected standard for science takes place at the end of key stages 1 and 2. In The Early Years, pupils are assessed against several Early Learning Goals which take into account their scientific knowledge and understanding, and ability to work scientifically.

Equal Opportunities

In line with our Inclusion policy we aim to give all children equal access to the curriculum by embedding learning in contexts that are relevant to the children. Weekly planning for science will be differentiated, through level of questioning or extension tasks, to ensure all abilities make progress. Where a child has specific learning needs, planning will show how these needs have been catered for. Vocabulary mats for key unit vocabulary are used to support understanding and retention of knowledge.

Health & Safety

Health and Safety issues in teaching science are of the utmost importance and guidelines are discussed and updated regularly, and shared with staff. Particular risks are indicated in teachers planning and we follow the safety guidelines published by CLEAPSS.

For further information please refer to:

- The Teaching and Learning Policy
- The Assessment Policy
- The Health and Safety Policy
- The Equal Opportunities Policy

Foundation Stage: Pupils explore science through several specific areas of the Early Years Educational Programme, with a focus on Understanding the World. They are taught to work scientifically through both play and structured group activities, making predictions and discussing what they would change, with access to scientific equipment including magnifying glasses, pipettes and bug viewers.
Teachers and teaching assistants support pupils to develop a solid understanding of things occurring around them in their day-to-day lives. Children are encouraged to be creative and inquisitive as they participate in activities. Pupils are encouraged to use their natural inquisitiveness, while taking part in exploratory play in specific scientific areas including the spacious outdoor garden and planters, as well as other areas that link across the EYFS framework.

Key Stage One: During Key Stage one, pupils will observe, explore and ask questions about living things, materials and the world around them. They will begin to work together to collect evidence to help them answer questions. Pupils will use reference materials to find out more about scientific ideas. They share their ideas and communicate them using scientific language, drawings, charts and tables. Science lessons in Key Stage one are either taught discretely or where possible connected to other curriculum areas. Pupils often use the outdoor areas in their science learning.

Key Stage Two: Children will extend their higher-order thinking skills in Key Stage 2. They will begin to devise their own questions, and in Upper Key Stage 2 will consider the validity of their results. They will be given opportunity to present their findings in a variety of ways, including both oral and written reports. Children in Key Stage Two use data loggers to take accurate reading using standard measures. In Upper Key stage 2, children are introduced to the world of STEM; Enterprise and Engineering are embedded within the UKS2 curriculum.