

Appleton Wiske Community Primary School
Science Policy

Intent

Our science curriculum develops pupils' understanding of natural phenomena and stimulates a curiosity in finding out why things happen the way they do. Through the specific disciplines of biology, chemistry and physics, pupils are provided with the foundations for understanding the world. Our pupils learn to ask scientific questions, make predictions and analyse their findings in order to gain an understanding of science on a personal, national and global level. At our school, pupils will:

- Develop an enjoyment of science through a range of experiences
- Develop their scientific knowledge and conceptual understanding
- Understand and gain experience of the five types of scientific enquiry – observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing; researching using secondary sources
- Develop their investigative skills, including predicting, planning, fair testing and concluding
- Apply mathematical knowledge to their understanding of science
- Learn to express their understanding using technical scientific vocabulary
- Gain an understanding of the uses and implications of science now and in the future

Implementation

In planning the science curriculum, the school's context has been carefully considered so that learning has real purpose and provides our pupils with the necessary skills and technical knowledge to work scientifically. The EYFS Curriculum for Understanding the World is taught in a variety of ways through adult-led, adult-supported and child-initiated learning in well-resourced areas of provision. Pupils are taught the knowledge and skills for 'The World' using a thematic approach which ensures progression as pupils move from EYFS to Key Stage 1. In Key Stage 1 and Key Stage 2, the school's long term plan maps out the National Curriculum Programmes of Study for science, ensuring appropriate coverage over a 2-year cycle which is well-sequenced with clear progression of knowledge and skills. In Key Stage 1, pupils learn about plants; animals, including humans; everyday materials; seasonal changes; living things and their habitats. In Key Stage 2, pupils learn about plants; animals, including humans; rocks; light; forces and magnets; states of matter; sound; electricity; properties and changes of materials; earth and space; evolution and inheritance. In both Key Stage 1 and Key Stage 2, pupils learn to work scientifically throughout each science unit according to the requirements set out in the National Curriculum. The science curriculum is delivered through discrete lessons focusing on specific skills and knowledge, and learning is clearly sequenced so that pupils revisit and recall previous learning. Teaching staff adopt a variety of teaching styles to match the learning needs of every pupil, and work is set for individuals, groups and the whole class as appropriate to the task. Some topics are best learned through investigative practical work while others demand a more direct teaching approach. Where possible, links are made with other areas of the curriculum. Pupils record their findings in a variety of ways using charts, tables and graphs. Staff promote the use of higher order questioning skills, scientific vocabulary and develop pupils' understanding of how to sequence an investigation. Good quality science resources are stored centrally and updated when appropriate based on the needs of the school. Where possible, opportunities for the use of ICT resources are provided which aid the pupils' learning and enrich the delivery of the science curriculum. Interactive working walls are used by the pupils and staff to enhance teaching and learning.

Assessment:

Pupils are assessed according to the criteria set out in the Early Years Foundation Stage and National Curriculum for Years 1 to 6. In EYFS, regular observations and assessments of learning are recorded using Learning Journeys and the school's Early Years online monitoring system. Pupils are assessed at the end of EYFS using the Early Years outcomes for 'The World'. In Key Stage 1 and Key Stage 2, the school's electronic tracking system is used for planning, tracking and assessment, and provides clear progression through the skills and knowledge needed in each year group. Formative assessment is ongoing; teachers monitor pupils' learning throughout every session and adapt their practice and planning accordingly. Summative assessment is tracked on the school's electronic tracking system and used to measure pupil progress. Pupil progress is monitored by the Head Teacher and teaching staff in order to identify gaps in learning or slow progress. Teaching staff attend moderation sessions organised by the local authority and with the local cluster of schools. End of Key Stage assessments are analysed by the Science Leader and Head Teacher, which then feed into the SEF and SIP. Parents are informed of their child's progress in science through parent/teacher consultations, written reports and informal discussions throughout the year. Monitoring of the subject is carried out by the Science Leader, Head Teacher and Link Governor. A variety of methods are used, including lesson observations, learning walks, planning scrutinies, book scrutinies and pupil conferencing.

Health and Safety:

We follow the guidelines set out in the 'Safe Science' document produced by ASE (Association of Science Education) and North Yorkshire Health and Safety Policy. A risk assessment will be carried out before any potentially dangerous scientific activity is undertaken. Pupils will be informed of any risks or hazards but will also be encouraged to assess and identify risks for themselves.

Impact:

Our pupils receive a deep and rich science curriculum which allows them to develop their scientific knowledge, conceptual understanding and investigative skills. Progression of knowledge and skills is clearly sequenced and cumulative, ensuring pupils build on prior learning so that they understand and can apply this to future learning across the whole curriculum. Our science curriculum provides a foundation for understanding the world and prepares pupils for their lives beyond primary education.

Revised: July 2021

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