

Hindley J & I School



Science Policy

Written and revised: January 2018

To be reviewed:

_____ Signed on behalf of the school _____ date

_____ Signed on behalf of the governors _____ date

POLICY FOR SCIENCE

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Document Purpose

This policy reflects the values and philosophy of Hindley Junior and Infant School in relation to the teaching and learning of science. It gives a framework within which all staff, both teaching and non-teaching, work and it gives guidance on planning, teaching and assessment. The policy is intended to be used in conjunction with the Scheme of Work for Science which gives details of what pupils in different year groups are taught.

Audience

This policy document, having been presented to and agreed by the whole staff and the Governing Body, is distributed to all individual members of the teaching and nonteaching staff and school governors. Such distribution ensures the accessibility of the document to visiting teachers, for example outreach/support staff and parents. Extra copies of the document are available from the subject leader.

Subject Aims

Our Science Policy follows The National Curriculum 2014 for Science Guidelines and aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics;
- develop methods of systematic enquiry (predicting, planning, doing, and concluding);
- consider the ways in which science is relevant to their lives and all living things;
- understand findings through the use of correct scientific vocabulary and a wide range of data collection and presentation;
- understand the uses and implications of science, today and for the future;
- encourage children to develop a love and understanding for science;
- teach motivating and engaging lessons.

How shall we achieve these aims?

By focusing on the development of skills, following the agreed scheme of work and giving the children the opportunity to: -

- ask questions, develop knowledge and understanding, and obtain first-hand information;
- develop skills of enquiry and use I.C.T. including data-loggers;
- relate science to their everyday experience, learn the importance of science to their health and of treating living things with care and respect;

- understand that an idea comes from some sort of evidence and that better evidence helps us develop better scientific understanding;
- use scientific vocabulary;
- record their work in the form of drawings, diagrams, tables and charts, speech and writing;
- recognise hazards and risks when doing science activities and the importance of following instructions and correct use of equipment.

Curriculum

The programmes of study for Science are set out year-by-year for Key Stages 1 and 2. We are however, only required to teach the relevant programme of study by the end of the key stage. Within each key stage, school has the flexibility to introduce content earlier or later than set out in the programme of study and may introduce key stage content during an earlier key stage if appropriate. Teachers will base their planning on the programmes of study for their relevant year groups (Appendix 1).

Cross-curricular links

Links should be encouraged as appropriate. Science links naturally with Maths, English, ICT, Geography, History, Design and Technology, PE, Art and Music.

Moral, Spiritual, Cultural

Science does not exist in isolation; it has a moral, spiritual and cultural aspect. Children need to be made aware of this. Children should learn how to treat living things and the environment with care and sensitivity. Sensitivity needs to be developed towards other cultures e.g. food, drink, similarities and differences.

Scientific knowledge and conceptual understanding

The programmes of study describe a sequence of knowledge and concepts. While it is important that pupils make progress, it is also vitally important that they develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage.

Pupils should be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data.

The nature, processes and methods of science

'Working scientifically' specifies the understanding of the nature, processes and methods of science for each year group. It should not be taught as a separate strand but rather be a fundamental part of lessons.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Assessment

Assessment for learning is continuous throughout the planning, teaching and learning cycle. However children are more formally assessed at the end of each unit using a variety of methods:-

- observing 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 assessment tests from years 1 – 6;
- end of year assessment tests 1-6.

Assessments should be recorded in teachers mark book to inform staff, pupils, parents and a copy given to the subject leader.

Monitoring and Evaluation

The Subject Leader follows the school Self Evaluation for Subject Leaders guidelines and is achieved through;

- monitoring and evaluation of pupils work;
- lesson observations;
- monitoring of planning;
- learning walks;
- pupil interviews.

Resources and Accommodation

A wide variety of science resources are available in school. These include children's reference books, teachers' resource books and notes, science materials and equipment and DVD's with the accompanying notes. A range of pictorial resources such as posters, pictures and photographs are also available. Resources are shared and all staff, including visiting students, have equal access to all resources.

Staff have access to all Twinkl science to help plan, resource and display the content of their science lessons. Staff are encouraged to take advantage of the wide range of resources from the internet including STEM, CLEAPSS and ASE in order to make science lessons engaging and stimulating.

Wherever possible and appropriate, educational visits are included in a science topic. The majority of science materials and equipment are kept in the science area of the KS2 resource room. Children should NOT remove or replace resources at any time unless closely supervised by a responsible adult.

The subject leader is responsible for maintaining science resources, monitoring their use and organising the science area. Resources are examined regularly before

requisitions are made. Staff are asked to submit to the subject leader lists of any resources which they require.

Health and Safety

In regard to science work in school all teachers will be conversant with the "Be Safe" safety booklet, which can be found in the KS2 resource room. Where appropriate reminders will be given to children about potential hazards and care of the equipment they are using. Any trips should have been planned with due regard to the school policy on taking children on outings. LA guidance may need to be sought on trips involving farms etc.

Equal Opportunities

At Hindley Junior and Infant School we are committed to providing all children with an equal entitlement to scientific activities and opportunities regardless of race, gender, culture or class. All teaching and non-teaching staff at Hindley Junior and Infant School are responsible for ensuring that all pupils have access to the whole curriculum and opportunities to make the greatest progress possible in all areas of the curriculum while in our school. Staff should also be familiar with the school Equal Opportunities Policy.

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 extended 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.

Special Educational Needs

See Policy on Special Educational Needs.

Appendix 1 Science Topics

Year Group	Topic
EYFS	Understanding of the World: People and communities; The world; Technology
Year 1	Plants; Animals including humans; Everyday materials; Seasonal changes
Year 2	Uses of everyday materials; Living things and their habitats; Plants; Animals including humans
Year 3	Plants; Animals including humans; Rocks; Light; Forces and magnets;
Year 4	Animals including humans; Living things and habitats; States of matter; Electricity; Sound
Year 5	Living things and habitats; Animals including humans; Earth and Space; Properties and changes to materials; Forces
Year 6	Living things and their habitats; Light; Evolution and Inheritance; Electricity; Animals including humans