

WHITCHURCH PRIMARY SCHOOL

SCIENCE POLICY

1. Definition

1.1 Science is a way of working that allows children, through practical first hand experiences and secondary sources, to develop their knowledge and understanding of the world in which they live. These experiences should allow them to observe, investigate, make sense of and communicate and evaluate their findings

2. Aims

2.1 To enable all children to:

- develop a questioning and reflective mind by providing a range of interesting and enjoyable activities
- 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
- develop understanding of the uses and implications of science, today and for the future.
- work safely and carefully, with a basic understanding of risk and how to reduce it.

3. Attitudes

3.1 Through Science we endeavour to foster the following qualities:

curiosity, perseverance, open-mindedness, self-discipline, sensitivity to others, independence, adaptability, co-operation and care for living things.

4. Teaching and Learning

4.1 All children have access to the Science programmes of study in the

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National Curriculum in England September 2013.

4.2 Science at Foundation Stage (Reception) is covered through 'Understanding of the World' area of the EYFS Curriculum. It is introduced directly through activities that encourage your child to explore, problem solve, observe, predict, make decisions and think about the world around them. There is a Science Long Term Plan outlining coverage of the Science topics within the Biology, Chemistry and Physics programmes of study. Science is taught in single year groups across the school.

Year	Term 1 (14.5 weeks)	Term 2 (11 weeks)	Term 3 (13.5 weeks)
Year 1	Animals including Humans	Everyday Materials	Plants
	Energy: Seasonal Changes		
Year 2	Animals including Humans	Uses of Everyday Materials	Plants
	Living Things and Their Habitats		
Year 3	Animals including Humans: Skeleton and Muscles and Nutrition	Rocks and Soils (Materials)	Energy: Light Plants
	Forces and Magnets		
Year 4	Electricity	Energy: Sound	Living things and their
	Animals including Humans - Digestive System and Teeth	Materials: States of Matter	
Year 5	Forces	Earth and Space	Living things and their Habitats: Lifecycles
	Materials: Mixtures & Separating	Materials: Properties and Changes	Animals including Humans - Changes from Birth to old age in Humans
Year 6	Animals including Humans: Human Circulation System & Nutrition	Light P2 Evolution and Inheritance	Living things and their Habitats: Classification & Characteristics
	Light P1		Electricity

4.3 The long term progression details what will be taught to particular year groups

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and covers key vocabulary and learning. It covers previous learning and key questions.

A wide range of published resources are adapted and supplemented to match the needs of each cohort.

4.4 Science, as a core subject, is taught once a week to Year 1-6 during the afternoon. Some Science teaching is with the whole class but children have opportunities to work both individually and in small groups.

4.5 'Working Scientifically' (developing an understanding of how science is generated and grows): these skills are developed through:

- Individual skill activities e.g. measuring with a thermometer
- Directed activities (e.g. dissolving) where children are asked to use particular skills e.g. prediction, fair testing, etc.
- A range of investigations including whole investigations.

4.6 In our Science activities we plan to develop the following skills:-

observing; raising questions; predicting; hypothesising; planning; controlling factors (fair testing); measuring; collecting and interpreting data; constructing tables and graphs; recording detailed observations; explaining; communicating and evaluating findings; researching information.

4.7 Working Scientifically skills are embedded into lessons to ensure they are being developed throughout the children's school career and new vocabulary and challenging concepts are introduced through the use of science knowledge organisers and direct teaching. This is developed through the years, in-keeping with the topics.

5. Equal Opportunities

5.1 All children are given equal opportunities in all areas of Science. To ensure this, groups undertaking investigations / experiments are varied, to include mixed ability groups, differentiated ability groups, mixed age groups, and single gender groups.

6. Progression

6.1 We recognise that our curriculum planning must allow for children to gain a progressively deeper level of knowledge and understanding and skill competency as they move through the school. This is achieved through our plans which have progression built into them, and through our record keeping and target setting system. Activities and expectations are adjusted to meet the particular needs of individuals or groups of children in medium term planning.

7. Links to other subjects

7.1 Computing is an important tool in Science work and children research, communicate and collect and interrogate data in a variety of ways. There are many links to Maths with a focus on interpreting data, record results and presenting data. Whilst retaining its unique status, Science has curricular links to other subjects such as English, History, Geography, PSHE and Music.

8. Records and Assessment

8.1 Assessment of children's development is made through a combination of ongoing teacher assessment, formal tasks and assessments against unit expectations at the end of each unit.

8.3 A record is kept of children's achievements in Science through teachers' own notes and our online 'Insights' system.

9. Safety

9.1 It is important that children are taught the rules of safety when undertaking experiments and investigations. Materials and equipment need to be handled sensibly and we try to ensure that children do this. We involve the children in identifying hazards and assessing risks, and in planning how to carry out activities in such a way as to reduce risk.

9.2 All staff should be aware that the County has adopted as its Science safety policy the document published by the Association for Science Education with the title "Be Safe" [known as ASE Be Safe]. It is the teacher's responsibility to make sure that all helpers (TAs, parents etc.) are aware of safety implications connected with any Science activity they are undertaking.

10. Monitoring

10.1 The Science curriculum is monitored by the Science co-ordinator through observing teaching in each class; looking at plans, looking at children's work, talking to children and reviewing 'Insights' records annually.

11. Resources

11.1 The Science resources are kept in a dedicated storage unit in the hall, sorted into topic boxes e.g. Forces, Materials, Electricity, etc. with an inventory on the box lid.

12. Spiritual Moral, Social, Cultural Opportunities

12.1 In Science lessons pupils are encouraged to delve deeply into their understanding of Science and how it relates to the world around them. Our Science teaching actively encourages risk taking which enables pupils to explore and try new ideas without the fear of failure. This is fundamental to building pupils' self-esteem within Science.

12.2 Science should make a contribution to pupils' SMSC development through:

- To reflect on the wonder of the natural world.
- To show awareness of the ways that science and technology can affect society and the environment.
- To consider the moral dilemmas that can result from scientific developments.
- To show respect for differing opinions, on creation for example. To develop awareness that scientific developments are the product of many different cultures.
- To reflect on the wonder of the natural world.
- To consider the ways in which light, sound and water are used as symbols for religious rituals.
- To develop a concern for our world and to begin to understand the need to treat all living things with care and respect.
- To consider how scientific inventions have affected society e.g. electricity.

Status of this Policy:

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Lead contributions from:

Staff : Kelly Mullenger (Science co-ordinator) ;

Governors: Curriculum Committee and Phil Davies