

SCIENCE POLICY

Aims

At St Winifred's we teach science because we want to encourage and develop children's natural curiosity in the world around them. We want children to become independent learners and science is at the heart of our rapidly changing world in which we live and in which children are growing. Teaching science can enable children to gain a greater understanding of this world.

As a Rights Respecting School, we strive to respect the UN Convention on the Rights of the Child (article 29) *Education must develop every child's personality, talents and abilities to the full. It must encourage the child's respect for human rights as well as respect for their parents, their own and other cultures, and the environment.* The Science curriculum gives each child the opportunity to respect the natural world and explore their place in a changing physical world.

Purpose

Through our teaching of science, we want to develop all pupils into children who:

- question
- organise their thoughts
- reflect on their results and evaluate
- can communicate their ideas orally and in writing and diagrams
- who have confidence as scientists, irrespective of ability, gender or race.
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Broad Guidelines

When teaching science, we:

teach children to foster the skills of working scientifically by asking questions, predicting, observing and measuring, manipulating variables, gathering and interpreting results and evidence, evaluating what they have found, and researching using secondary sources;

-cover the requirements of the science programmes of study for Key Stages 1 and 2 through following the Kent scheme of work for Primary Science;

-use computing to promote learning and extend methods of recording and analysing results, for example using spreadsheets for storing and organising a range of data collected by children;

-meet the requirements of the National Curriculum by the Summer Term of Year 6 by teaching science for on average, 2 hours per week ideally in a block, or organised flexibly when necessary;

-provide opportunity for practical science enquiry to promote discovery, believing that this can enable children to become methodical, self-critical, co-operative, objective and open minded;

-provide a format for children to help them record their work;

- encourage correct use of scientific vocabulary, so that all children can understand such terms as 'fair test' and 'variable' and can speak and write with increasing precision and clarity;
- start each topic with sharing of key science words which are displayed in the classroom science area;
- work closely with children with special needs to direct their learning through appropriate questioning and give guidance and scaffolding support to record their work;
- provide access for all members of the class, irrespective of race or gender or ability, by allowing mixed groups to work together or individual enquiry when appropriate;
- ensure there is an adequate supply of resources and equipment which is stored in the science resource area;
- create an attractive, stimulating science area in each classroom which may include a display of key words, artefacts, books, drawings, posters and examples of children's work;
- encourage children to use computing and technology equipment (simulations, data loggers, microscopes, digital cameras, internet), topic books and encyclopaedias to help them with research;
- ensure safety regulations are met by alerting staff to possible hazards in the medium term planning guidelines; and
- we maintain care of equipment and encourage children to develop a sense of responsibility towards it.

Policy into Practice

1. Class teachers timetable science lessons each week.
2. Good quality science teaching and learning **Engages** the children, lets them **Explore** and allows them to **Explain** what they have found out. It **Extends** their knowledge, and they can **Evaluate** their knowledge and skills.
3. Good science teaching includes clear exposition by the teacher, skilful questioning of pupils and a mixture of teacher demonstration, independent use of reference resources and practical and experimental work by the pupils. Science can be delivered through a mixture of individual, small group and whole class teaching, where appropriate.
4. To aid planning and coverage we use Kent Scheme of Work for Primary Science as our core scheme. Other online resources are used to enhance and supplement the teaching of science – TigTag, Explorify and Hamilton Trust.
5. We organise at least one science trip (including Horton Kirby Environmental Centre) each year (lock-down regulations permitting).

6. Where appropriate, we invite science experts and outreach workers to come into school to do workshop eg Andrew Smith (bug man) or Science Museum Outreach and local GP, dentist or an environmentalist.
7. The school has a well-stocked science resources area.

Curriculum and planning

Medium term planning from Edukent is on the central resource file for teachers, who modify these plans to ensure good pace, coverage and assessment opportunities.

Record Keeping and Assessment

All Science work is neatly presented in A4 science books and marked regularly in accordance with the school's marking policy.

Children are assessed on their knowledge and understanding of the **nature, processes and methods** of science. Teacher assessment is carried out at the end of each topic using the assessment grid from Edukent medium term plans. Teacher assessment is shared with the science co-ordinator and SLT once a term.

Monitoring

The Science co-ordinator carries out termly sampling of science books and classroom displays to ensure high quality teaching and learning of science throughout the school. Feedback is given and good practice shared with colleagues.

Where needs arise, the science co-ordinator has the opportunity to support colleagues, especially NQTs through team teaching and lesson observations.

Professional development

Any member staff seeking support in the teaching of science are given the opportunity to attend suitable courses when they become available. This is arranged with the science co-ordinator or SLT. The science co-ordinator and head teacher arrange regular INSET including staff meetings.