

THOMAS RUSSELL INFANTS' SCHOOL

SCIENCE POLICY

1. Aims and Objectives

The aims of our science teaching are that children should be trained to think and act as young scientists; carrying out their own experiments, inferring their own conclusions and understanding the relevance of their discoveries to the world they live in. We aim to ensure such experiences will be appropriate, relevant, challenging and satisfy the children's curiosity.

"Science has changed our lives and it is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena." (National Curriculum in England 2014).

We aim to:

- foster children's wonder and natural curiosity about the world they live in through active engagement in learning experiences.
- provide opportunities for children to develop knowledge and understanding of key scientific ideas.
- develop children's scientific enquiry skills in questioning, predicting, planning, observing, measuring, fair testing, recording, interpreting and working systematically through direct experience.
- provide children with the ability to make informed decisions based on evidence and their own experiences and be able to apply scientific knowledge to new situations.
- teach children how to communicate their ideas effectively.
- demonstrate interest and enthusiasm for science and to be confident to participate in explorative and investigative work.
- develop skills in discussing and recording work, maths skills to communicate scientific ideas through diagrams and charts and computing to extract scientific information.
- develop values and attitudes, communicating with others, listening to ideas and treating these with respect.
- develop an awareness and sensitivity to the living and non-living environment through access to the natural environment.
- develop a responsibility for their own health and safety and that of others when undertaking scientific activities.

2. Inclusion For All

We respect the fact that children:

- have different educational and behavioural needs and aspirations
- require different strategies for learning
- acquire, assimilate and communicate information at different rates
- need a range of different teaching approaches

We embrace the principles of the Dyslexia Friendly Initiative at Thomas Russell Infants' and cater for dyslexic students at all times.

Teachers respond to children's needs by –

- providing support for children who need help with communication, language and literacy
- planning to develop this understanding through the use of all available senses and experiences
- planning for children's full participation in learning and in physical and practical activities

- helping children to manage their behaviour and to take part in learning and in physical and practical activities
- helping individuals to manage their emotions, particularly trauma or stress and to take part in learning

3. Teaching and Learning Style

A variety of teaching and learning styles are used in science lessons in order to develop children's knowledge, skills and understanding. Children are encouraged to ask and answer scientific questions. In the Early Years and Key Stage 1 Science is taught using the teacher as a fellow investigator following the needs of the children, they do not just impart their knowledge to the children. Investigations follow the needs of the children's knowledge base, teachers operate an 'open-ended' approach to the timing of lesson coverage. For example some scientific investigations may engage the class in science discovery for a day or some for a week or more.

We recognise that there are children of differing scientific abilities and learning styles in all classes, and we aim to provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. This is achieved through a variety of ways, such as setting open ended tasks, differentiating the tasks according to ability and using adults to support individuals or groups of children.

All children are made aware of the relevance of health and safety when understanding work in science.

4. Science Curriculum Planning

In the Early Years, children work to the Statutory framework for the early years foundation stage (EYFS) The section 'Understanding the World' involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment.

In Key Stage 1 the National Curriculum is used as a basis for coverage of skills.

- Long Term Planning – The long term plan maps out the topics that the children study in each term during the key stage. This ensures that all year groups cover the statutory requirements in either the National Curriculum or the Early Years Foundation Stage
- Medium Term Planning - The medium term plan gives details of each topic of work for each term. The learning objectives for each topic are stated on the planning ensuring that they link directly to the National Curriculum or the Early Years Foundation Stage.
- Short Term Planning – These plans list the specific learning objectives for each lesson. They include differentiated activities and suggest where adult support will be needed.

5. Contribution of Science to teaching in other curriculum areas

Science contributes to many subjects within the primary curriculum and opportunities are sought at the planning stage to link curriculum areas wherever possible. This will allow children to begin to use and apply scientific skills and knowledge in real and relevant contexts.

English – Science contributes to the teaching of English through promoting the skills of reading, writing and speaking and listening. The children develop skills in science lessons through discussions and through recounting their observations of science investigations. They develop their writing skills through writing reports and recording information.

Maths – Science contributes to the teaching of maths through using weights, measures and learning to use and apply number. While working on investigations the children learn to estimate and predict. They will use numbers in many of their findings: they will begin to create and interpret tables and graphs, they will also read scales such as thermometers and tape measures.

Computing – Children will use computing in science lessons to support their work by learning how to research information using the internet or computer programs. They will also have access to equipment such as iPads, cameras and computer programs to record and present their findings.

6. Assessment and Recording

- Children’s progress in science is assessed and monitored throughout the year. Informal assessment is undertaken continuously by class teachers and T.A.’s whilst pupils are engaged in tasks. Immediate feedback can be given to pupils about their work and teaching points can be emphasised. This also gives pupils the opportunity to assess and review their own work.
- Work is marked in accordance with the schools marking policy.
- Individual assessment sheets chart an individual child’s progress. These sheets follow the child through their time at school, to reflect their developing scientific understanding. Evidence of a child’s progress can be seen in science books which includes written and recorded work or photographs and informal observations. Cross- curricular evidence may also be available from other subject areas.
- Progress in science is reported to parents at the end of Year Two with Key Stage One SATs teacher assessment results. A general comment on the child’s progress in science is included in each year group’s annual report to parents.

7. Resources

Main science resources are stored centrally in the science cupboards. Individual year groups may keep resources relevant to them within their year group storage.

8. Monitoring and Review

The science subject co-ordinator is responsible for monitoring the subject to ensure consistency of approach across the school. Through monitoring the co-ordinator can ascertain pupils understanding of science and the science lessons they have taken part in.

The co-ordinator supports colleagues in the teaching of science by giving them information about current developments in the subject, and by providing a strategic lead and direction for the subject in the school. The subject co-ordinator along with the science link governor is also responsible for reviewing developments for science identified on the School Improvement Plan, evaluating strengths and weaknesses in the subject, and indicating areas for further improvement.

9. Health and Safety

- All children are taught to recognise hazards and to plan and conduct their work in a safe manner.
- All staff plan and conduct work with safety in mind.
- The Association for Science Education (ASE) publication “Be Safe” is available in school.

This Policy is reviewed annually

Last reviewed September 2016

Next review date September 2017