

Royal Borough of Kingston upon Thames

Green Lane Primary and Nursery School



Science Policy

Science Policy

RATIONALE

Science is important because:

- it is a body of knowledge essential to our understanding of the world around us
- it builds up a methodology for thinking which forms the basis of most intellectual enquiry
- the skills, processes and knowledge of science can be widely applied in everyday life
- Science is a core subject in the National Curriculum.

The National Curriculum for science aims to ensure that all pupils:

- 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.
- Are equipped with the scientific knowledge required to understand the uses and implications of science today and for the future.

AIMS AND OBJECTIVES

1. develop a positive attitude towards science
2. identify and challenge pupils' misconceptions
3. develop children's ability to apply their skills and knowledge in a variety of practical, real life situations including the use of outdoor learning
4. develop enquiring minds and stimulate pupils' innate curiosity
5. embed the use of ICT within science
6. promote the use of accurate scientific vocabulary including links across the other subjects
7. provide opportunities to pursue their own interests in science
8. encourage the confidence to question constructively their scientific understanding and the theories of others
9. use exciting and motivating themes and learning opportunities as part of a creative curriculum to allow scientific knowledge to be developed in other areas of study
10. to develop an awareness of safety issues arising within this environment

INCLUSION

We cater for the different needs of children by appropriate differentiation in resources, materials and expectations, which are clearly identified, in our plans.

We aim to give every child the opportunity to experience success in learning and to achieve as high a standard as possible. The clear identification of focused objectives for teaching and learning and the thoughtful use of appropriate resources to ensure that all pupils are able to experience and learn about science achieve this.

Children with special needs receive support with key scientific words and concepts, alongside their other support as needed. Children for whom English is an additional language are given every opportunity to experience science and learn the appropriate language. They have opportunities to record their ideas and experiences and develop their skills of investigation and enquiry. It is essential that there is equality of opportunity for all pupils to be able to access the science curriculum irrespective of their ethnicity, gender or disability.

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Policy on: Science

Consideration of health and safety issues is of the utmost importance in science. All pupils are made aware of the relevance of appropriate issues when undertaking activities. Staff know where to find the appropriate safety information in the "Be Safe Handbook". They are also aware of the CLEAPPS helpline for obtaining health and safety advice in Science.

TEACHING AND LEARNING STYLE

- The mode of working in science is predominantly co-operative group work on practical enquiry tasks. Whole class teaching and individual work are used where appropriate. Groups are generally of mixed ability with differentiation by role, recording and outcome. Ability groups with differentiated tasks will also be used for extending the more able scientists and supporting the less able scientists. Relevant discussions are encouraged with groups and individuals being expected to communicate their findings in a variety of ways.
- Classrooms are set up to facilitate group work with resources being made accessible and readily available.
- Teaching assistants are used to assist in science as and when appropriate.
- Science is to be accessible to all pupils, including those with Special Needs by use of appropriate grouping, adult support and set tasks. This is for pupils who have learning difficulties or who are particularly able.
- Excellence in science is celebrated by praise, sharing and displays.

CURRICULUM PLANNING INCLUDING LINKS WITH OTHER SUBJECTS

- The Science knowledge objectives and 'working scientifically' skills are taken from the 2014 Science National Curriculum.
- The science curriculum is organised into a programme of topics through the creative curriculum. As a guide it is expected in KS1 and KS2 that approximately 2 hours per fortnight (or equivalent over the year) is taught throughout the school.
- Science is taught through a variety of enquiry methods including: investigation, pattern seeking, research, observations over time and fair testing.

ASSESSMENT, RECORDING AND REPORTING

There are a number of opportunities for assessment:

Short-term - informal assessment which takes place during the lesson and at the end of each piece of work, through discussion, observation and monitoring of work.

Medium-term – each child has a key skills grid stuck into their books at the start of each topic. These are referred to and annotated throughout each unit of work. Lesson are planned on timetables and then added onto slides, which include notes so that any teacher is able to run the lesson.

Children are given opportunities to review and assess their learning, through discussion around the key skills grid with their teacher and peers and the use of concept maps. They may be extended or asked to show consolidation in their learning through responding to marking.

Parents receive a written report at the end of the year, describing each child's attitude to science, progress in scientific enquiry and understanding of the content in science.

MONITORING

The science coordinator monitors medium term planning and weekly slides to ensure continuity and progression within and between year groups. There is a whole school progression document to ensure that skills and investigations aren't repeated.

The science coordinator also undertakes lesson observations in-line with the school's program of monitoring. After a round of observations, a report is published which contains points for action.

Pupil questionnaires and pupil conferencing as well as discussions with teachers feed into the monitoring of the subject conducted when required.

Pupils' books and teacher's marking are also monitored on a regular basis to ensure progression throughout the school.

RESOURCES

We ensure that the practical resources necessary to implement the plans are made available by regular communication with year groups, and these resources are housed in the science cupboard and are boxed by Science topic. These are available to teachers and pupils.

A range of published materials is used to support the delivery and planning of science. These include photocopiable resources, text books and topic books. On the network there is a wide selection of ICT resources, including PowerPoint presentations, video clips, microscope activities and year group plans for teachers to implement in the lessons.