

# Kincraig Primary School and Nursery



## Science Policy



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### Introduction

At Kinraig Primary School we value Science because;

- It makes an increasingly important contribution to all aspects of life.
- All children are naturally curious about their environment and Science makes a valuable contribution to their knowledge and understanding of the world.
- It is a core subject of the National Curriculum and children develop awareness and knowledge as detailed in the National Curriculum statements.

### Aims

These aims are intended for all pupils in school. How they are implemented will be dependent on the age and ability of the pupils:

- To build upon the best primary practice of learning where possible through investigation and first-hand experience.
- To develop knowledge and understanding of important scientific ideas, processes and skills and to relate these to everyday experiences.
- To enable children to be effective communicators of scientific ideas, facts and data using appropriate scientific vocabulary.
- To explore values and attitudes through Science.

### Entitlement and curriculum provision

Science is a core subject within the National Curriculum and all the pupils of this school must have access to Science appropriate to their age and stage of development. We believe that a broad and balanced Science is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability. Science is not taught in isolation but will draw naturally from and contribute towards other areas of the curriculum.

In the **Foundation Stage** Science is taught largely through Understanding the World, but is linked to all 7 areas of the EYFS.

At **Key Stage 1** pupils observe, explore and ask questions about living things, materials and physical phenomena. They begin to work together to collect evidence to help them answer questions and to link this to simple scientific ideas. They begin to evaluate evidence and consider whether tests or comparisons are fair. They use reference materials to find out more about scientific ideas. They share ideas and communicate them using scientific language, drawings, charts and tables with the help of ICT if it is appropriate.

At **Key Stage 2** pupils learn about a wider range of living things, materials and physical phenomena. They make links between ideas and explain things using simple models and theories. They apply their knowledge and understanding of scientific ideas to familiar phenomena, everyday things and their personal health. They

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think about the effects of scientific and technological developments on the environment and in other contexts. They carry out more systematic investigations, working on their own and with others. They use a range of reference sources in their work. They talk about their work and its significance, using a wide range of scientific language, conventional diagrams, charts, graphs and ICT to communicate their ideas.

### **Teaching and learning**

All lessons have clear learning objectives, which are shared and reviewed with the pupils effectively. A variety of strategies, including questioning, discussion, concept mapping and marking, are used to assess progress. The information is used to identify what is taught next.

Activities inspire the pupils to experiment and investigate the world around them and to help them raise their own questions such as "Why...?", "How...?" and "What happens if...?"

Activities develop the skills of enquiry, observation, locating sources of information, selecting appropriate equipment and using it safely, measuring and checking results, making comparisons and communicating results and findings.

Activities are challenging, motivating and extend pupils' learning.

Pupils have frequent opportunities to develop their skills in, and take responsibility for, planning investigative work, selecting relevant resources, making decisions about sources of information, carrying out activities safely and deciding on the best form of communicating their findings.

### **The contribution of science to other aspects of the curriculum**

The teaching of literacy, numeracy and Computing is promoted strongly in science as part of this school's drive to raise standards in English and mathematics. Science is used to extend and enable the pupils to practise the skills of language and literacy and numeracy.

### **English**

In particular, at Key Stage 1, the pupils are encouraged to use their speaking and listening skills to describe what they see and explain what they are going to do next. At Key Stage 2 the pupils are encouraged to develop their skills of writing to record their planning, what they observe and what they found out. In relation to science, they should be applying their English skills at levels similar to those which they are using in their English work.

### **Maths**

At both key stages the pupils are expected to use their knowledge and understanding of measurement and data handling at appropriate levels. In science, they should be applying their mathematical skills at levels similar to those which they are using in their mathematics' lessons.

### **Computing skills**

The pupils' computing skills are applied as identified in the medium-term planning. At both key stages this involves the pupils using skills to: locate and research information (CD ROM, internet); record findings (using text, data and tables); log changes to the environment over time (sensing equipment); gain confidence in using calculators, video cameras, digital cameras, and tape-recorder, as well as the computer. The use of

this equipment is indicated in medium-term planning and must be used. It forms an important part of the entitlement of all pupils in computing.

### **Spiritual development**

Spiritual development is encouraged through reminding pupils of the wonder of science and the effect of scientific discoveries on the modern world. Topical scientific issues are also discussed as appropriate.

### **Relationships and Sex Education**

Teachers need to take into account the themes appropriate to their age group when planning for Science, for e.g. Puberty links with Year 5 Science module – Animals including Humans

### **Special Educational Needs**

We believe that all children at Kincaig Primary School should have equal access to Science so that they may have the opportunity to progress and demonstrate achievement irrespective of ability or special educational needs.

Where special educational needs are identified, teachers will endeavour to provide such pupils with appropriately challenging work at each key stage, in line with the requirements of the NC.

Where pupils have special educational needs which are not identified as being learning difficulties, but require other special provision (e.g. the use of technological aids in practical and written work) then we will as a school, endeavour to make appropriate provision for such children.

### **Equal Opportunities and Differentiation**

It is important when planning work in Science that the teacher pays close attention to equal opportunity in respect of gender, race, the needs of the most able children and those children with special educational needs.

#### **Points for consideration by teachers when planning Science work are: -**

Am I promoting Science equally to both sexes?

Is the material I am using attractive to all children – particular care should be taken when using illustrations in books.

Take care when planning work so that racial ethics are given consideration, especially in work connected with the human body and food.

Am I catering for the needs of the most able children and those with learning difficulties? Will the work provided enable all children to feel that they are achieving and progressing?

If there is evidence of underachievement by any group, positive corrective action must be initiated

## **Assessment and Record Keeping**

All class teachers will use their assessment of the children in their class to plan appropriate work in Science. Class teachers will make an assessment of each child's progress in Science and keep appropriate records of achievement.

Class teachers will identify assessments in their medium term planning, showing the programme of study, and progression. In this way, assessment is built into teaching and not simply added on at the end. The teacher will then be able to use their assessment of children's progress in Science to plan further appropriate work. Records of each pupil's progress are kept by their teachers and handed on at the end of the year. Teachers analyse pupils' progress at the end of each school year to complete the annual report to parent. This report takes the form of a summary of the teachers' observations and continued assessment of the pupils at work thus giving parents a view of what their children know, understand and can do.

### **Key Stage 1 (assessment)**

Assessment is an on-going process brought about by:

- Observation of children working
- Discussion with children – before, during and after working
- Finding out activities
- Looking at/marking children's work
- Specific assessment tasks planned by the teacher
- Assessment tasks

### **Key Stage 2 (assessment)**

Assessment will be as for KS1 but selected children may be required to take a written tests at the end of KS2.

## **Essential Health and Safety Information**

It is important that all teachers are aware of the responsibility they have regarding health and safety both inside and outside the classroom. Teachers need to take account of both the children's and their own health and safety when involved in Science activities.

Safe practice as indicated in The Association of Science Education publication, "Be Safe!" must be promoted at all times.

Teachers must also take into account the school's Health and Safety policy and Risk assessment policy.

Further information on health and safety issues and safety points specific to individual science investigations, teachers should refer to The National Curriculum in England 2013

## **Homework**

No specific homework is set at either Key Stages. If teachers wish to set homework they need to select homework activities carefully so that parents and carers can provide the right levels of support or be provided with background support beforehand.

## **Staff development and training opportunities**

Staff development needs will be built into the school's staff development programme. The needs of individual member of staff (teaching and non-teaching) are identified as a result of the school's performance management programme. Staff attending training are expected to share the useful points with other relevant staff.

## **How the subject is monitored and evaluated**

All teachers are responsible for monitoring standards; this is overseen by the Senior Leadership Team.

### **Role of the Co-ordinator**

The role of the Science co-ordinator is:

- To co-ordinate the teaching of science within the school
- To monitor the use of the policy
- To ensure continuity and progression of the teaching and learning of Science across the key stages and the school
- To make changes to the policy if necessary
- To order and maintain resources
- To manage the Science budget
- To make staff aware of changes/thinking in Science
- To support staff who are less confident with Science
- To provide where necessary, staff training and development

### **Resource Management**

We as a staff are responsible for returning Science equipment when we have finished using it. Any damaged equipment should be reported to the Science co-ordinator as soon as possible.

We all agree that the quality and availability of resources must be maintained and that children should value the school's equipment. As funding allows, the range of resources will be updated and extended as necessary.

### **Agreement and review**

The subject leader is responsible for reporting to the governors' curriculum committee about the quality of its implementation and its impact on standards. In the light of this, policy amendments may be made.

Policy last update September 2021

The Science Policy at Kincaig Primary School and Nursery will be reviewed and modified on a regular basis at least every two years. It is possible to add amendments to this document prior to a review and these will be incorporated into the next issue. To add comments please complete the information on this sheet adding the date and signing where indicated.

Name of person responsible for this policy – Mrs Leanne Hobbs

Last Updated September 2021

Policy Adopted by the Governing Body –

Signed \_\_\_\_\_ Date \_\_\_\_\_

Date	Proposed Amendment	Signed