A nurturing inclusive learning community that enables everyone to be their best

CALTON PRIMARY SCHOOL AND PLAYGROUP

SCIENCE POLICY

Approved by Name
Teaching Learning and Assessment Committee
Term 2 2020

Next renewal date: Teaching Learning and Assessment Committee Term 2 22/23

'Young children's scientific experience should not consist of an easier version of secondary school practice but rather an extension of the primary drives present in an active 5 year old. That is to say, a fostering of their enjoyment of exploration, manipulation, comparison, arguing and testing. These 'finding out' activities are at the roots of science and such good primary practice can serve as an approach towards science.

Science and Primary Education Papers No.1 - Association for Science Education

1. Introduction - 1.1 Purpose of the Policy

• To inform pupils, staff, governors and parents.

• To outline our school's approaches to the curriculum.

• To ensure provision matches statutory requirements.

• To outline teaching and learning strategies.

• To assist staff in their planning of Science.

• To enable the Subject Leader, Head Teacher and Governors to identify priorities or issues pertaining to the position of Science in the school.

1.2 Nature of the Science Curriculum

Science is a core subject and will be included in the taught curriculum for

each half term, within topics, and linked to other subjects except where it

is inappropriate to do so.

The Foundation Stage for Knowledge and Understanding of the World

gives opportunities to investigate using a range of techniques and senses.

It prepares children for Key Stage 1 and is consistent with the National

Curriculum.

2. What we want the children at Calton Primary School to achieve

2.1 Aims

- To develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- To develop a knowledge about living things, materials and physical processes through scientific enquiry.
- To teach the investigative skills of observation, classification, prediction, planning, presenting evidence and evaluation.
- To encourage children to investigate adding to their knowledge about the world.
- To enable pupils to understand that science can help explain happenings in their

everyday lives and to use scientific knowledge in a way that is supported by informed personal judgements.
- To develop an appreciation and a curiosity for the wonder and mystery of the universe and to develop sensitivity towards living things and the environment.
- To enhance a positive attitude and approach to science as an interesting, useful and enjoyable study across a broad curriculum.

2.2 Objectives

By the end of KS1

Children will have had the experience of investigating and recording in a variety of situations. They will study topics and take part in work based on; plants, living things and their habitats, animals including humans, everyday materials and their uses.

By the end of Lower KS2

Children will have had the experience of investigating and recording in a variety of situations. They will study topics and take part in work based on; plants, living things and their habitats, animals including humans, rocks, states of matter, light, sound, forces and magnets and electricity.

By the end of Upper KS2

Children will have had the experience of investigating and recording in a variety of situations. They will study topics and take part in work based on; living things and their habitats, animals including humans, evolution and inheritance, properties and changes of materials, Earth and space, light, forces and electricity.

3. Implementation

3.1 Curriculum Equal Opportunities

All pupils are entitled to a broad and balanced Science curriculum in accordance with the school's policy for equal opportunities. The Science curriculum will provide equal opportunities through:

• activities which are well matched to the different needs of pupils (differentiation);

• equal access and relevant provision for all pupils;

• exploring the contribution of Science and people involved in Science from different cultures.

3.2 Key Issues

The important features of the Science curriculum will be:

• To provide a variety of interesting and stimulating activities with 'hands on' experience;

• To develop a range of scientific skills;

• To use ICT;

• To foster scientific concepts;

• To develop good attitudes towards Primary Science;

3.3 The core concepts, skills and attitudes

In particular the children will be encouraged to;

• Plan, hypothesise, predict;

• design and carry out experiments;

• draw conclusions from their findings and observations and use these conclusions to explain scientific phenomena;

• communicate their findings to others;

• develop a respect for living and non-living things;

• work co-operatively with others;

• build upon their own natural curiosity of the world around them;

• tackle problems confidently;

• enjoy their learning experiences.

3.4 Cross curricular themes to include use of computing resources.

Advantage will be taken of links with all subjects, in particular;

• Computing – for research, measuring and communication.

• Design and Technology – for planning fair tests, understanding circuits,

forces, materials, etc.

• English – recording and reporting, speaking and listening

• Mathematics – measurements, timings, analysing data and displaying

results.

It is recognised that Science can make a major contribution to PSHE, multicultural education, environmental issues, world of work, business and industry, economic awareness – examples will be drawn from the children's own experiences.

In particular the Science curriculum will contribute to and take advantage of;

• Health education, complementing work with food.

• Environmental education, through the consideration of raw materials.

• The school allotment, forest area and field.

3.5 Progression, continuity, differentiation and Special Educational Needs

In matching tasks to the needs of different children, teachers will set

appropriate expectations for:

• Knowledge – Ranging from simple facts to the use of appropriate vocabulary in explanations.

• Investigation – Such as the observation of leaves to the skills such as sorting, naming, observational drawings, using hand magnifiers.

• Communication – In the form of speaking to one another, an adult, recording.

• Planning – Ranging from teacher directed, guided and open-ended tasks.

To ensure that the Science Curriculum is equally accessible to, and challenging for all pupils, some of the following principles will apply for all or part of the time;

• Identifying and minimising barriers to learning and participation;

• maximising resources to support learning participation;

• work will include feedback to children, verbal and/or written;

• activities will be well matched to levels of attainment through specific tasks or opportunities for independent task management and planning;

• the language of instructions will be simplified for those children who experience reading/writing/comprehension difficulties whilst employing appropriate terminology for others;

• sufficient repetition will be allowed to consolidate skills.

Adult helpers will be encouraged to support Science work in the classrooms.

Teaching plans will identify the purpose of their work with specific groups and

individual children with an emphasis on encouraging pupil independence

and, where appropriate, guidance on safety.

3.6 Safety to include Child Protection

All Science activities must be safe for children and adults. Teachers should refer to;

• the school's Health and Safety policy;

• the school's Risk Management policy;

• the school's safeguarding policy;

• the school has also bought in to CLEAPPS which outlines many safety guidelines and offers a range of support for staff. CLEAPPS can also be contacted with any queries that the school may have in regard to safety.

• Any concerns regarding the safety of children should be reported to the Head Teacher immediately.

3.7 Assessment, recording and reporting procedures

Teachers should refer to the school's policy for Assessment, Recording and

Reporting. The assessment of children's achievement is planned into Science teaching and used to guide subsequent lessons. Records of children's achievement should provide information for target setting.

Teachers will:

- Teach science for at least the recommended 2hrs per week
- Incorporate a 'Why?' 'How?' 'What?' whole day investigative session each term.
- Differentiate appropriately.
- Use Teacher/LP support for individuals/small groups.
- Have mixed ability groups.
- Use support sheets/prompts for recording.
- Use extension activities/questions.
- Use 'self marking and correcting' to reinforce objectives immediately after tasks are completed.
- Produce appropriate science displays for each topic.
- Assess pupil progress using objectives from the NC programme of study on Insight and 'Why?, How?, What?' posters.

Pupils will:

- Understand the learning objective.
- Know how the scientific objective has context in their life now or in the future.
- Self-mark and correct their work.
- Present their work to the best of their ability.
- Decide on their area for investigation within the WHW investigation.
- Use a wide range of appropriate recording methods including using ICT.
- Be successful learners through self-assessment.

Children's Quest books will contain evidence of the coverage within the Year Group. These books will be collected in three times a year for moderation.

Reports to Parents will;

- Identify children's strengths and target areas for development in Science. They will indicate if children are 'on track' in their learning and meeting the expectations appropriate for their age.
- Make reference to relevant observation, experimentation and investigation, knowledge and understanding and attitudes to and about Science.

3.8 Resources

- All science resources are kept outside Palladium room
- It is the responsibility of the STEM Team to monitor the condition and usage of the resources.