

SCIENCE POLICY

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1 Introduction

- a) Science is one of the three 'core' subjects of the National Curriculum. This document explains how Science is delivered, managed, assessed and monitored at Newark Orchard School.
- b) This policy was developed and compiled by the Science Coordinator following discussion, at all stages, with those who would be responsible for the delivery of Science at Key Stages 1 and 2 and the Senior Leadership Team.
- c) While policy implementation is ultimately the Head's responsibility, in practice the Science Coordinator *in partnership with the Team Leader responsible for curriculum development* will ensure: the quality of delivery, the breadth of content /coverage of all attainment targets and effective assessment, reporting, record keeping and transition planning between key stages. All those teaching Science will be supported by the Science Coordinator and will be expected to consult with her/him at regular intervals in order to maintain quality.

2 Aims

In accordance with the national curriculum for science we aim 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*

3 Entitlement

- a) All students at Newark Orchard School are entitled to a full access to a Science curriculum, which not only meets statutory requirements but is also tailored to their individual learning needs. This implies careful differentiation and an understanding of the developmental level of each and every student.
- b) *The statutory requirements of the new national curriculum set out the programme of study required to be taught. At Orchard these programmes are delivered according to the needs and capabilities of our mixed year group classes. The curriculum coverage is monitored by the Science Coordinator and Curriculum Development Coordinator and covers the different strands of the curriculum to provide a broad and balanced subject coverage.*
- c) All students will approach science through *exploration, structured investigation and practical activities* thus it is intended that all scientific knowledge will be acquired through direct experience supported by information obtained from a variety of sources such as: teacher, computer database/internet, written texts, tv programmes and a sensory approach. This emphasis on investigation means that all students can be provided with an accessible Science curriculum regardless of their developmental level and the complexity of their disabilities.

4 Implementation

a) Meeting Statutory Requirements

i) Key Stages 1 and 2.

All Science lessons will contain elements of Sc1 as appropriate for the individual learning needs of each student.

Within each term's topic the science content will cover Sc's 2-4 thus students will 'visit' Sc's 2-4 three times a year. Science is explored through topics.

ii) Key Stages 3 and 4.

All science lessons will contain elements of Sc1 as appropriate to the individual learning needs of each student. Pupils will be taught to observe, plan and record experiments. In the Autumn Term students will study a Sc4 Physical Processes module. In the Spring Term the student will study a Sc3 based (Materials and their Properties) and Summer Term will be Sc2 based (Life Processes and Living Things). All students visit Sc 2-4 at least once a year. At times in key Stages 3 and 4, Science will be studied through a topic approach.

iii) Programmes of Study

As a Special School with students who have Special Educational Needs we are not restricted to delivery of *year by year programmes of study*. Therefore we will draw from programmes which are closely linked to students' individual learning needs.

b) Cross Curricular Elements of Science

Most Science teaching at all key stages is subject based but *cross curricular links are deliberately made and personalisation of the content is strived for by staff*.

c) ICT within Science

New technology, including ICT, is part of the awe and wonder of what is possible in our increasingly technologically rich world. The acquisition of technology in support of science delivery is part of an on-going resource purchasing programme and teachers are encouraged by the Science Coordinator to include existing technology in the planning of the subject.

Enabling pupils to experience, explore and make use of technology through the teaching of science is encouraged through planning discussions with staff and it is expected observations, planning and work scrutiny show that ICT is used by staff and students to gather, process and present information in exciting and accessible ways.

It is important to create opportunities for data to be acquired, processed and presented using computer based systems which model possibilities or use real world sensors.

It is also important that students learn to make practical use of imaging devices such as digital cameras, microscopes, telescopes and scanners during learning activities to explore the world and record their observations.

The use of ICT in science lessons also includes using databases and internet based resources to research or problem-solve scientific questions. The use of ICT and the

safe use of the internet are covered in depth by the school's policies ICT Curriculum Policy and the ICT, Internet & Email - Acceptable Use Policy.

d) Equal Opportunities

Due regard will be given, at all times, to the provision of equal opportunities to each individual within a science teaching group. Thus issues of gender, cultural base, beliefs and access will be addressed whilst planning and at the point of delivery.

e) Moral and Spiritual Development

Students will be encouraged to value themselves as a part of the 'wonder' that is our world. They will be taught to respect and value all life forms. Where possible, and /or appropriate, students will learn responsible attitudes towards conservation and the *environmental* responsibility we all share for our planet. Within all Science learning there will be the opportunity to *celebrate the wonder of the world we live in. We believe that through enthusiastic, passionate, informed teaching a genuine sense of awe and wonder can be instilled in our children about both the natural world and man's use of science within it.* The contribution of the students will be valued, respected and celebrated.

f) Health and Safety

All Science activities will, at the planning stage, be subjected to thorough 'risk assessment' and all teaching staff will be informed of potential hazards. At Key Stages 3 and 4 eye and clothing protection will be provided and used appropriately where necessary. Student will be taught how to use scientific apparatus and potentially hazardous materials safely. At the beginning of every half term safety procedures will be reinforced and at relevant points within each lesson.

g) Parental Involvement

Parents will be involved in the Science learning of their child in the following ways:

- i) They may be asked to support homework activities, where appropriate.
- ii) They may be asked to supply information. Photographs and/or objects from home to support Science learning e.g. empty food packages or pictures of family pets.
- iii) They may be asked to share/support out of school visits designed to enhance opportunities for learning.

h) Resources

A range of specialist resources are available and teachers are guided in ways of using these and 'everyday' items to enhance their Science teaching.

Curriculum Focussed Science Field Study Trips.

The science coordinator will establish and review regular Science Field study trips in support of the curriculum such that all classes go at least once a year.

A themed science week will be held yearly. It is a great opportunity to encourage enthusiasm for science. Workshops will be organised to motivate and inspire children to have fun and think scientifically. Hands on practical activities will be organised and carried out to maximise the children's involvement and establish a real understanding of

their world around them. Through an end of week assembly children will be invited to give feedback to show and explain what they have learnt throughout the week.

5 Assessment and Recording

Assessment will be through:

- *Direct teacher observation evidenced by photographs, discussion, video and student practical and written work.*
- *Student generated work marked to a criterion referenced mark scheme and provided as evidence.*
- *Assessment tasks and tests at the end of each module to determine existing knowledge and skills of pupils and to determine the progress they have made. IEPs are assessed at the end of each term.*

Assessment will be recorded using the school system- Solar -throughout each key Stage.

6 Review Procedures

- i) Each term's topic/module will be reviewed by the Science Coordinator in liaison with teaching staff.
- ii) The Science Policy is due to be reviewed in three years time.