SCIENCE POLICY:-

This policy supports our aim to assess and develop pupils' communication, ensuring all pupils are maximising their communicative potential, through communication supportive practice.

An effective learning environment is one which is communication-rich. Staff support pupils' development through a recognition of how communication underpins children's ability to learn and to build relationships. Utilising a Total Communication approach, staff know the appropriate combination of systems to support each pupil individually. Staff have regular communication training to ensure skills and knowledge are kept up to date.

This policy was adopted on:- Autumn 2010_____Date

Chair of Governing Body:- Tim Mottram _____Signature

_____Date

Reviewed Summer 2016_____Date

To Review:- Summer 2019 _____Date

FOREST SCHOOL
SCIENCE POLICY

Contents:

1 Introduction

The first priority of a school is to seek to develop in its pupils talents, skills, interests, knowledge and attitudes that will allow them to have a rich experience of childhood and enable them to lead, as far as possible, independent and fulfilled adult lives. Pupils should also leave school with as clear an awareness as they can, of their obligations and responsibilities to society and to other people. Pupils should be open to the wider experiences outside school to help develop an appreciation of the opportunities and challenges that will face them as they become young adults.

The teaching of science has an important responsibility to develop an appreciation for, and interest in, the issues affecting society, and should endeavour, when appropriate, to educate pupils to make informed choices and identify opportunities. The Science Laboratory and other relevant teaching areas need to be a places where pupils can experience and explore the wide range of topics of the science curriculum and beyond. They need to be welcoming, with display areas giving pupils a sense of ownership and pride in their work. School and homework activities need to be varied, accessible, demanding and rewarding.

2 Aims and Objectives

The aims of science teaching at Forest School.

1. to stimulate and maintain curiosity, interest and enjoyment in science,
2. to enable pupils to be familiar with an appropriate body of scientific knowledge, principles and vocabulary
3. to employ teaching methods and resources which allow all pupils to have access to science and to experience success and enjoyment in their science work
4. to enable pupils, as far as possible, to understand and use scientific method, with safety being a major consideration
5. to develop an awareness in pupils of the implications of science (past and present) for the individual, the community and the environment
6. to enable pupils to see science in the context of a wider body of knowledge and skills
7. to allow pupils to develop informed opinions and to be able to support them by rational arguments
8. to enable pupils to work both independently and as part of a team
9. to enable pupils to develop personal qualities such as politeness, perseverance, initiative and independence

Objectives

These are related to the above aims, and show how the aims are put into practice. Each objective is accompanied by some examples of how they have tried to be met.

1,2 Courses are chosen and developed which provide interesting and enjoyable activities.
Eg. The Astra Zeneca teaching scheme is adopted at all key stages to provide activities linked to appropriate pupil achievement. As much as possible, pupil experiences are “hands-on”, such as the developing allotment and other environmental projects, and result in concrete achievement.

3 Resources are available for differentiation by task, so that lessons can allow for a mixture of learning outcomes. Lessons are planned with a variety of experiences and activities within a lesson or sequence of lessons. New resources are constantly being investigated and trialled.
Eg A wide range of different schemes have been used to resource the KS3 and KS4 schemes. This includes a wide range of software including BBC schools.

4 Investigation skills are taught and assessed. Pupils experience both open-ended and more prescriptive investigations and practical work. Safety is introduced formally at the start of the year for all groups. It is also emphasised whenever necessary. Risk assessments form part of lesson plans and are added to schemes of work.

Eg Lab rules are displayed and enforced. Schemes of work contain lessons and sequences of lessons with a wide range of investigation activities.

5 When appropriate, lessons make use of materials which refer to the historical context of the work and look at the moral and social implications of scientific developments.
Eg Work on “The Plague at Eyam” is available for the teaching of disease. The Phlogiston theory is referred to with appropriate pupils in the teaching of heat. Pupils have the opportunity to research the lives of people such as Robert Bunsen, Isaac Newton, Marie Curie, Alfred Wegener, etc

6 Pupils are encouraged to see their work in the context of other curriculum areas. Opportunities to take the content of a lesson beyond the confines of the curriculum are identified and acted upon. There are several extra-curricular activities.
The science teacher contributes to whole school events such as the Enterprise, RE and language days e.g. fermentation.

7,8,9 Pupils are given the opportunity at various times for group discussion. At these times the teacher, assistants and pupils listen to each other’s views and hopefully reflect upon them. A range of activities are employed so that pupils occasionally work individually, in pairs or in larger groups. Lessons are conducted in a secure, supportive and disciplined manner. The pupils and staff usually interact in a manner that demonstrates mutual respect.
Eg The teacher makes use of the school discipline policy. Class discussions are held with appropriate groups on matters such as nuclear power and smoking.

3 Health and Safety

The safety of the pupils and staff working in the science lab underpins all the work that is done there.

The effective management of safety can be seen as having four major components:

A. Risk assessment and planning before a lesson

B. Organisation of routines during and between lessons

C. Control

D. Monitor and review- including procedures for reporting hazards or suspected hazards and those for reviewing risk assessments and safety in general.

4 Assessment, marking, rewarding and recording

The assessment of a pupil’s effort, knowledge, understanding and skills takes many different forms. It is important that a wide range of techniques is used to give the teacher and pupils the feedback necessary for progress to be made. These techniques include, where appropriate, formal examinations and tests, formal classwork and homework activities, more open-ended activities such as research and less formal questioning and discussions both with groups and individuals.

Appropriate classwork activities are assessed and informal assessments are also used during lessons to check on individual pupils’ progress and understanding. This includes directed questions, short tests, one-to-one discussions and other activities, such as photography pupil activities. Practical and investigation skills are assessed using Sc1 criteria.

The progress made by pupils against National Curriculum or P level scales are reported within the annual review, and the data is also collected by the school assessment co-ordinator.

External assessments are undertaken by those pupils following the ELC science course. This consists of 3 module tests. It is expected that three tests will be completed in Year 11. The tests are 20 minutes long (plus any extra time available to individual pupils) and are short answer papers. In addition, pupils are required to complete a science investigation into each of the three areas of physics, chemistry and biology. The details of these are planned by the science teacher.

Pupils following the Entry Level Certificate course are also assessed. They are required to complete at least 5 tests and 3 assignments related to different topics on the course. This is internally marked but a sample is sent to the exam board for moderation.

5 Homework

Within Forest School, it is not always appropriate to set written homework requiring independent work or parental report. All pupils are encouraged to use their time at home to experience aspects of the science they encounter at school.

Where formal homework is set, tasks may vary. They will include:

- general activities of observation or discussion.
- revising a unit or work for a test.
- research and collecting information, or writing up practical work.
- completing an exercise to practise, enforce or apply aspects of classwork.

Whatever form it takes, homework should be challenging and relevant.

6 Curriculum Content

Science is a core subject of the national curriculum, and as such it is important that the delivery of the science curriculum is closely monitored.

The Schemes of Work themselves contain the detailed information. To summarise:

Primary Department

The science work within the primary department follows the requirements of the national curriculum, appropriately amended for the ability of the pupil.

Secondary Department

KS3 This is based on the Astrazeneca scheme. There are two approaches – one for pupils working at levels 1-4 and the other for pupils working below level 1. Each unit has detailed level descriptors and suggested activities.

KS4 In year 10 and 11 some pupils follow the GCSE ELC Course. ELC have produced detailed schemes of work for each module and these are adapted for use in the classroom.

Other pupils will be given experiences more closely linked to developing everyday skills such as gardening or maintaining a healthy lifestyle.

7 Meeting the needs of the individual pupil

It is important that the teaching of science takes into account the needs of all pupils, making use of all the information available. As far as is possible all pupils should have equal access to the Science curriculum. This includes the effective use of:

A. Differentiation

B. IEPs

C. Teaching Assistants

8 Science Resources.

Primary Department

Each primary class has access to some science materials within their own rooms. Further advice and equipment can be obtained from the secondary science teacher. Primary staff can request the purchasing of materials from the science budget. Recently class 1 obtained a butterfly nursery for example. Primary classes can also visit the science room to study the animals, for example.

Secondary Department

The resources are kept in the science room

9 The Timetable

Primary Department

Science is taught by the class teacher during time organised by the teacher. Individuals may join secondary groups if it is felt that this would be beneficial. Some primary classes are taught by the science teacher.

Secondary Department

All secondary science lessons are delivered by the science teacher.

All pupils receive a double lesson of science each week. The length of these lessons varies but they generally last for approximately 1 hour 45 minutes.

All science lessons are taught in the science laboratory.

Occasionally pupils may be given some extra science time, if the timetable allows.

10 Setting and Banding

In both the primary and secondary department, most pupils are taught within their year group.

In the secondary department, in most cases,each year group is split into two broad ability bands: A and B. As these bands are also used by other subjects, which band a particular pupil is allocated to is decided by discussion with other KS3/4 staff.

Movement between bands is expected depending on changing circumstances so that teaching groups are manageable in terms of size and behaviour.

11 Other Policies

In the absence of specific Science Policies on issues such as Bullying, Drug and Solvent Abuse, Performance Management, Sex Education and Equal Opportunities, staff should refer to the whole school policies.