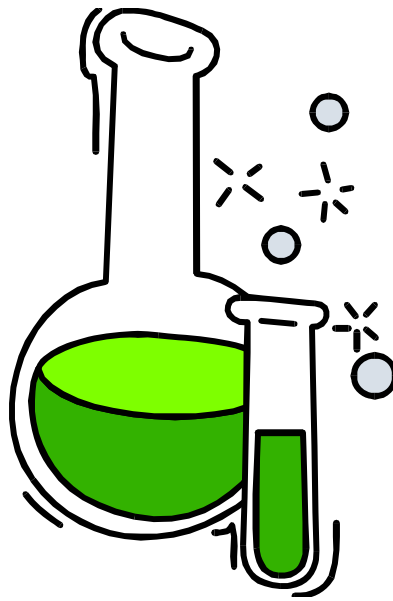


Morgans Primary School

SCIENCE

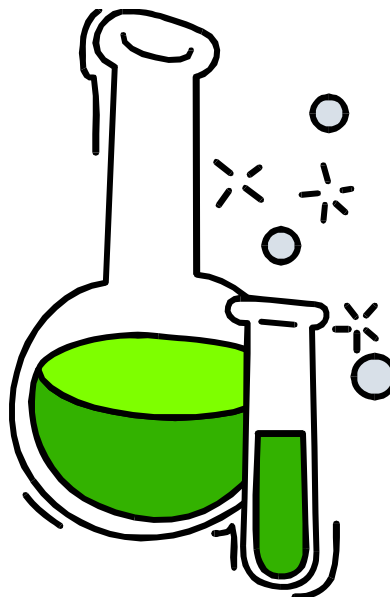
POLICY



June 2009

What is Science at Morgans?

- ◆ Science is a way of looking at and finding out about the world we live in.
- ◆ It is the study of the rules of nature and the world through experiments, evidence and analysis.
- ◆ It is a way to develop a lively and enquiring mind.
- ◆ It is a way to develop logical thinking and predictive skills.
- ◆ Science is a way of making sense of first hand observations and answering questions arising from those observations.



Our Aims

In our teaching of science we aim to:

1. Provide a broad and balanced science curriculum that takes, race, gender and ability into account, and is derived from the Programmes of Study in the National Curriculum.
2. Encourage pupils to recognise and value the contribution which science makes to all areas of learning.
3. Stimulate:
 - Curiosity, interest and enjoyment in science and its methods of enquiry and investigation
 - Interest in, and care for, the environment.
 - Interest in and care for, their own well-being and that of others.
4. Develop abilities and skills that:
 - Are relevant to the study and practice of science.
 - Are useful in everyday life.
 - Encourage safe practice.
 - That extend knowledge and understanding.
 - Enable pupils to work collaboratively and independently.
 - Promote confidence in their ability to solve problems.
 - Enable pupils to communicate their scientific findings to others.
 - Allow pupils to analyse results e.g. through looking at graphs and charts.
 - Enable pupils to plan and carry out a fair test.
5. To encourage children:
 - Aware of their abilities in science
 - Develop qualities of collaboration and co-operation.
 - Understand how science can benefit the community and the environment
 - Understand that scientific ideas develop and sometimes change.

THE PROCESS

Objectives For Learning

Pupils will be provided with a range of learning experiences. These will include first hand experience of:

- Exploratory play
- Experimentation
- Investigation
- Focused practical tasks
- Sorting and classifying
- Activities to develop new skills e.g. - using new equipment
- recording in a variety of ways
- Teacher demonstration
- Consolidation of understanding through discussion and debate.

Learning will be developed:

- Through activities that are
 - are relevant to real life situations
 - support the needs of individuals
 - build on their existing knowledge
 - provide challenge
 - develop enquiry
 - increase scientific vocabulary
- Using expertise of visitors
- Through first hand experience
- By using a variety of audio visual/ ICT approaches.

TEACHING

Science will be incorporated within the Creative Curriculum (where implemented) but if this is not possible Science should be taught discretely to ensure the full coverage of the curriculum.

Organisation

When science activities are organised, the following points will need to be considered:

1. Grouping strategies - friendship, ability, gender, mixed age, SEN
2. Space and resources available
3. Supervision - support staff will need to be provided with clear guidance on learning objectives and required outcomes.

Knowledge and understanding of scientific concepts will be developed by way of:

- Clear identification of concepts
- Knowledge of the range and initial level of pupils
- Planning of suitable activities to build on these
- Use of open ended questioning
- Development of prediction
- Clear exposition and discussion of learning objectives
- Provision and definition of appropriate scientific vocabulary
- Sufficient practice and consolidation in a variety of contexts
- Pursuit of ASE CREST award for Y5 & Y6 pupils over 2 year period.

Positive attitudes will be encouraged by:

- The class teacher providing a good role model (enthusiasm and an enquiring mind)
- Being prepared to try things out not knowing the outcome
- Realising that not all questions can be answered
- Valuing all contributions
- Using a range of stimuli

ASSESSMENT, RECORDING AND REPORTING

Information gained from pupil records, initial assessment tasks and discussions will be used to plan activities.

Work will be assessed against clearly identified learning objectives using a variety of strategies which will include:

- Observation of and discussion with pupils carrying out activities
- Written or diagrammatic responses
- Oral, artistic or dramatic responses
- Pupils' own assessment of their understanding
- Mini SATs test questions and tasks

Written or verbal comments will identify strengths and weaknesses and provide targets for future work. When possible work that shows significant achievement will be annotated and kept on file.

From Y3 –Y6, target sheets for:- Sc1: Scientific Investigation are secured into Science books and should be ticked according to attainment at the end of each unit. Y1 & Y2 to record targets achieved in Scientific Enquiry. These will be kept by the teacher in a separate file. Foundation stage keeps recorded work in folders and photographic evidence. Targets for scientific investigation should be reviewed at regular intervals for each pupil.

In the foundation stage science is taught through the area of 'Knowledge and Understanding of the World'. This is incorporated within the Early Learning Goals.

Pupils are assessed at appropriate times in 'Knowledge and Understanding of the World' using these goals.

The Foundation Stage profile is in place for reception. For each child the booklet 'Look what I can do' is completed.

The Nursery Learning Record is used in the Nursery.

Reports to parents will include:

- Teacher assessment levels from Yr2 to Y6 (Y6 from Sept 2009)
- Comments on topics covered
- Attitude to the subject
- Comment on progress made
- Strengths and weaknesses for both knowledge and understanding of science and process skills

Assessment is carried out in a variety of ways. These include:

- Summative assessment
- Minisats tests are used throughout KS1 and 2 at the end of each unit.
- Science target tick sheets for Sc1.
- Photographic evidence

PLANNING

LONG TERM PLANS

At Morgans we follow the QCA scheme of work in Science supported by Ginn Star Science. Teachers are aware of the parts of the programme of study that are designated to their year group. The scheme ensures a balanced coverage and progression throughout the school.

Where the Creative Curriculum has been adopted Science is taught as part of cross curricular topics and/or as a discrete subject. The Hamilton Trust provides a planning framework for the Creative Curriculum and is used in some year groups.

MEDIUM TERM PLANS

These should include:

- Learning objectives which support progression and ensure continuity
- Activities that are planned to fulfil the specific learning objectives
- Resource implications
- Assessment opportunities
- Foundation stage – knowledge and understanding

SHORT TERM PLANS

These should include:

- Precise learning objectives
- Outline of tasks
- Differentiation
- Outcomes

PRESENTATION

The way that the work is to be presented will be clearly identified in the short term plans and will relate to the ability of individual pupils.

Pupils will be made aware of the purpose of recording and to explain outcomes.

Pupils will experience and be taught a variety of styles of presenting or recording their work. These will include:

- Verbal reports and discussions
- The 'approved' planning sheet for Sc1 investigations, where appropriate
- Drawings, diagrams, charts, graphs
- Artistic and dramatic presentations including role play
- Written work in a variety of methods of presentation
- Using a range of ICT facilities

Pupils will be encouraged on occasions to make their own choice of appropriate presentation style.

Work will be presented:

- In individual exercise books or folders
- In whole class topic books
- As wall or classroom displays
- By annotating activities or models
- As photographic evidence
- Through assemblies
- As dramatic presentations including role play.

CROSS CURRICULAR ISSUES

Science offers many opportunities to make cross curricular links within the Creative Curriculum.

- Practical activities to develop accurate numerical, graphical and measuring skills
- Appropriate use of ICT
- Concise, coherent communication
- Use of multicultural materials and artefacts - food, clothes, instruments

SCIENCE CO-ORDINATORS

The Science co-ordinators will:

- Monitor any changes in requirements
- Give help and offer ideas to other members of staff
- Monitor practice
- Attend INSET
- Manage resources
- Discuss planning with planning groups
- Evaluate the Science Policy regularly

EXTRA-CURRICULAR ACTIVITIES

Science club to be held weekly during Autumn and Spring terms for Year 4.
If possible Science Week to be arranged every 3 years.

SAFETY

The school follows the advice recommended in “ Be Safe “
Teachers need to make risk assessments for situations not covered in this document.

Pupils should be made aware of safety issues and trained to use appropriate equipment in a safe and responsible manner.

Safety issues should be addressed in medium term plans and weekly plans.

RESOURCES

Specialist equipment is labelled and stored in Queens building. There is some equipment in Mandeville building

New Star Science books and minisats tests are located in each year group area in Queens building. In Mandeville building they are kept in the technology room.

A bank of experimental and investigative science books covering each programme of study are kept in classrooms (KS1), Year 3 / 4 area (KS2) and in the ‘Science Wardrobe’. These resources address the following:

- Sc1 – Scientific enquiry
- Sc2 – Life processes and living things
- Sc3 – Materials and their properties

- Sc4 – Physical processes

ICT programs & websites include New Star Science, Education City, Daydream Science posters and upd8 website which are available to all key stages.

Resource shortages should be notified to the co-ordinators. If special equipment is required, this needs to be identified well in advance e.g. batteries.

OUTSIDE AGENCIES

We should also encourage outside agencies to come into school e.g. police, local music groups, shop keepers etc.,

Links with:

Richard Hale Science College – visiting teachers, Year 6 science club, equipment loan, INSET etc

Simon Balle School – visiting teachers

Visiting professionals at appropriate times e.g. dentists, school nurse etc.

SETPOINT

Policy review date: **June 2012**