

ST MICHAEL'S R.C. PRIMARY SCHOOL

SCIENCE POLICY

In formulating and applying this policy, The Governing Body and Staff of our Catholic School seek to promote and implement in relevant ways, the aims and intentions of the Mission Statement that has been agreed by the whole school community.

"Praise the Lord in Work, Play and Prayer"

Aims

Pupils of St. Michael's School should be encouraged to develop exploratory skills and attitudes in the areas covered by the National Curriculum's programmes of study in Science and desirable outcomes for children's learning.

- A practical approach to enquiry should be encouraged to underpin and enhance the understanding of scientific concepts.
- Attitudes that are appropriate to working scientifically and the ability to work in a collaborative and cooperative way will be carefully monitored.
- The application of scientific ideas to real life problems should be communicated to others in a clear and concise way.
- Pupils should understand the relationship between science and moral, spiritual and ethical ideas.
- Help children observe and appreciate the complexity of God's created world.

Children should be provided with learning experiences which:-

- Are relevant to pupil's everyday experiences and interests.
- Will stimulate curiosity in both genders and all cultural backgrounds.
- Help pupils to understand the world around them.
- Allow pupils to use a range of resources and equipment safely, including ICT programs and sensors.
- Enables them to contribute to a broad and balanced science curriculum.
- Cross-curricular links to literacy and mathematics to be incorporated to provide a balanced approach.

Planning

Long and medium term plans can be based on the QCA documents, using a variety of teaching methods will be employed to deliver clearly defined objectives for learning. A range of teaching strategies will be appropriate to the objectives, to optimise the learning opportunities.

Long term planning:-

In Foundation Key Stage learning opportunities will be provided for the children within the area of Understanding of the world around them. Scientific knowledge and experiences will be delivered in line with the Profile Points in the Foundation Key Stage documentation.

Key Stage 1 will cover 10 units. Incorporated in all aspects of the units will be an experimental and investigative strand.

Key Stage 2 will cover 12 (1/2 termly) units. Units covered in Years 3 and 4 will be re-visited in Years 5 and 6 re-enforcing and extending the children's knowledge and understanding. Experimental and investigative activities will be an integral part of teaching all topics.

Medium term planning:-

The medium term plans for Key Stage 1 and Key Stage 2 will be based on the QCA documentation. The learning objectives and outcomes will ensure progression throughout the key stages. It is the responsibility of the class teacher to ensure the effective delivery of the units of work and that there are Sc1 related activities within each unit. It is also their responsibility to ensure that the planning meets to needs of their pupils. Cross-curricular links to literacy and mathematics to be incorporated to provide a balanced approach.

Short term planning:-

The class teacher's session plans will provide a more detailed outline of activities. Teachers are able to choose a variety of differentiated and appropriate activities to suit their pupils, ensuring that the learning objective in the unit of work has been covered.

Evaluation:-

Moderation of pupil's work will take place every term to ensure a consistent levelling process. Self assessment by the pupils will take place at the end of each unit. The teacher will provide confirmation of pupil's own assessment of skills and knowledge.

Differentiation

Within the context of any given activity pupils may:

- Have their strengths assessed and used in order to build confidence and maintain motivation.
- Be presented with specific activities that match the pupil's known levels of attainment.
- Be provided with appropriate ways to proceed ensuring their active participation.
- Have sufficient repetition (but only sufficient) to consolidate skills.
- Be ensured a suitable and challenging activity.
- Be given time to reflect on their own work and learning.
- Be ensured a pace and structure that takes account of all work rates of the pupils in the class.
- Pupils may experience a range of communication methods, aids and adaptations to ensure coverage of the curriculum.
- Be given the opportunity to use technological (including ICT) and adult support to enhance the curriculum, while maintaining control over their work.
- Cooperate with each other and share their strengths to enable pupils to demonstrate what they know, understand and can do.

During the course of the units of work all pupils will experience these methods of differentiation.

SEN

Teachers should ensure that all pupils on the SEN register have equal access to the National Curriculum. Support materials and strategies should be used to enhance their learning where necessary. Work will be differentiated as appropriate, recognising that some SEN children may have strengths in certain subject areas.

Ability Groups

Children may be arranged in ability groupings and given work at an appropriate level. At other times, pupils may be given the opportunity to work in mixed ability groups where the contribution of each child is recognised and valued. Pupils will be given specific tasks within working groups in order to ensure they have the opportunities to work on different aspects of work at their level.

Extension and support materials

A common task may be tackled but should include provision of support and extension materials to cater for individuals/groups of pupils.

Teachers should use a range of teaching methods:-

- Ability groups
- Mixed ability groups
- The use of support materials

- A range of extension activities
- Use of supported self-study
- Use of additional support in class
- The use of open-ended tasks
- Using children's ideas
- The use of graded materials

The delivery of the Science curriculum will ensure a clear understanding of the world around them. Pupils will, within a common investigation, be given a task appropriate to their ability. Strategies that allow pupils to tackle open-ended investigations and activities will show differentiation by the outcome they achieve. Teachers will ensure that all pupils are given equal opportunity to access the curriculum. (Ref. Equal Opportunities Policy)

Links with other subjects

- Where appropriate, use should be made of links that may arise between science and other subject areas, in particular literacy and mathematics.
- ICT resources should be used to enhance pupils learning.
- Science may be evident in other blocks of work where science is not the main focus.
- Cross curricular links are to be noted on teachers planning.

Safety

Prior to any experiments or investigations taking place, the class teacher, has to highlight any safety concerns and to minimise the dangers, must carry out a risk assessment. There are sufficient safety goggles in school for one class to be fully equipped at any one time. Any potentially dangerous materials or substances that may be used in Sc1 work will be identified on lesson plans. (Ref: Health and Safety Policy)

Assessment

Science assessments may be undertaken in an informal way i.e. observations, notes. A more formal assessment will take place at the end of each unit of work. (Ref: Assessment Policy). Self assessment sheets to be completed by all pupils at the end of each unit. These will form a basis for discussion and confirmation by the teacher during assessment week.

Homework

Homework may be given where it is deemed appropriate. This may include research as well as written tasks. (Ref: Homework Policy)

Resources

Materials and equipment are replaced using the yearly capitation. The Science coordinator will undertake a resources audit to replace any consumables or breakages. A rolling programme of improvements to the resources will ensure the highest possible standard of equipment to be used by the pupils. The majority of the science equipment is based centrally in the quad, though some items associated with particular units, may be based in the classroom. The science resource area is overseen and maintained by the Science Coordinator.