MABLETHORPE PRIMARY ACADEMY

'Be inspired'

Science Policy.

"Science helps me understand about living things and the world around me."

Vision

Science makes an increasing contribution to all aspects of life. Children are naturally fascinated by everything in the world around them and Science makes a valuable contribution to their understanding. Children learn by playing with things in their world. They pick up clues about what they see, touch, smell, taste and hear in order to makes sense of it all. Eventually they come to conclusions which they match up with all the experiences they have had.

Here at Mablethorpe Primary Academy we encourage and help children to take a second, careful look at the world. By talking together children can be encouraged to explore and observe so that they can group objects and events and look for similarities and differences. They will need to measure and record the things they have found out in ways that make sense to them so that later they can talk to other people, (parents/carers/friends) about what they have discovered. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. Wherever possible science work will be related to the real world and everyday examples will be used.

Our Aims (linked to the national curriculum 2014)

- **To develop pupils' enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life.**
- **To build on pupils' curiosity and sense of awe of the natural world.**
- **To use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of science.**
- **To introduce pupils to the language and vocabulary of science.**
- **To develop pupils' basic practical skills and their ability to make accurate and appropriate measurements.**
- **To develop pupils' use of computing in their science studies.**
- **To extend the learning environment for our pupils via our environmental areas/outdoor learning and the locality**
- **To promote a 'healthy lifestyle' in our 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.**
- **Are excited and curious about science and their learning.**

Organisation of the curriculum.

Teachers will be expected to follow the skills progression map set out by subject coordinators which will be evident in the long and medium term plans. Short term plans will be written by the class teacher. Science in KS2 is taught on a 2 year rolling programme.

Early years

Science in the Foundation Stage is covered in the 'Understanding the World' area of the EYFS Curriculum. It is introduced indirectly through activities that encourage your child to explore, problem solve, observe, predict, think, make decisions and talk about the world around them.

Children explore creatures, people, plants and objects in their natural environments. They observe and manipulate objects and materials to identify differences and similarities. Children also learn to use their senses, for example feeling dough or listening to sounds in the environment Children will be encouraged to ask questions about why things happen and how things work. Children will also be asked questions about what they think will happen to help them communicate, plan, investigate, record and evaluate findings. The children will then build on this knowledge in the units of work that follow in KS1 and KS2.

Key Stage 1

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways.

MABLETHORPE PRIMARY ACADEMY

'Be inspired'

Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.

Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1. To aid the use of scientific vocabulary, knowledge organisers and vocabulary booklets will be used alongside each topic.

Key Stage 2

In lower key stage 2 children broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. Children should read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge.

In upper key stage 2 children develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings. Children should read, spell and pronounce scientific vocabulary correctly.

MABLETHORPE PRIMARY ACADEMY

'Be inspired'

Equal Opportunities and SEN. Racism and inclusion

All children have equal access to the science curriculum and its associated practical activities. Here at Mablethorpe Primary Academy, we ensure that all children, irrespective of gender, learning ability, physical disability, ethnicity and social circumstances, have access to the whole curriculum and make the greatest possible progress. Where appropriate, work will be adapted to meet pupils' needs and, if appropriate, extra support given. More able pupils will be given suitably challenging activities. Gender and cultural differences will be reflected positively in the teaching materials used. Differentiation will be by resources provided, level of support given or by outcome.

Progression

Subject coordinators for Science are expected to map out the progression of skills for Science teaching which is to be followed by the class teacher. Skills progression should be highlighted termly for the subject coordinator to monitor. The class teacher should also complete science data records for each area taught, noting any strengths and concerns such as absences.

Marking

Much of the work done in science lessons is of a practical or oral nature and, as such, recording will take many varied forms thus making marking different. It is, however, important that written work is marked regularly and clearly, as an aid to progression and to celebrate achievement. When appropriate, pupils may be asked to self-assess or peer assess their own or other's work. The Mablethorpe Primary Academy marking policy must also be referred to.

Monitoring

The monitoring of science is completed in the following ways:-

- **Analysing the pupils' work.**
- **Talking with the pupils alongside their work.**
- **Learning walks**
- **Discussions with teachers and looking at short, medium term plans and the classroom environment.**
- **Looking at skills progression maps to see teacher coverage.**

- **Talking to children about science and how it can impact on them in future career choices.**

Links with other curriculum areas.

Science pervades every aspect of our lives and we will relate it to all areas of the curriculum. We will also ensure that pupils realise the positive contribution of both men and women to science and the contribution from those of other cultures. We will not only emphasise the positive effects of science on the world but also include problems, which some human activities can produce. Science is closely linked to the Maths curriculum especially with the measuring, collecting and recording of data. The children are expected to use/ transfer their skills from other subjects such as English and History. ICT links are also being developed.

Spiritual, Moral and Cultural Development and PSHE

At Mablethorpe Primary Academy we believe that Science can make an important contribution to these areas of a child's development. The science curriculum helps children to link their experiences and environment to that of the wider world.

Science is using evidence to make sense of the world, it helps us understand our relationship with the world around us (how the physical world behaves, the interdependence of all living things). Making new discoveries increases our sense of awe and wonder at the complexities and elegance of the natural world. For scientists, this is a spiritual experience and drives us onwards in our search for understanding. Children discuss the morals behind science, scientific discoveries and inventions need to be used responsibly, and decisions made based on evidence (not prejudice). As teachers, we encourage pupils to be both open minded (generating a hypothesis) and critical (demanding evidence) and to use their understanding of the world around them in a positive manner. Scientists share ideas, data, and results (for further testing and development by others) Sharing and discussion is a key principle of the scientific method. We encourage pupils to work together on scientific investigations and to share results (to improve reliability).

In Science lessons, we explore and celebrate research and developments that take place in many different cultures, both past and present. We explore how scientific discoveries have shaped the, beliefs, cultures and politics of the modern world.

MABLETHORPE PRIMARY ACADEMY

'Be inspired'

Resources.

Most available resources for Science are stored in a central place to allow easy access for all staff. The resources for Science are constantly being reviewed and will be supplemented and extended as funds allow.

Risk Assessments

Pupils will be taught to use scientific equipment safely when using it during practical activities. Class Teachers and Teaching Assistants will check equipment regularly and report any damage, taking defective equipment out of action. Science equipment must be returned and stored safely.

When undertaking out of school activities, all health and safety guidelines will be complied with. Before undertaking a field trip, teachers are encouraged to visit the proposed area of study and fill in a risk assessment form. Class teachers will be expected to upload their risk assessments using EVOLVE IT package. Staff are also encourage to fill out the evaluation of trips using EVOLVE to ensure we are providing accurate feedback of field trips.

Educational Visits/ Science visitors/Science weeks

Any educational visits must follow the health and safety guidelines as above. In science we endeavour to provide as many experiences as possible for the children, this may include trips or visitors into the academy. We will also have a week of science activities where the whole academy is involved.

Careers and Aspirations

At the start of all science lessons, children will be reminded of what the subject is that is being taught. They will also have the opportunity to research famous scientists past and present. Children will also have an opportunity to discuss the careers that involve a scientific background and the opportunity during 'Aspirations week' to find out more.

Review

The Science policy is reviewed on a regular basis as part of our ongoing curriculum monitoring programme unless national initiatives deem it necessary to review it earlier. The Academy Council will work alongside the Co-ordinator to ensure the policy is being followed to successfully deliver the planned outcomes.

MABLETHORPE
PRIMARY ACADEMY

'Be inspired'