



Dar Ul Madinah will nurture our learners into model citizens that exemplify the inherent values of Islam, make a positive contribution to the community and are champions of their faith.

Science Policy

This policy is in line with the Mission Statement of the School

Document Control

This policy has been approved for operation within Dar Ul Madinah Primary School.

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Owner: Directors

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Aims

The aims for science is 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.

Scientific knowledge and conceptual understanding

The programmes of study describe a sequence of knowledge and concepts based on the planning from White Rose curriculum which is in line with the national curriculum. While it is important that pupils make progress, it is also vitally important that they develop a secure understanding of each key block of knowledge and concepts in order to progress to the next stage. Insecure, superficial understanding will not allow genuine progression: pupils may struggle at key points of transition, build up serious misconceptions, and/or have significant difficulties in understanding higher-order content.

Pupils should be able to describe associated processes and key characteristics in a common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analyzing data. The social and economic implications of science are important but, generally, they are taught most appropriately within the wider school curriculum: teachers will wish to use different contexts to maximise their pupils' engagement with and motivation to study science.

The nature, processes and methods of science

'Working scientifically' specifies the understanding of the nature, processes and methods of science for each year group. It should not be taught as a separate strand. The notes and guidance give examples of how 'working scientifically' might be embedded within the content of biology, chemistry and physics, focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions. These types of scientific enquiry should include: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources. Pupils should seek answers to questions through collecting, analysing and presenting data. 'Working scientifically' will be developed further at key stages 3 and 4, once pupils have built up sufficient understanding of science to engage meaningfully in more sophisticated discussion of experimental design and control.

There are a variety of ways in which the teaching and learning may be effective. Our school aims to encourage learning through investigation, with an emphasis on first-hand experience. Science lessons have no imposed formal structure but should typically contain some of the following elements: discussion; whole class, group or individual learning; practical, investigative tasks; recording; communicating

Foundation Stage

Science is an integral part of the curriculum and should be embedded throughout activities. At this stage, the 'understanding the world' area of learning commands at least one hour of structured time per week and is evident throughout other learning tasks. Cross-curricular links will also be made to other subjects so that pupils can develop and apply their scientific skills.

Key Stage 1

The principal focus of science teaching in key stage 1 is enables 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. Most of the learning about science should be done through the use of first-hand practical experiences, but there should be some use of appropriate secondary sources, such as books, photographs and videos.

Planning

Science planning is taken from the White Rose curriculum in which all the planning and daily lessons are provided.

Feedback and marking

Verbal feedback is essential throughout lessons. A marking policy is used for written feedback and teachers may use written comments to communicate

Assessment

It is the responsibility of the class teacher to maintain an overview of each child's progress in Science. The teachers uses a sonar tracking system to monitor pupil data and inform any actions required when data is submitted at the end of each academic year. Teachers are expected to generate regular feedback to children that will support them to make progress within the subject. This is in place to prompt children to continually refine and comment on future improvements for their work. At the end of the academic year, parents are informed of their child's progress and attainment in the end of year report. The written report informs parents whether their child is working at, above or below age-related expectations in Science. The class teacher also provides a score for the pupils' effort and gives a written comment on what the pupil has achieved and needs to work on to improve further.