

Al-Khair Primary School

Science Policy



Approved by:	Sajad Akram	Date: 27th September 2021
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Al-Khair Primary School actively strives to provide a safe, happy, purposeful learning environment nourished by British values incorporating democracy, the rule of law, individual liberty, mutual respect and tolerance for those with different faiths and beliefs. We aim to ensure that all pupils will feel secure and confident in the preparation for success in their future lives in Britain. Pupils at Al-Khair Primary will develop a strong sense of British identity and an understanding of British culture and traditions through the incorporation of Spiritual, Moral, Social Cultural development across all areas of the curriculum.

Pupils are taught British values; the key aspects of democracy, the rule of law; individual liberty and mutual respect and tolerance of those with different faiths and beliefs as fundamental aspects of the school's ethos and underpin all of its subjects and extracurricular focus. Al-Khair Primary School meets the needs of all of its pupils by providing a range of culturally rich material and resources in lessons that reflects society as a whole.

1 Aims and objectives

1.1 Science teaches an understanding of natural phenomena. It aims to stimulate a child's curiosity in finding out why things happen in the way they do. It teaches methods of enquiry and investigation to stimulate creative thought. Children learn to ask scientific questions and begin to appreciate the way science will affect their future on a personal, national, and global level.

1.2 The aims of science are to enable children to:

- ask and answer scientific questions;
- plan and carry out scientific investigations, using equipment, including computers, correctly;
- know and understand the life processes of living things;
- know and understand the physical processes of materials, electricity, light, sound and natural forces;
- know about the nature of the solar system, including the earth;
- evaluate evidence and present their conclusions clearly and accurately.

2 Teaching and learning style

2.1 We use a variety of teaching and learning styles in science lessons. Our principal aim is to develop children's knowledge, skills, and understanding. Sometimes we do this through whole-class teaching, while at other times we engage the children in an enquiry-based research activity. We encourage the children to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as statistics, graphs, pictures, and photographs. They use ICT in science lessons where it enhances their learning. They take part in role-play and discussions and they present reports to the rest of the class. They engage in a wide variety of problem-solving activities. Wherever possible, we involve the pupils in 'real' scientific activities, for example, researching a local environmental problem or carrying out a practical experiment and analysing the results.

2.2 We recognise that there are children of widely different scientific abilities in all classes and we ensure that we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways by:

- setting common tasks which are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty (we do not expect all children to complete all tasks);
- grouping children by ability in the room and setting different tasks for each ability group;
- providing resources of different complexity, matched to the ability of the child;
- using classroom assistants to support the work of individual children or groups of children.

3 Science curriculum planning

3.1 The school uses the national schemes of work (LCP and Plan B) for science as the basis of its curriculum planning. The national schemes have been adapted to cover the 2014 National Curriculum learning objectives.

3.2 We carry out our curriculum planning in science in three phases (long-term, medium-term and short-term). The long-term plan maps the scientific topics studied in each term during the key stage. The science subject leader works this out in conjunction with teaching colleagues in each year group. In some cases we combine the scientific study with work in other subject areas, especially at Key Stage 1; at other times the children study science as a discrete subject.

3.3 Our medium-term plans, which we have based on the national scheme of work in science, give details of each unit of work for each term. The science subject leader keeps and reviews these plans..

3.4 The class teacher is responsible for writing the daily lesson plans for each lesson (short-term plans). These plans list the specific learning objectives of each lesson. The class teacher keeps these individual plans, and s/he and the science subject leader often discuss them on an informal basis.

3.5 Science planning build upon prior learning. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we also build progression into the science scheme of work, so that the children are increasingly challenged as they move up through the school.

4 The contribution of science to teaching in other curriculum areas

4.1 English

Science contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. Some of the texts that the children study in the Literacy Hour are of a scientific nature.

The children develop oral skills in science lessons through discussions (for example of the environment) and through recounting their observations of scientific experiments. They develop their writing skills through writing reports and projects and by recording information.

4.2 Mathematics

Science contributes to the teaching of mathematics in a number of ways. The children use weights and measures and learn to use and apply number. Through working on investigations they learn to estimate and predict. They develop the skills of accurate observation and recording of events. They use numbers in many of their answers and conclusions.

4.3 Information and communication technology (ICT)

Children use ICT in science lessons where appropriate. They use it to support their work in science by learning how to find, select, and analyse information on the Internet and on CD-ROMs. Children use ICT to record, present and interpret data and to review, modify and evaluate their work and improve its presentation. They also use e-mail to communicate their mathematical findings with other children in other schools and countries.

4.4 Personal, social and health education (PSHE) and citizenship

Science makes a significant contribution to the teaching of personal, social and health education. This is mainly in two areas. Firstly, the subject matter lends itself to raising matters of citizenship and social welfare. For example, children study the way people recycle material and how environments are changed for better or worse. Secondly, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions. They organize campaigns on matters of concern to them, such as helping the poor or homeless. Science promotes the concept of positive citizenship.

4.5 Spiritual, moral, social and cultural development

Science teaching offers children many opportunities to examine some of the fundamental questions in life, for example, the evolution of living things and how the world was created. Through many of the amazing processes that affect living things, children develop a sense of awe and wonder regarding the nature of our world. Science raises many social and moral questions. Through the teaching of science, children have the opportunity to discuss, for example, the effects of smoking and the moral questions involved in this issue. We give them the chance to reflect on the way people care for the planet and how science can contribute to the way we manage the earth's resources. Science teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people.

5 Teaching science to children with special needs

5.1 We teach science to all children, whatever their ability. Science forms part of the school curriculum policy to provide a broad and balanced education for all children. We provide learning opportunities that are matched to the needs of

children with learning difficulties. Our work in science takes into account the targets set in the children's Individual Education Plans (IEPs).

6 Assessment and recording

- 6.1** We assess children's work in science by making informal judgements as we observe them during lessons. On completion of a piece of work, the teacher marks the work and comments as necessary.

7 Resources

- 7.1** We have sufficient resources for all science teaching units in the school. We keep these in a central store where there is a box of equipment for each unit of work. There is also a collection of science equipment which the children use to gather weather data.

8 Monitoring and review

- 8.1** It is the responsibility of the science subject leader to monitor the standards of children's work and the quality of teaching in science. The science subject leader is also responsible for supporting colleagues in the teaching of science, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The science subject leader gives the headteacher an annual summary report in which s/he evaluates strengths and weaknesses in the subject and indicates areas for further improvement. The science subject leader has specially-allocated time for fulfilling the vital task of reviewing samples of children's work and visiting classes to observe teaching in the subject.

Al-Khair Primary School promotes the values of democracy, the rule of law, individual liberty, mutual respect and tolerance for those with different faiths and beliefs. We will teach in accordance and in line of the Equalities Act and encourage pupils to respect one another and to respect and tolerate difference, especially those of a different faith or no faith. It is indeed our most fundamental responsibility to keep our pupils safe and prepare them for life in modern multi-cultural Britain and globally.

Al-Khair School has laid down the foundations of ensuring that British Values are incorporated its curriculum; from here upwards we are equipped to build on those foundations together by forming long term effective links and partnerships in the community. We have a mature appreciation and the required understanding to be naturally guided in the curriculum work and teaching that the school needs to promote British Values. We are trying hard to ensure that respect and consideration is given to every possible avenue to promote British Values. We will review and renew our policies and ensure their implementation as well as assess their impact. We will further enhance our curriculum and provisions to promote diversity and varied learning underpinned by Spiritual, Moral, Social and Cultural development and British Values.

Al-Khair Primary School

Date: Sept 2020

Date to be reviewed: Sept 2022