



SCIENCE POLICY

INTRODUCTION

This Science policy is for both Alexandra Infants' School and Alexandra Junior School.

The policy document is reviewed regularly by the Science Leaders as well as members of the SLT with respect to inclusion, equality of opportunity, continuity, progression, adaptive teaching approaches and accessibility.

PURPOSE

The Policy is closely linked to the Action Plan. It will provide a framework for the teaching and monitoring of Science. The Policy aims to inform teaching and support staff.

DEFINITION

It is a legal requirement to teach Science. It is a National Curriculum Core Subject which enables and encourages children to develop **scientific knowledge and conceptual understanding** alongside a range of enquiry skills. It offers excellent cross-curricular links and opportunities for co-operative learning.

Staff at Alexandra Infants' School and Alexandra Junior School are fully committed to the belief that every child between the ages of 3 and 11 is entitled to the best education possible. They have met regularly and produced this document for parents, governors, the wider community, new teachers, and the Local Authority.

Through teaching and learning in science, children have the opportunity to learn about the world around them. We aim to help the children appreciate the valuable contribution science makes to society, introducing some of the moral and ethical issues, including the beneficial and harmful aspects of Science.

Alexandra Schools understand that every child has the right to an education (*as in accordance in with UNCRC article 28*). The teaching of science will fulfil the children's rights.

AIMS

At Alexandra Infants and Junior Schools, science teaching and learning aims to:

- stimulate and excite pupil's curiosity about phenomena and events in the world around them
- encourage children to ask their own questions, and also find ways to answer them
- link learning with practical experiences and real-life contexts
- develop scientific enquiry skills e.g. predicting, observing, recording/sharing findings and evaluating
- help children to develop an understand of key scientific vocabulary

- make pupils aware of how major scientists of range of diversities contributed to scientific ideas: medicine and improving the quality of life etc.
- teach essential aspects of the knowledge, methods and uses of science.
- encourage the power of rational explanation
- develop a sense of excitement and curiosity about natural phenomena.
- explain what is occurring and/or predict of how things will behave
- analyse specific applications in society and the economy.

NATIONAL CURRICULUM

Teaching is based on the National Curriculum for KS2, KS1 and Development Matters for Early Years Foundation Stage Curriculum. Science is about asking questions and seeking answers through appropriate enquiry methods i.e. testing, pattern seeking, observation, identifying/classifying or researching secondary sources of information. Therefore, the curriculum is mostly enquiry led, rather than focused solely on the delivery of subject/content knowledge.

ROLE OF THE SCIENCE LEADER

- Responsible for identifying priorities, action planning and driving standards forward.
- Responsible for monitoring Science (as below).
- To update the policy and schemes of work as appropriate.
- Responsible for maintaining and ordering relevant materials to deliver the subject effectively.
- Responsible for keeping well-informed of developments in effective pedagogy
- To update staff and offer CPD as available and/or requested.

MONITORING

The Science Leader, Head Teacher and Deputy Head Teacher will be responsible for the monitoring of Science. This will include observations of teaching and learning, planning scrutiny and moderation, talking to pupils and looking at samples of children's work.

PLANNING

See Science curriculum and pedagogy document

ORGANISATION

The most effective way of teaching science is through child-led, first-hand experiences.

- Wherever possible children will be able to make predictions, investigate/experiment in a variety of ways, then observe, record their own findings and record their conclusions and review their findings.
- Children will work independently, in pairs, in groups, as a class and with adults as appropriate.
- Children will be encouraged to evaluate their own work and to communicate their findings and experiences to others.
- Children will record their work in a variety of ways through annotated photographs, drawings, diagrams, models, tables, charts, verbally and in writing where appropriate.
- Teachers should focus on ways of recording pupil-led, experiential learning rather than asking children to produce written work.
- Lessons will be clearly documented and assessed in a class floor book.

CROSS-CURRICULAR LINKS

Where possible, science will be taught in conjunction with other National Curriculum subjects making relevant links to provide a real-world context for learning.

Adaptive learning approaches

Experiential learning is essential. Science should be taught through practical, hands-on, activities wherever possible. Science at Alexandra Infant and Junior Schools aims to provide children with ample opportunities to work in mixed ability, co-operative learning groups in order to develop both their communication skills, and subject specific understanding.

All teachers aim to meet the needs of all pupils and, where necessary, prepare personalised teaching and learning for children who have special educational needs and children who are identified as most-able and/or talented. Teachers' planning needs to take account of pupils' learning needs, preferred learning styles, SEND, Speech Language and Communication Needs (SLCN), EAL, Ethnicity, Gender, Race, and/or Disability. Pupils should be taught relevant scientific skills to scaffold their knowledge and understanding, e.g. scientific methods, data collection and use of ICT equipment (e.g. data-loggers).

There are planned opportunities for pupils to talk, discuss and use new language; speaking and listening for a range of real purposes across the curriculum. The language of science can be a barrier for some children, especially those with EAL, so our teaching emphasises language to ensure access. The expertise of bilingual staff should be utilised to support learning of children from different backgrounds, for example, to pre-teach new scientific vocabulary.

INCLUSION

The starting points for educating all pupils are the same: an acceptance of diversity, pupils' rights, and the knowledge that all pupils can learn if they receive good teaching. All pupils have a right to effective teaching and full participation in the community of a school as set out in international agreements (the UN Convention on the Rights of the Child, 1989) and education law in England (the Equality Act, 2010 and the Children and Families Act, 2014).

At Alexandra Infants' and Junior School it is our belief that all children have an equal right to a broad and balanced curriculum, which enables them to meet their full potential. Through our teaching we provide learning opportunities that are ambitious for all and enable all pupils to make good progress.

Teachers set high expectations for all pupils in Science. They will use appropriate assessment to set ambitious targets and plan challenging work for all groups, including:

- More able pupils
- Pupils with low prior attainment
- Pupils from disadvantaged backgrounds
- Pupils with special educational needs (SEN)
- Pupils with English as an additional language (EAL)

(For further details, see separate policies)

Teachers will plan lessons so pupils with SEN and/or disabilities can study Science, and ensure that barriers to learning are reduced through adaptations as part of high-quality teaching. Teachers will also

take account of the needs of pupils whose first language is not English. Lessons will be planned so that teaching opportunities help pupils to develop their English, and to support pupils to take part in Science.

Further information can be found in our statement of equality information and objectives, and in our SEN policy and information report.

As a school we strive to ensure that all children, staff and members of our school community are treated fairly and equally. All children have equal rights to access all areas of the curriculum, regardless of race, gender, religious beliefs, sexual orientation and disability. Within this subject area, the Senior Leadership Team (SLT) and all staff endeavour to provide the appropriate provision for this to occur. This policy follows the guidelines and practices that are stated and outlined in Alexandra Infants' and Junior Schools Equality Scheme. Please see this policy for further detail.'

ASSESSMENT/RECORDING

The assessment of Science is in line with the school's agreed assessment procedures – see separate Assessment Policy. Assessment for learning is on-going and plays a significant role in measuring pupil progress whilst also identifying targets and next steps. Whilst learning is experiential, written work should not be relied upon as an assessment tool. Teachers should use questioning and observation in order to assess pupils' progress throughout a discussion/investigation.

- Pupils' comments, observations, questions and learning statements will be recorded in class floor books.
- Levels of attainment for enquiry will be recorded at the end of each term, data will be recorded on DCPRO. Each lesson will be assessed and inputted into the class floor books.
- Assessment records are kept of individual pupils who are working below or above ARE.
- At KS2 floor books have two assessment sheets for each lesson these show children who have achieved their learning objective and also whether they are confident in using scientific enquiry skills in each lesson.
- In the floor books, staff note reasons for pupils that exceed or struggle to meet the required level of attainment.
- At KS2 each lesson has a specific VIP which is shared with the children and also recorded in the floor book. There is also a VIP quiz at the end of each unit on Google Classroom.
- At KS2 tiered vocabulary is included in the floor books at the start of each topic. Vocabulary taught in each lesson is then also included in the floor book against each lesson.

RESOURCES

Resources are stored in the Science cupboard at Alexandra Infants and in the Activity Area storage boxes outside the Year 5 classrooms at Alexandra Juniors. These are regularly checked and organised by the science leader. Teachers, or responsible children, must return resources to the location they found them after use, and also inform the science leader when items need replacing.

HEALTH AND SAFETY

Pupils are encouraged to work **safely at all times** for the benefit of themselves and other pupils. Staff are aware of the necessary precautions to be taken in all experiments and investigations. They are also aware of teachers' duty of care/pupil health and safety. If in doubt teachers should refer to the CLEAPPS website, the ASE booklet 'Be Safe!' or talk to the science leader.

Updated May 2024 by Mrs J Ash and Mrs S Wyse; Science Leaders

This policy will be reviewed annually.

