

**Alvaston Infant and Nursery School**

**Science Guidance**

**October 2021**

**Signature of Chair of Governors:**

**Signature of Head teacher**

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| **Review date** | **Version Number** | **By whom** | **Summary of Changes Made** | **Date implemented** | **Date ratified** |
| Autumn 2 | 1 | HPIERCY | Updated teaching and learning expectations in line with whole school curriculum changes. |  |  |
| Autumn 1 2021 | 2 | CSHELDRICK | ‘SCIENCE Policy’ changed to ‘Science Guidance’.  EYFS Framework (2021) noted.  Aims – added a sentence about raising science capital.  Teaching and Learning – added the new Programme of Study from the EYFS Framework 2021.  Planning – added Curriculum Lead.  Assessment – Hot and Cold tasks changed to Exploratory weeks. |  |  |
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**Introduction**

This guidance outlines the teaching, organisation and management of the Science taught and learnt at Alvaston Infant and Nursery School. The school’s guidance for Science follows The National Curriculum 2014 Science Guidelines and the Early Years Foundation Stage Framework (2021) and aims 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 a variety of different scientific enquiries that help them to answer 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 encouraged to understand how Science can be used to explain what is occurring, predict how things will behave, and analyse causes.

**Aims**

A high-quality Science education provides foundations for understanding the world. Through building key knowledge and understanding of concepts, pupils should be encouraged to recognise the power of rational explanation and should develop a sense of curiosity about natural phenomena. At Alvaston Infant and Nursery school, we aim for children to:

* become curious about the world around them and the things that they observe, experience and explore.
* use their experiences to develop understanding of the key scientific ideas.
* be given the opportunity to develop skills of sorting, classifying, planning, predicting, questioning and drawing conclusions from a variety of material e.g. data, images, videos, real life experiments
* acquire and refine practical skills necessary to investigate ideas and questions safely.
* practise mathematical, technological and engineering skills through the exploration of Science.
* develop language skills through talking about their work and presenting their findings.
* use a range of media independently, including ICT to extract scientific information.
* work cooperatively with others, listening to their ideas and treating these with respect.
* develop respect for the environment and living things, including themselves and each other.
* develop responsibility for their own health and safety and that of others when undertaking scientific activities.
* have opportunities to develop scientific knowledge through the power of using the outdoors and the natural world.
* develop and raise the profile of all every child’s science capital.

**Teaching and Learning**

Each unit of learning is taught and developed during the children’s time at the school through a variety of Science topics, which have been adapted from the National Curriculum 2014 and feature in our bespoke Knowledge and Skills Progression document. Cross-curricular links are also made where possible to enhance the learning of Science. In the Early Years Foundation Stage, appropriate activities, which develop young children’s understanding of the world around them, are to be planned in line with the Early Years Foundation Stage Framework 2021.

The Programme of Study from the EYFS Framework for Understanding the World states ‘Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children’s personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children’s vocabulary will support later reading comprehension

Children should be encouraged to:

* Show curiosity and interest by exploring surroundings.
* Observe, select and manipulate objects and materials over time. Identify simple features and significant personal events.
* Identify obvious similarities and differences when exploring and observing. Construct investigations in a purposeful way, using simple tools and techniques.
* Investigate places, objects, materials and living things by using all the senses as appropriate.
* Ask questions about why things happen and how things work.
* Build and construct with a wide range of objects, selecting appropriate resources, tools and techniques and adapting his/her work where necessary.
* Use a variety of approaches to answer relevant scientific questions.
* Understand comparative and fair testing (controlled investigations).

Overall, pupils should seek answers to questions through collecting, analysing and presenting data. This will enable them to acquire knowledge and skills and will support their conceptual understanding.

**Our Curriculum**

At Alvaston Infant and Nursery School, we ensure that we meet any statutory requirements that are set out in the National Curriculum for Science and the Early Years Foundation Stage Framework 2021. A bespoke Progression of Knowledge and Skills document has been created which outlines a sequential program of study from Early Years to Year 2. However, we are flexible with our approach to teaching and learning in Science and recognise that experiences and opportunities may arise. These may steer teaching and learning in different directions when considering the needs of the children in our school. Therefore, staff have a degree of flexibility and are sufficiently skilled in adapting to these needs and opportunities as they arise.

**Planning**

The Science Lead will have an overarching view of the Science Curriculum and will work with the Curriculum Lead, Senior Leaders and year group leads to ensure that the curriculum is progressive and well-matched to the children’s needs. It is the responsibility of the class teacher to ensure that Science is planned for and taught effectively. The Science Lead will monitor the quality of education in relation to Science.

Long term plans: Long term plans (or yearly plans) are agreed by the Curriculum Lead and the Science Lead will ensure that these are progressive and cover the statutory requirements.

Medium term plans: Medium term plans (or termly plans) will document the key knowledge, skills and vocabulary that children will acquire from each topic.

Short term plans: Short term plans (or weekly plans) should contain regarding the implementation of the subject and may include key strategies, key vocabulary or discussion points.

Where there are health and safety implementations, these should be clearly shown on the planning and acted upon accordingly.

**Resources**

The central location for Science resources is the cupboard outside of Class 3. Yearly audits are to be taken by the Science Lead to identify any resources which need ordering or updating.

**Assessment**

It is the class teacher’s responsibility to assess the learning after each topic. Children will respond to the enquiry question in the form of exploratory weeks. Children will have the opportunity to explore a range of indpenednt activities linked to the question to enable teachers to find out children’s starting points. This will be repeated at the end of the topic. Children will be recorded as being, below, at or above the expectation. This will be recorded on the class planning proforma and will be analysed by the Science Lead and the SLT.

**Monitoring**

It is the subject lead’s responsibility to ensure the teaching of Science is being given the priority it requires across the school. Monitoring will include book scrutiny’s, discussions with children, learning and environment walks and the monitoring of Science planning across EYFS and KS1.

**Experiences**

We will aim to offer the children a range of real life experiences as, when appropriate, and when it meets the requirements of the curriculum.

This guidance will be reviewed in November 2023 or sooner if the school feels that this is necessary.