

# NANTWICH PRIMARY ACADEMY and NURSERY

PRINCIPAL – SUE SPENCE

## Science Policy



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## 1. INTENT

Nantwich Primary Academy's Science curriculum intends to develop in our pupils a lifelong curiosity and interest in the sciences, encouraging inquisitiveness throughout their time at school and beyond.

Our Science curriculum fosters a healthy curiosity in children about our universe and promotes respect for the living and non-living. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes.

Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills.

We ensure that the Working Scientifically skills are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings.

We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this, opportunities to learn through varied systematic investigations are key in developing greater independence in planning and carrying out fair and comparative tests, answering a range of scientific questions.

Each Science unit has an accompanying Knowledge Organiser used to reinforce key knowledge for each unit (both at home and at school) as set out in the science national curriculum. The Knowledge Organisers support pupils in consolidating and retaining science knowledge already gained and also reinforce key scientific vocabulary from each unit.

Our science covers the main principles of biology, chemistry and physics through a variety of engaging units. The substantive knowledge builds progressively to develop children's understanding of concepts, models, laws and theories. It is organised into the following four areas:

### **Biology**

Living things and their environment  
Reproduction, inheritance and evolution

### **Earth Science**

Earth and space

### **Chemistry**

States of matter  
Materials (properties and changes)

### **Physics**

Energy  
Forces

The disciplinary knowledge builds progressively to enable children to work scientifically and covers the following aspects:

- Methods used to answer questions
- Using apparatus and techniques
- Data analysis
- Using evidence to develop explanations

We deliver a broad and balanced science curriculum which stimulates and maintains children's natural curiosity. Key scientists, significant discoveries and theories are studied to give the children a real-life understanding of concepts taught. Where possible, real-life examples are used in lessons to give our children a deeper understanding.

## **2. IMPLEMENTATION**

The acquisition of key scientific knowledge is an integral part of our science lessons. Linked Knowledge Organisers enable children to learn and retain the important, useful and powerful vocabulary and knowledge contained within each unit.

The progression of skills for working scientifically are developed through the year groups and scientific enquiry skills are of key importance within lessons. The progression of these skills is set out in the Science Progression Map.

Each lesson has a clear focus. Scientific knowledge and enquiry skills are developed with increasing depth and challenge as children move through the year groups, gaining understanding of key vocabulary on their journey.

Pupils complete investigations and hands-on activities while gaining the scientific knowledge for each unit. Activities are effectively differentiated so that all children have an appropriate level of support and challenge. The sequence of lessons helps to embed scientific knowledge and skills, with each lesson building on previous learning. There is also regular opportunity to review and evaluate children's understanding.

Our detailed lesson plan development is supported by professional guidance and discussion to ensure that teachers are equipped with secure scientific subject knowledge, enabling them to deliver high-quality teaching and learning opportunities while making them aware of possible scientific misconceptions.

## **3. IMPACT**

In Science, progress is measured through a child's ability to know more, remember more and explain more. This can be measured in different ways. The use of key questions ensures opportunities are built into the lesson for ongoing assessment, whilst Knowledge Catchers represent the knowledge 'caught' over the course of each unit and TAPS assessments capture skill acquisition.

The learning environment across the school are consistent including technical vocabulary displayed, spoken and used by all learners.

Children feel confident in their scientific knowledge and enquiry skills, they'll be excited about science, show that they are actively curious to learn more and will see the relevance of what they learn in science lessons in real-life context in the real world.

## **4. CULTURAL CAPITAL**

At Nantwich Primary Academy, as part of our curriculum pedagogy, our children from EYFS to Year 6 are inspired by the world of science and technology. Through engaging with visitors from our local community, work in the world of science is shared and pupils are inspired for their futures.

Our engagement with the local environment ensures that children learn through varied and first hand experiences of the world around them. Frequent, continuous and progressive learning outside the classroom is embedded throughout the science curriculum. Through various workshops, trips and interactions with experts and local charities, children have the understanding that science has changed our lives and that it is vital to the world's future prosperity.

Children learn the possibilities for careers in science as a result of our community links and connection with national agencies such as the STEM Association, ensuring that children have access to positive role models within the field of science, supporting future aspirations.