

# Newquay Primary Academy



## Science

Developed: **September 2022**  
Review date: **September 2024**

## NEWQUAY PRIMARY ACADEMY SCIENCE POLICY

### INTENT

At Newquay Primary Academy we recognise the importance of science in every aspect of daily life. As one of the core subjects taught in primary schools, we give the teaching and learning of science the prominence it requires. Our aim is to equip our children with the key working scientifically skills, knowledge and vocabulary motivated by our core skills of active learning, basic skills and creative thinking.

Our Science curriculum is shaped by the National Curriculum for Science, our academy curriculum, our academy values and the ethos at Newquay Primary Academy. Our science curriculum aims to ensure that all children:

- 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 skills** required to understand the **uses and implications** of science, today and for the future.

We plan for the Working Scientifically skills to be built-on and developed throughout the children's time at the academy so that they can make connections in their learning and become thinkers and investigators. This will enable them to apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently. We will encourage a natural and healthy curiosity about the world around us and respect for living and non-living things. We aim to plan and provide opportunities for critical evaluation of evidence, to be reflective, responsible and to ask questions. Our intent is to deliver a science curriculum which is accessible to all and that will maximise the outcomes for every child so that they develop an enthusiasm and enjoyment of scientific learning and discovery. We will encourage them to see the connection across their learning, in their different subjects and how connected we are as a world; to become global learners. We will show them how different opinions need to be respected and valued, to see the moral and ethical issues about environmental and human issues. Through group work, carrying out experiments and research, we will provide opportunities for children to understand the power of collaborative working in the science community which has led to some amazing and life changing breakthroughs in medicine and how scientists from a range of cultures have had a significant impact globally. We endeavour to ensure that the science curriculum we provide, will give children at Newquay Primary Academy the confidence and motivation to continue to further their skills into the next stage of education and beyond.

### IMPLEMENTATION

At Newquay Primary Academy teachers foster a positive attitude to science learning within their classrooms and reinforce an expectation that all children can achieve high standards in science. Our whole academy approach to the teaching and learning of science is clearly mapped out through our science progression framework. Across the academy, continuous progression is at the heart of our curriculum design. As well as the curriculum map there is also a science curriculum overview which shows what topics are being taught and the relevant cross-curricular links. Wherever possible, science lessons are planned to be a cross curricular part of the topic-based enquiry questions. Children are given the opportunity to use a variety of data, such as statistics, pictures and photographs. ICT, reading, writing, speaking and listening are strongly developed through science. Where meaningful links are not possible science is taught as a standalone subject to ensure the quality and integrity of the core subject can be upheld.

Typically, children at Newquay Primary Academy will be taught science as it fits with the topic area. This may be weekly or as a block of lessons. This allows time for the incremental acquisition of skills and knowledge and time to address mis-conceptions. There is a strong focus on working scientifically and providing children with opportunities to apply their knowledge. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. Staff are required to display key vocabulary and knowledge for the topic which is to be discussed both within lessons and during the school day.

Each lesson begins with a clear focus which gives the learning intention and key vocabulary. Every lesson then starts with an Explore activity to excite children's curiosity about a scientific phenomenon and provide a focus for their questions and investigations. The Explore activity is also designed as a rich formative assessment opportunity for children to reflect on what they already know and identify what they need to learn next. Each topic provides a cycle of lessons which carefully plans for progression and depth. Teachers provide opportunities to promote science and develop children's understanding of their surroundings by accessing outdoor learning, workshops with experts and external visits, thus enhancing the learning experience.

Assessment is on-going throughout the learning process and includes observing children at work, questioning, class discussions, quizzes, verbal feedback, practical sessions to apply knowledge and skills and independent learning in Learning journals. Each science unit is assessed more formally through an end of unit Quizziz assessment which mirrors the assessment made at the beginning of the unit. These are used to support termly teacher assessments of attainment and progress and future planning.

The school is equipped with a wide range of resources, organised in boxes alongside a science budget to ensure teachers can have the flexibility to update resources or select new to support the teaching of the science curriculum. We are also able to access support from our partner secondary school.

## **IMPACT**

Assessment for learning in science is continuous throughout the planning, teaching and learning cycle. We measure and assess the impact that our science curriculum

is having through: conducting learning walks, talking to pupils and half-termly monitoring of children's learning journals which indicates that science is being delivered meaningfully and the children are gaining a range of practical experiences which is embedded in planning, questioning and carrying out investigations. Children's learning is assessed against the age-related expectations for science. Below is an outline of the impact we are looking for in our pupils in the curriculum area of science:

- Children are knowledgeable about the scientific content of each unit of learning
- Children can set up an investigation based around scientific thinking.
- Children are engaged in science lessons; asking scientific questions and being curious.
- Children's work shows a range of topics and evidence of the curriculum coverage for all science topics.
- There is clear progression of children's work and teachers' expectations in our academy.
- Children are becoming increasingly independent in science, selecting their own tools and materials, completing pupil lead investigations and choosing their own methods for recording.
- Children can use scientific vocabulary to communicate their understanding
- Children can present science learning using where appropriate maths and literacy skills.
- Children can make meaningful cross-curricular and wider world links.
- Verbal feedback from teachers has impact on our pupils learning, often with next step questions to move learning on.

## **INCLUSION**

Our inclusive approach and differentiation allows all children to learn regardless of race, gender, faith, culture or disability. We select and use resources that positively reflect all of the above. Teachers are aware that children bring to school different experiences, interests and strengths that will influence the way in which they learn science. Teachers will use a variety of teaching styles and strategies to meet the needs of all children in their science learning.

Inclusion for science is carried out in line with the school's policies for SEND, More and Most Able, Equal Opportunities and the Disability Equality Scheme.

## **MONITORING & REVIEW**

The coordination of the science curriculum is the responsibility of the Science Lead who also:

- supports colleagues in their teaching, by keeping them informed about current developments in science and providing a strategic lead and direction for this subject.
- gives the Head Teacher feedback in which she evaluates the strengths and weaknesses in science and indicates areas for further improvement.

- reviews evidence of the children's work / progress in science across the school.
- shares best practice regarding science with teachers.

This policy is reviewed regularly by the Science leader.