



## St Barnabas CE Primary School

"Preparing for a positive future, achieved through faith."  
Christian values are central to the life of our school, where we are devoted to inspire our children to succeed, flourish and live life in all its fullness.

"Let your light shine."  
Matthew 5:16

## Science Policy

Policy Updated:	September 2023
Date reviewed and agreed by Governors:	
Date of next review:	September 2024
Headteacher:	Miss J Hodgkinson
Chair of Governors:	Dr C Kressel

At St Barnabas, Science teaching and learning is linked closely to some of our Christian values of compassion for others, justice for all and persevering in the face of problems 'letting your light shine.' We want our children to think like scientists developing skills of prediction, communicating thinking, creating theories, summarising findings and analysing results

The aims of the Science Curriculum follow that of the National Curriculum, ensuring children have secure understanding of not only declarative knowledge but also substantive knowledge. We believe that, and ensure through our teaching, Science is a subject in which all pupils can succeed and experience success.

### **Aims**

The national curriculum for Science aims to ensure that all pupils:

- Develop a love of science; feel enthusiastic and have fun.
- Build on curiosity and their sense of awe in the natural world.
- Experience all five scientific enquiries: observation, testing, research, classifying and identifying and pattern seeking by becoming scientists in the classroom.
- Experience learning as purposeful, to make cross curricular links and for children to experience 'real life' concepts. (Maths, English, Computing in particular)
- Have increased scientific vocabulary and the language of science.
- Use a range of equipment accurately and safely through hands on investigations and observations.
- Develop learning in the outdoors as appropriate
- Understand and make a difference to the world e.g. how to look after the environment, how to stay fit and healthy.
- Develop a range of skills through the working scientifically strand of the curriculum
- Develop aspirations of potential careers in science through talking about the work of scientists and how they can make a difference to others.
- Are introduced to STEM (Science, Technology, Engineering and Maths) in the curriculum.

### **Teaching and Learning**

In EYFS, Science is taught through Understanding of the World. Science is developed by building upon the children's natural curiosity and fascination for their environment and the world around them. Children are encouraged to use all their senses to investigate, explore and make predictions.

The Science Curriculum is designed so that taught knowledge and skills are built upon each week, term and year, with strong links to our local community such as animals and plant life. This helps our children to know more, remember more and do more. To aid children's retention of knowledge and skills we use knowledge organisers and low stakes retrieval quizzes. Our children are proactive in each Science lesson, identifying how their previous learning supports the understanding of new concepts. Concepts are further strengthened and developed through the use of relevant high-quality texts, the teaching of subject specific vocabulary to help children explain their understanding. In KS1 and 2 all pupils are taught using the PSST progression planning resource. This allows staff and children be explicit in the year group appropriate content being learned, as well as linking to previous and future learning. Links are also made to key scientists and high quality texts as appropriate. In addition, staff use the PLAN documents to help sequence work and make secure judgements about children's attainment.

Children are introduced to the 5 lines of enquiry in EYFS and build on this through KS1 and really begin to develop their working scientifically skills, particularly those of exploring,

observing, communicating and asking questions. Children are encouraged to use correct scientific vocabulary.

As the children move into and through KS2, they begin to refine their skills of prediction, concluding, analysing and using equipment. Children are presented with the opportunities to apply their learning to real life problems and current world issues.

Within our teaching and learning, we also make use of other high-quality resources, that ensure the diversity that is needed within science teaching. We use Explorify to foster discussion and encourage children to ask 'what if?' and high-quality books such as concept cartoons and probe sheets.

### **Inclusion**

All children are expected to achieve within Science and work at appropriate stages to ensure progress is made. Children with SEND are supported within small groups by the class teacher or a TA to complete a question/investigation with small steps taken to ensure children not only build their knowledge but their confidence too. Children are also presented with word mats as necessary to avoid cognitive overload.

If children have gaps in understanding a particular concept, this information is relayed to the next teacher so that concepts can be revisited.

### **Health and Safety**

All staff are aware of the requirements of the school's Health and Safety Policy. Risk assessments are carried out for all activities, taking into account medical issues, where needed. Visits to off-school sites are arranged in line with the school visits policy and Risk Assessment Forms are filled in. The subject leader also consults the latest guidance on the CLEAPSS site.

### **Feedback and assessment**

Within the teaching and learning of Science, feedback can take on 2 forms. It can either be:

- Live Marking – whereby children immediately correct any developing misconceptions within the lesson as a direct result of interaction with an adult or modelling from an adult.
- Next lesson – whereby individual discussions are had between the pupil and the teacher or whole class interactions are had, where most children need a concept remodelling and explaining. Children respond to any questions where a green dot has been given by the teacher.

Children respond to both types of feedback using purple pen. This is from Year 1 upwards.

There are several forms of assessment that occur within Science. These are:

Formative – whereby children are assessed lesson by lesson, by class teachers through the use of targeted questioning and whiteboard work.

Summative – through the use of a focused assessment task. These are an opportunity for children to showcase and apply learned knowledge and skills from the unit, independently. Teachers use the PLAN resources and TAPs to help assess children's understanding and half termly tracker sheets are completed on OneDrive to be seen by the next teacher and future teachers. As some strands are not taught in every year, these assessment sheets are imperative to ensure that a child has an accurate and robust Science attainment at the end of each year and Key Stage.

### **Monitoring**

Monitoring the standards of children's learning and the quality of teaching in Science is the responsibility of the Science subject co-ordinator. The Science subject co-ordinator monitors children's books, wall displays, planning and carries out pupil interviews, learning walks and an audit. The work of the Science co-ordinator also involves supporting colleagues in the teaching of Science and keeping informed about current developments in the subject. The profile of Science is raised in the school due to the PSQM accreditation.

### **Enrichment opportunities/Science Capital**

At St Barnabas, we enrich our Science learning through the use of Primary Futures to ensure our children meet real STEM workers, participate in Science Weeks and visit local exhibitions related to the curriculum. We also link with local business such as Rock Oil and Warrington Hospital, so children can see their learning brought to life in the real world.

We have recently developed a Science Ambassador Team, made up of 4 children, one each from Y2-5. These children are trained to deliver Science assemblies, lunch time clubs and presentations at community events such as Open Days and Parents Evenings.