



# Science Policy





# Science Policy

## Our Mission

At St. Anne's we aim to be a caring Christian school, within the community where everyone is respected and valued. To be a school where all individuals are encouraged to build on their strengths and aspire to be the best they can be.

## Our Vision

Our vision has the promise by Jesus of 'life in all its fullness at its heart. At St Anne's we believe:

- in our children and each other,
- we are uniquely created in the image of God,
- we were made to be awesome,
- that together we are family,
- we were created to live in community,
- in equipping the St Anne's family to be the best we can be,
- in our individual talents and abilities, and
- we can make a difference.

## Our Values

At St Anne's CE Primary School, the following core values underpin all that we do. They are reflected in the daily life of the school and our relationships with other:

*Respect, Thankfulness, Hope, Forgiveness, Love and Faithfulness.*

'...let your light shine before others, that they may see your good deeds and glorify your father in heaven.' *Matthew 5:16*

'I thank you because I am awesomely made...' *Psalms 139:14*

'...I come that they may have life and have it to the full.' *John 10:10*

The school's motto aims to encompass all of this:

*'Be Awesome! Shine Bright!'*

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### What is the Intent of the Science Curriculum at St Anne's?

This policy outlines the teaching, organisation and management of Science taught and learnt at St Anne's Church of England Primary School. The school's policy for Science is based on the 2014 National Curriculum for Key Stages 1 and 2. The policy has been drawn up to reflect the whole school approach to Science and has been discussed with Staff and has the agreement of the Governing Body. The implementation of this policy is the responsibility of teaching staff.

Science teaches an understanding of natural phenomena. It aims to stimulate a child's curiosity in finding out why things happen in the way they do. It teaches methods of enquiry and investigation to stimulate creative thought. Children learn to ask scientific questions and begin to appreciate the way science will affect their future on a personal, national, and global level.

### Aims

- To develop pupil's **curiosity** about the world around us and the science that underpins this.
  - To encourage children to work **independently**, in groups and through guided learning to collect evidence in a variety of contexts to test questions they have created.
  - To create links between Science and other National Curriculum subjects within themed teaching, exploring current local and global issues and **children's interests**.
  - To ensure **scientific skills** are taught from Year 1 to Year 6.
  - To give pupils the opportunity to consider how scientists have combined evidence from observation and measurement with creative thinking to suggest new ideas and explanations for **phenomena**.
  - To ensure children are provided with the **opportunity** to plan and carry out scientific investigations, using equipment, including technology correctly.
  - Teachers have **ambition** for all students including those who are disadvantaged or who are SEND.
  - Teachers are to **equip** children with the essential knowledge that pupils need to be educated citizens through addressing gaps in their knowledge.
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**How is the Science Curriculum Implemented at St Anne's?**

**Curriculum and Planning**

Teachers plan and teach through a creative themed approach using the PLAN assessment Knowledge Matrices alongside the PLAN examples of work.

Using the **PLAN assessment** resources (**knowledge matrices** and **examples of work**) this allows us to;

- Identify key national curriculum objectives to be covered within each unit. These give additional guidance which clarifies the statements for each year of the National Curriculum
- Know children's **prior learning** within a unit. (This being essential during COVID-19 school closures)
- Know areas of misconceptions to discuss with children.
- Identify **key scientific vocabulary** to use within each unit.
- See different ways of evidencing learning linked to the National Curriculum objectives.
- Have access to annotated collections of children's work that provide **examples of work** that show children working at age related expectations of the knowledge statements for each topic from each year of the science National Curriculum.

Children will learn and master these skills during lessons through the theme. Where necessary, Science lessons and skills can be taught in isolation to ensure coverage and progression of knowledge and skills within year groups.

Teaching and application of these skills will be done through, direct teaching and practical investigations which aim to inspire learning whilst equipping them with the skills, knowledge and understanding for both now and the future.

Planning is the teacher's responsibility for their class and to be done in line with the PLAN resources which can be annotated to personal use. The PLAN resources should be used alongside the school's 'Science Skills Progression Document' to plan alongside support materials from Lancashire County Council including; LPDS

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planning, Key Learning in Science grids; Year Group Expectations documents (2014 & 2015 documents).

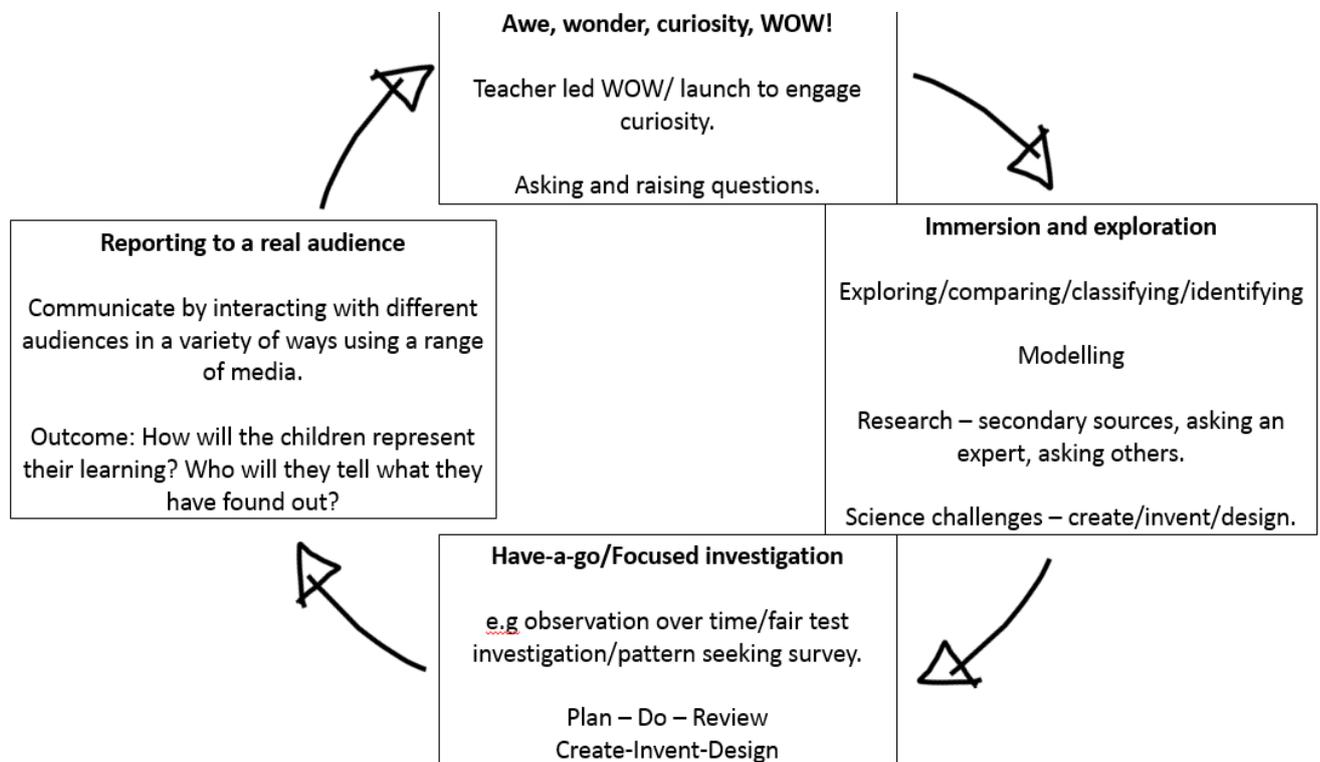
Further support for planning can be found in the meeting room cupboard in a file marked 'Teachers resources' providing ideas for **WOW!** starters and **real-life outcomes** to engage the children and provide opportunities to question, investigate and experience a scientific learning journey.

Teachers should plan questions to unpick children's learning, opportunities for assessment, the use of technology to enhance investigations and recording, cross-curricular activities as well as ensuring children are aware of health and safety whilst working scientifically. When planning practical investigations staff have access to **CLEAPSS**. This gives staff access ideas for investigations alongside practical advice on how to conduct investigations safely following the CLEAPSS guidance.

Teachers should plan and timetable to teach Science for a minimum of two hours per week.

### Whole school approach to Science teaching

Children must be equipped with the relevant scientific **knowledge before** applying these through **skill** based tasks. The planning and delivery of science should follow the outlined model below.



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### **Teaching and Learning**

We use a variety of teaching and learning styles in science lessons. Our principal aim is to develop children's knowledge, skills and understanding. Sometimes we do this through whole-class teaching, while at other times we engage the children in an enquiry-based research activity. We encourage the children to ask, as well as answer, scientific questions. Children are provided with opportunities to work independently and are encouraged to take control of their learning in a supportive environment.

Teachers are expected to adapt and modify the model plans to suit their children's interests, current local and global issues, their own teaching style, the use of any support staff and the resources available. We must ensure that any modification does not overlook any statutory requirements of National Curriculum 2014.

### **Foundation Stage**

From September 2021, there have been changes the foundation stage curriculum. To support staff PLAN resources can be used within creative topics to meet early learning goals. These help provide opportunities for Science within a range of creative topics, enabling pupils to experience and observe phenomena, looking closely at the world around them and the science that supports this.

### **Key Stage 1**

To develop independence with regards to working scientifically in Key Stage 1 children will use POEE grids (Predict, Observe, Explore and Explain) supported by the Class Teacher and Teaching Assistant. Children can work on these grids using Post-its or can use whiteboard markers pens if laminated. This promotes engagement of all children and independent learning. Staff will follow PLAN science.

### **Key Stage 2**

To develop greater independence with regards to Science, across KS2 teachers are to establish a Post-it approach to investigations, experiments and observations using the A3 Science enquiry posters. All children should be actively engaged within the planning of experiments including generating investigation questions, selecting appropriate resources, controlling variables and the method to be used. Staff will follow PLAN science.

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### **Scientific Vocabulary**

Children will, through their teaching, sharing ideas and solutions and whole class discussions be encouraged to use and understand scientific vocabulary relevant to Age Related Expectations. This vocabulary is located on the **PLAN knowledge matrices** for each unit.

### **Resources**

Resources for science are stored in the room at the back of the Year 3 classroom. In addition, some resources are held in classrooms which are specific to that year groups objectives. A resources audit will be carried out regularly, each term, however teachers are to notify the Subject Leader of any needs that arise across the academic year. Alternatively, a request for monies can be submitted to the Headteacher for the purchase of science resources, this must be agreed prior to making a purchase.

The use of technology is being developed across school as we look to use technology to support practical science including; laptops, microscopes (Easi-scopes), Log Boxes, Visualisers and digital cameras.

The Subject Leader has created an appendix of additional resources teachers may wish to consider as they plan their unit of work.

### **Outdoor learning**

The opportunities for outdoor learning to take place within Science are limitless. Every opportunity to learn from there environment should be seized. Impromptu questioning and learning have many benefits and makes children aware of Science being all around them.

### **Outside Agencies**

Teachers should actively look to engage with outside agencies whenever possible, this could include links with parents (do they work within a STEM related profession?). From time to time whole school science events may be planned to broaden and deepen understanding whilst providing a widening of approaches available for children to question and find answers to scientific phenomena.

### **Health and Safety**



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All staff should make themselves conversant with the following; - In regard to science work in school all teachers will be conversant with safe practice and where appropriate reminders will be given to children about potential hazards and care of the equipment they are using. When using CLEAPPS practical resources these have been created using their guidance, any health and safety guidance are included in **YELLOW**. If still unsure staff should consult the copy of 'Be Safe' by the Association for Science Education before planning a topic to familiarise themselves with current best practise.

Any educational visits will have been planned with due regard to the school policy on taking children on educational visits.



**How is the Impact of the Science Curriculum measured at St Anne's?**

**Assessment**

The Class Teacher is responsible for the assessment of each child using the school's 'Skills Progression Documents', the National Curriculum Programme of Study for Science and Lancashire LPDS assessment tools. Teachers will assess if children are On Track, not yet on track or not on track with regards to Age Related Expectations. We use assessment to inform and develop our teaching. Assessment is an on-going and vital tool to inform future planning. Children are assessed in their oral responses as well as a variety of recorded work and each child's progress will be noted for further guidance on assessment and marking see school's assessment policy.

**Monitoring and Evaluating**

The Science Subject Leader and Senior Leadership Team will monitor planning, teaching and the children's learning on a termly basis in the following ways; book and planning scrutinise, pupil interviews, analysis of data etc.

Regarding planning key strengths will be identified along with issues for development and support will be provided by the Subject Leader or through CPD opportunities.

From this the Subject Leader will provide feedback to teaching staff regarding coverage of knowledge and skills in line with medium and long term planning. In addition to this, pupil's assessment data will be tracked and Class Teachers will be made aware of children requiring further support in order to attain Age Related Expectations.

Through monitoring and the support of Class Teachers the Subject Leader will collate an annual case study of children's work demonstrating the accuracy of teacher assessment.

A copy of the Science Monitoring and Evaluation Timetable, which breaks down the monitoring taking place across the academic year, can be found in the Science Subject Leader folder.

**This policy was accepted by:**

**Subject Leader:** Mr Davies

**Headteacher:** Mrs Webb

**Date for review:** September 2023.

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