



## **COPPULL ST. JOHN'S C.E SCHOOL** **SCIENCE POLICY DOCUMENT**

### **Mission Statement**

*'Grow in the Grace and Knowledge of our Lord Jesus Christ'*

2 Peter 3 v18

**We are a welcoming church school where everyone is valued and encouraged to flourish academically, emotionally and spiritually.**

**We promote a love of learning where individual talents are nurtured; hopes and aspirations can be achieved.**

**Where excitement is evident and enrichment opportunities shape our grace and knowledge.**

**Jesus motivates, inspires and teaches us about living life in all its fullness.**

### **DEFINITION OF SCIENCE**

Science is a body of knowledge built up through experimental testing of ideas. Science is also methodology, a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as using and applying process skills. We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability. Our aims in teaching science include the following: Preparing our children for life in an increasingly scientific and technological world; Fostering concern about, and active care for, our environment; Helping our children acquire a growing understanding of scientific ideas; Helping develop and extend our children's scientific concept of their world; and developing our children's understanding of the international and collaborative nature of science.

### **PURPOSE OF THIS DOCUMENT**

This policy reflects the school's values and philosophy in relation to the teaching and learning of Science. It sets out a framework within which teaching staff can operate and it offers guidance on planning, teaching and assessment. This policy should be read in conjunction with the Scheme of Work; the use of the National Curriculum and Skills Based document currently used for planning, which sets out in detail what pupils in different year groups will be taught.

### **WHY IS IT IMPORTANT?**

Science is a core subject in the National Curriculum and plays an important part of everyday life. Children are naturally inquisitive and therefore the Science Curriculum and the teaching of it extends a child's knowledge and understanding of their world whilst allowing them to develop their confidence in asking questions and finding answers for themselves.

### **STATEMENT OF AIMS/ OUR SCIENCE PRINCIPLES**

The aims of the Science programme are directly related to the overall aims of the school. As a school we created a set of Science Principles that we believe make a good Science lesson for the children. Each Science lesson will have a principle that we focus on and children will assess the lesson against the principles.

### **Science Principles**

We know Science is good when...

1. We can discover answers for ourselves. We can use trial and error, answer questions for ourselves and solve our own problems.
2. We use scientific vocabulary to explain ourselves.

3. We can talk, ask questions and share our ideas.
4. We can work practically.
5. We are engaged, excited and involved.
6. We are inspired, want to know more and teach others.
7. We can record what we have learnt in different ways.
8. We can use the outdoors to enhance our learning.
9. Teachers are confident about what they teach.

### **HOW WILL SCIENCE BE IMPLEMENTED THROUGHOUT THE SCHOOL?**

The Scheme of Work has been developed from the National curriculum 2014 and ensures continuity and progression of skills, knowledge and understanding throughout the school. It is based on individual year groups but it is being used on a two year rolling programme to enable teachers to implement the work more efficiently in mixed age classes. The scheme offers staff their Long Term, Medium Term outline and Short Term activities with suggested activities and points of safety. This is in addition to the objectives set out in the National Curriculum which now are broken down into smaller steps of objectives in the Skills Based programme.

	<u>Class 1</u> <u>(Reception/ Year 1)</u>	<u>Class 2</u> <u>(Year 1/2)</u>	<u>Class 3</u> <u>(Year 3/ 4)</u>	<u>Class 4</u> <u>(Year 5/ 6)</u>
Autumn 1	Animals including humans – other animals	Animals including humans – other animals	Electricity	Evolution and Inheritance
Autumn 2	Animals including humans- Humans	Animals including humans- Humans	Environment- Changes	Animals Including Humans- Circulatory System
Spring 1	Plants – wild and garden plants and trees	Plants – wild and garden plants and trees	Animals including humans- Digestion and Teeth	Light
Spring 2	Seasonal changes	Seasonal changes	Sound	Materials changes- Reversible Changes
Summer 1	Everyday Materials	Everyday Materials	States of Matter	Electricity
Summer 2	Seasonal Changes- Weather	Seasonal Changes- Weather	Living Things and their Habitats	Scientist study

As part of the Science curriculum, children in upper KS2 will look at how we change as we grow (including puberty) so the subject will be linked to Relationship and Sex Education which is explained further in our PHSE policy.

### **RESOURCES AND ACCOMMODATION**

Science resources in school are checked on a regular basis by the leader and new equipment, to replace or develop certain strands of the scheme, is continuously being purchased.

The resources are kept at a central location and are clearly labelled to help staff find and explore. This location is upstairs in the main school building, in the Resource Room.

### **CONTINUITY AND PROGRESSION**

Science involves the development of skills, knowledge and understanding as well as independence, exploration and questioning. The school aims to ensure progression and continuity by:

- a) Following a scheme of work which covers and develops skills, knowledge and understanding within each Programme of Study for Science.
- b) Using the Science Principles for planning and assessing Science lessons for both the teachers and the children.
- c) The leader monitoring Medium and Short Term Plans and pupil's work.
- d) Checking the level of work produced by the children and planning for the appropriate ability of the class.

- e) Reviewing evaluations of plans.
- f) Working alongside other teachers or talking about expectations.
- g) Meetings with other local school Science leaders to discuss teaching, assessment and enhancement opportunities.
- h) Providing relevant INSET activities and training courses for teaching staff.

## **TEACHING STYLES**

We believe in giving the children first hand experiences and we encourage children to take control of their own learning. We aim for children to ask questions related to Science topics and have the freedom to carry out their own investigations to test their ideas. Work will be completed individually, in pairs or groups – based on ability or sometimes friendship. As much as possible, Science lessons will be taught outdoors to offer the children space and open ended natural resources.

## **EQUAL OPPORTUNITIES**

All pupils will be given access to the full Science Curriculum regardless of gender, ability, race, and cultural or financial background.

- \_ Our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias.
- \_ We aim to teach Science in a broad global and historical context, using the widest possible perspective and including the contributions of people of many different backgrounds.
- \_ We draw examples from other cultures, recognising that simple technology may be superior to complex solutions.
- \_ We value Science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their science experiences.
- \_ In our teaching, Science is closely linked with English and Mathematics.
- \_ We recognise the particular importance of first-hand experience for motivating children with learning difficulties.
- \_ We recognise that Science may strongly engage our gifted and talented children, and we aim to challenge and extend them.
- \_ We exploit Science's special contribution to children's developing creativity; we develop this by asking and encouraging challenging questions and encouraging original thinking.

## **SPECIAL EDUCATIONAL NEEDS**

Any child with special educational needs will participate in all activities and work, activities or assistance will be differentiated accordingly.

Pupils with special ability and flair are extended through the use of the investigational process or more challenging work.

## **STAFF DEVELOPMENT**

- a) The whole Science program will be monitored and reviewed when necessary. Essentially by the leader, but in consultation with the other teaching staff.
- b) Whenever possible, relevant courses will be attended by teaching staff and ideas disseminated to colleagues.
- c) Consultations with the Adviser or Advisory Teachers will be undertaken when necessary.
- d) Supportive literature will be given to staff and also will be available in the Science scheme of work.
- e) Consultations with other local schools will be undertaken in order to share and gather further support or training.

## **ASSESSMENT AND RECORDING**

The children will be constantly observed and monitored throughout all scientific work. We assess through KLIPs and the Science Skills Ladders as part of our whole school assessment policy involving pupils in their own targets and achievements. The scheme of work provides a framework

for assessing scientific skills and identifies skills, knowledge and understanding requirements for each unit of work. Assessments for individual children are to be made every term and these assessments can be found on the Scheme of Work or in the Science folder on the shared drive. The Science leader collects class assessments on a termly basis. Learning walks, book looks and conversations with children will be carried out by the Science Leader throughout the year to ensure Science is engaging and language is developing.

### **RAISING AWARENESS**

A positive and enthusiastic attitude towards science will be encouraged at all times, harnessed and developed. Awareness about coverage and children's achievement in and out of school will be achieved and celebrated through Records of Achievements, displays, collective worships (Class and Shining Stars) and Outdoor Adventure weeks – Year 6. An increased awareness and use of outdoor learning will also be put in place this year to develop an increased awareness of the outdoors, local area and care of our planet.

### **HEALTH & SAFETY**

Health and Safety points will be shared with the children before starting any activity and after, in which children are handling items, they are required to wash their hands. Staff are aware of this guideline and reinforce this through their teaching.

An outdoor learning risk assessment has also been carried out to ensure outdoor lessons are carefully planned for and children and staff are made aware of risks and procedures. This can be found on the shared teacher drive in Outdoor Learning.

### **CROSS CURRICULAR LINKS**

Science activities can easily be adapted so that links can be made to other subjects. For example, measuring can incorporate their maths skills, talking, forming and asking questions or writing about an investigation utilises and reinforces language skills, making an electrical model links to D.T. and healthy eating and fitness can link to their P.E. lessons. Plant beds are available on the school grounds in order to encourage growing plants, fruits and vegetables for each class throughout the year, which classes have embraced. Some clear links are included in the Scheme of work.

### **EXTRA CURRICULAR ACTIVITIES**

There is a healthy tradition in the school for extra curricular activities supervised by an appropriate adult. For Science there is a seasonal Gardening Club, which runs after school. This club provides an insight into plant type and helps to support and reinforce a caring attitude towards their environment. Also this year, there will be an Eco- Club (Green Team) will commence, recruiting members from across the school to help make our school more economical and also help our environment.

### **REVIEW AND EVALUATION OF THE POLICY**

This policy should be a useful document to all teaching staff within the school. In order for this to continue and be relevant to the development of the subject area this policy will be reviewed annually. Next review- July 2022

Mrs A. Casterton Science Leader (July 2021)