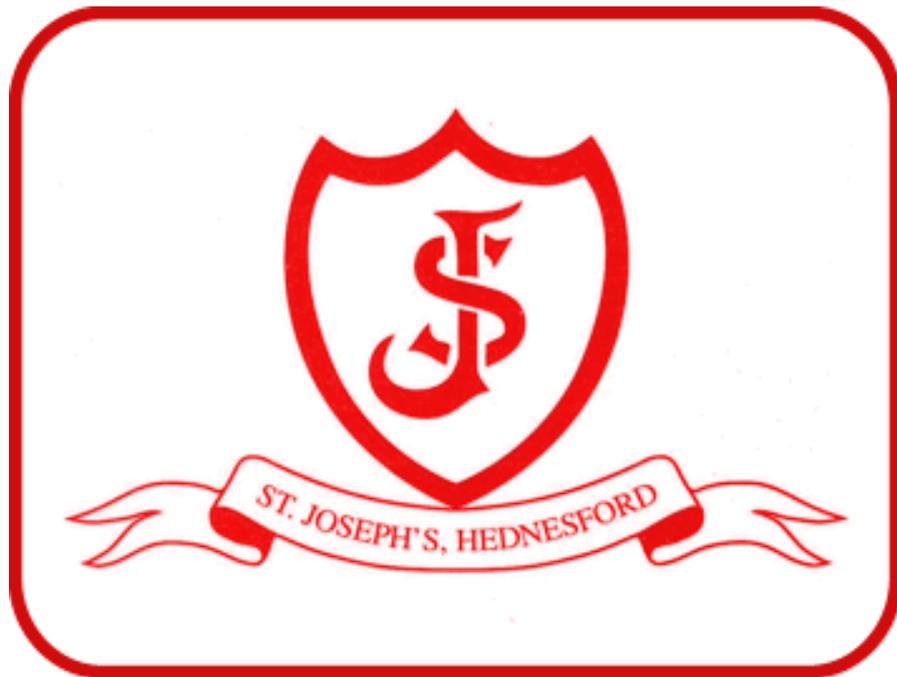


St Joseph's
Catholic Primary School,
Hednesford



Science Policy

Date adopted by the Governing Body -

16th March 2010

Last Reviewed: Jan 18

Due for Review: Jan 21

St. Joseph's Science Policy

Aims

The teaching of Science at St. Joseph's supports the school's aim to foster in the pupils the joy of learning, to promote independence and perseverance. It aims to stimulate each 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.

We are passionate that the children at St. Joseph's foster a love of science and develop enquiring minds which teach them to question the world around them and to inspire in them a desire to 'find out more'. We want the children to be aware that science is taking place all around them, all of the time and not just in timetabled Science lessons.

The aims of science are to enable children to:

- Develop knowledge and understanding of important scientific ideas, processes and skills and to relate these to everyday experiences
- Encourage and develop children's curiosity and fascination with their world
- Develop a balance of scientific skills
- Develop the attitudes of curiosity, open-mindedness, perseverance, tolerance, co-operation and responsibility
- Encourage awareness of science and scientific advances outside the classroom
- Provide science education which will be challenging to all pupils and ensure equality of opportunity
- Learn about ways of thinking and finding out about and communicating ideas

Teaching and learning

We use a variety of teaching and learning styles in science lessons. The primary aim at Key Stages One and Two is to develop the children's scientific enquiry skills. Through this, their knowledge and understanding will progress too. Throughout Key Stages One and Two, all children will have had regular experience of the following enquiry skills:

- Observing over Time
- Identifying and Classifying
- Pattern Seeking
- Research
- Comparative and Fair Testing

Teachers note on their planning which types of enquiry are being taught to ensure the full range is covered across topics and year groups.

We encourage the children to ask, as well as answer, scientific questions. They are encouraged to use a variety of means for communicating and recording their work, using IT e.g. internet, IWB, digital cameras etc where possible and appropriate. We also look for opportunities to involve the children in 'real life' scientific activities, for example visiting science museums and participating in recycling, environmental and ecological initiatives and through holding regular Science Week. This has proved to be a thoroughly enjoyable aspect

to our school year and raises the profile of science amongst children, staff and parents. Through differentiated planning, we endeavour to ensure that we provide suitable learning opportunities for each child, whatever their scientific ability. We achieve this in a variety of ways:

- Setting common tasks that are open-ended and can have a variety of responses
- Grouping children by ability and setting different tasks for each group
- Grouping children in mixed abilities to support each other
- Providing resources of different complexity, matched to the ability of the child
- Using the classroom assistant to support the work of individual or groups of children
- Being led, in part, by the children's interests and questions.

SEND/Dyslexia

The Governing Body believes that all children, regardless of ability and behaviour, are valued equally at St Joseph's School. Different children's needs are recognised and met through varied and flexible provision throughout the curriculum.

As a Dyslexia Friendly School, we have effective systems in place to support and benefit children with dyslexic tendencies. These systems also have a significant impact on other pupils, especially those who may struggle with literacy skills.

Science curriculum planning

Topics in science are organised by the science coordinator and planned by each class teacher. They have recently been reviewed in line with the new National Curriculum and were implemented in September 2014.

We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each topic, and we also build progression into the science scheme of work, so that the children continue to be challenged as they move up the school. Plans are kept in each class teacher's planning file.

Key Stage One complete one and a half hours of Science per week and Key Stage Two complete two hours.

Foundation Stage

Science throughout the Foundation Stage is taught as an integral part of the topic work covered during the year. Scientific aspects of the child's work are related to the objectives set out in the section of the Early Learning Goals entitled Understanding of the World, which underpins the curriculum planning for children aged three to five.

Science in Key Stages 1 and 2

Science is taught throughout these Key Stages following the topics of the new National Curriculum 2014. Teachers use a range of published material to support their planning and delivery. They may change the order of the topics to fit in with other areas of the curriculum which may lend themselves to cross curricular links.

Year 1	Animals	Seasonal changes Autumn	Seasonal Changes Spring	Everyday Materials	Plants	Humans
Year 2	Materials and Their Uses	Movement	Animals including humans	Plants	All Living things	Habitats
Year 3	Light	Animals including Humans	Rocks	Scientists and Inventors	Plants	Forces and Magnets
Year 4	Animals including humans	All Living Things	Habitats and Food Chains	Electricity	Sound	States of Matter
Year 5	Earth, Sun and Moon	Forces	Properties and Changes of Materials	Animals including Humans	Living Things and Their Habitats	Living Things and Their Habitats (continued)
Year 6	Living Things and Their Habitats	Electricity	Animals Including Humans	Light	Evolution and Inheritance	Forces

Public Sector Equality Duty

All children will be given a full range of science experiences regardless of gender, race and culture.

As in all curriculum areas at St Joseph's, the teachers provide a broad and balanced education for all children. Science is a core subject and is taught to all children whatever their ability and we strive to provide learning opportunities to enable all children to make progress.

Teachers' individual weekly plans will show how activities have been adapted or extended for children of different abilities.

Children with special educational needs are involved in all work planned for each topic at an appropriate level, which will help each child reach their full potential. Some children will require closer supervision and more adult support to allow them to progress. There may be children with Pupil Passports which may have a specific target/s relating to Science. In this case, the class teacher will adapt their planning to meet the needs of that child.

Other children may have been identified as Gifted and Talented in relation to science and will be extended through a range of differentiated activities.

By being given enhancing and enriching activities, more able children will be able to progress to a higher level of knowledge and understanding appropriate to their abilities.

Each teacher should ensure that every child has opportunities to develop scientific skills when working within a group.

It is good practise to consider the mix of children within a group, and to vary these so that individuals do not dominate during activities.

Children should be encouraged to study the practical applications of science and the ways these applications affect other societies, economies and cultures in both developed and developing countries.

Assessment and Recording

Teachers assess the children throughout the teaching of each topic and use their findings to inform their planning. Teachers evaluate each lesson and annotate their plans, which can be found in each teacher's planning file.

The staff agree that assessment should be meaningful and manageable and our assessment procedures reflect this. The science coordinator has recently started using the TAPS pyramid model, which is a science assessment school evaluation form. It is updated once or twice yearly. We have also implemented a book tracker system which allows the teachers and pupils to assess learning and understanding of each topic in science.

Monitoring and Review

The Science Coordinator is responsible for the overall review of Science Teaching and Learning throughout the school. She feeds back any appropriate information to the Leadership Team. Teachers are involved in working alongside the Coordinator to monitor the standards of children's work.

Mrs Leona Weaver is the link governor for Science.

Safety and Risk Assessments

When working on science experiments the children should be taught the following rules:

- Do not put anything in your mouth during experiments.
- Do not suck fingers.
- Wash your hands after experiments.
- Use separate spoons or spatulas for each substance.

Pupils must be taught to handle apparatus correctly and to report any breakages immediately. Whilst we are keen to develop a love of science within our pupils, we also want them to be aware of related dangers and to take responsibility. What follows are some safety points we as staff, encourage our students to think about when carrying out investigations.

- When carrying out an investigation, children should always wash their hands after the lesson
- Children should never be tempted to eat or drink during an investigation (unless it is a tasting investigation!)
- When using glass, be prepared for breakages. Children should know that they will not get into trouble for accidental breakages and that they must report them immediately.
- Children must never touch broken glass but allow an adult to wrap it in layers of paper before disposing of in the bin,

- When using small objects, such as marbles in a force lesson, talk with the children about the dangers of choking if they were to put these in their mouth.
- Never allow the children to investigate with liquids hot enough to scald.
- Children should be made aware of the dangers of electricity, e.g. using mains equipment with a damaged plug or frayed lead, using a light switch with wet hands etc
- When looking at ourselves, be sensitive to the difference between children.
- Children must wash their hands after handling any animal materials. This would mostly refer to work on mini beasts, or class visits to farms.
- Children should never touch their eyes after handling plants.

Resources

We have resources for all science teaching units in school. These are stored centrally in the Science cupboard located in the Meeting Room. Once a year, the coordinator carries out an audit of resources. Throughout the year, other members of staff can request specific resources from the coordinator who will seek to purchase or borrow, as is appropriate. Towards the end of each academic year, class teachers can request a box of topic books from the Schools' Library Service to support their science topics throughout the year. There are a number of science based education centres in the region which offer trips and workshops to support many of the topics covered in class. The Science coordinator keeps up to date with these courses and informs the class teachers of any which may support their science work in class.

Science Coordinator

The role of the Science coordinator is to:

- Set out the long and medium term planning for each year group
- Keep up to date with subject developments, maintain knowledge, be aware and cascade new initiatives and innovations to other members of staff
- Help to train staff in the skills necessary to carry out the requirements of the National Curriculum, including advice on planning, teaching and assessing
- Be part of the assessment cycle. This includes taking a role in the analysis of data, and looking at how we can use this information to improve further
- Monitor the teaching and learning of science through book trawls and lessons observations
- Monitor resources and other requirements
- Liaise with Cardinal Griffin High School
- Keep all stakeholders in the school informed in the running of the subject. (Link governor Mrs Weaver).

The Science coordinator will ensure that new members of teaching staff have copies of the Science policy and are well informed about the topics they will be covering with their class. She will also ensure that new members of staff are aware of the resources available and have a clear understanding of health and safety procedures.