

St Nicholas Primary School



Science Policy



St Nicholas School is a UNICEF Rights Respecting School and promotes rights respecting values in all its policies

The Governing Body of St Nicholas School have formally adopted this policy

Signed _____

Headteacher

Signed _____

Chair of Governors

1. Curriculum Statement

At St Nicholas School we believe that science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. The range of experiences and achievements will contribute to the enrichment of pupil's lives, according to individual needs, abilities and aptitudes.

Intent

At St Nicholas School our intent for the teaching of science is:

- ❖ To develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- ❖ To 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.
- ❖ To be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.
- ❖ Topics such as Plants, are taught in Key Stage One and studied again in further detail throughout Key Stage Two.
- ❖ Concepts taught should be reinforced by focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.
- ❖ To encourage children to develop and use a range of skills including observations, planning and investigations
- ❖ To be taught vocabulary for topics is taught and built up, and effective questioning to communicate ideas is encouraged.
- ❖ To develop an ability to work independently and collaboratively

Implementation

Science as a core curriculum subject is delivered in each class on a weekly basis. All year groups have a topic web for each term and are able to integrate science in a cross curricular way. We plan our Science Curriculum in accordance with the EYFS 'Development Matters' Document and the 2014 National Curriculum Science Programme of Study. Children in Reception and Key Stage 1 follow the EYFS curriculum so Science is taught through Knowledge and understanding of the world and a play based approach. In Key Stage 2, we follow an adapted national curriculum that covers the following areas

Our curriculum is implemented through:

- A scheme of work that enables teachers to consolidate and extend the varying needs of children in their class,
- Teachers ensure that there is coverage of all mathematics concepts by having 3 enquiry 2 experiment lessons each week- where through attention autism
- Learning is sequenced accordingly so that prior learning is consolidated and built upon

- Using a range of teaching approaches that makes learning interesting and fun with purposeful activities that are both practical and written based
- Adults use signs and symbols to support children in their understanding of scientific concepts
- Scientific concepts are reinforced through daily activities such as the morning routine, daily timetable, cooking, PE, fruit and drink and lunchtime.
- Work is differentiated accordingly and any misconceptions are addressed early on
- Resources are carefully chosen so that they support the child in their understanding.

Impact

St Nicholas School has a supportive ethos and our approaches support the children in developing their collaborative, resilience and independent skills. Through our science curriculum we want our pupils to be resilient learners; to have developed a positive attitude for Science; to be able to use science skills in their everyday lives and to have learnt skills that enable them to work independently, to problem solve and to work collaboratively.

2. Teaching and Learning

Organisation

Foundation Stage/Key Stage One

We teach science in our KS1 classes through the EYFS – Knowledge and understanding of the world.

The EYFS/Key Stage Leader will modify the programme of study and *Early Learning Goals* from the *Revised Statutory Framework for Early Years Foundation Stage 2012*.

Science Knowledge and understanding of the world, (Science) is initially taught through songs, stories, games and imaginative play. The EYFS learning environment includes visual images, models and a variety of resources to stimulate the pupils' interest. This interest helps the pupils to begin to relate mathematics to their daily lives.

Key Stage two

Science is a core subject in the National Curriculum. It is categorised as below

Year 3 Plants, Animals, including humans, Rocks, Light, Forces and magnets

Year 4 Living things and their habitats, Animals, including humans, States of matter, Sound, Electricity

Year 5 Living things and their habitats, Animals, including humans, Properties and changes of materials, Earth and space, Forces

Year 6 Living things and their habitats, Animals including humans, Evolution and inheritance, Light, Electricity

The use of ICT is an integral part of science teaching and learning. Teachers will use a range of internet based resources and programmes such as 'Education City' and 'Helpkidzlearn' to enhance their teaching. Also, they will use interactive whiteboards to develop learning using software such as 'Percy's Science'. There will be opportunities for pupils to use these sites and programmes individually using computers or iPad. in their classroom

Additional ICT resources:

- Floor robots
- Remote control vehicles
- Cameras
- Video cameras
- I Pads
- Electronic scales
- Visualizers

3. Assessment

Assessment is an integral part of teaching and learning. It is the responsibility of the class teacher to assess all of the children in their class.

Formative Assessment

Short term assessment is a feature of each lesson. Observations and careful questioning enable teachers to adjust lessons and brief other adults in the class if necessary. Activities are adjusted if misconceptions arise or if concepts are grasped quickly. Adults give feedback to the children verbally during the lesson through praise and encouragement. At the end of each lesson, adults also mark any recorded work or write observations based on photographic/videoed evidence to build a profile.

Teacher Assessment

In the Summer Term, teachers in EYFS, Year 2 and Year 6 will provide teacher assessment for the children in their class. For Reception aged children, the teachers use the EYFS Reporting Arrangements using evidence that has been collected over the year through observations, recorded evidence and discussion.

Name:

Age:

Current Year Group:



Year 1 Individual Pupil Science Assessment Record			
Working Scientifically	Working towards	Achieved	Exceeded
Pupil interacts with people and objects e.g. holds an object.			
Pupil gives consistent response to pleasant and unpleasant stimuli.			
Pupil can communicate simple choices, likes/dislikes			
They imitate actions involving main body parts, for example, clapping or stamping.			
They begin to make generalisations, connections and predictions from regular experience, for example, expecting that ice cream will melt.			
Can ask simple questions and recognising that they can be answered in different ways.			
Can observe closely, using simple equipment.			
Can perform simple experiments			
Can identify and classify phenomena.			
Can use their observations and ideas to suggest answers to questions			
Can gather and recording data to help in answering questions.			
Plants			

In Year 2 and Year 6, teachers report their teacher assessment using p-levels (P1-P4) and pre-key stage standards where appropriate. Few children are assessed using the end of key stage standards for children in year 2 and year 6.

This information provides us with summative assessment at the end of each key stage.

4. Role of the subject leader.

- The subject leader will raise the profile of Maths at St Nicholas School through best practice. They will model lessons, as appropriate to new staff, NQTs and peers to support continued professional development. They will ensure the high quality of Maths displays around the school. They involve the school in 'celebrations' of Maths, including participation in events such as 'Science Week'. The subject leader will support staff in providing opportunities for learning outside the classroom in Maths and will identify and organise opportunities which enable this, as appropriate.
- The subject leader will monitor progression and continuity of Maths throughout the school through lesson observations and regular monitoring of outcomes of work in Maths exercise books.
- The subject leader will ensure that all staff have access to the scheme of work and the relevant resources which accompany them.
- The subject leader will monitor children's progress alongside the Assessment co-ordinator through the analysis of whole school data. They will use this data to inform the subject development plan which will detail how standards in the subject are to be maintained and developed further.
- The subject leader will, on a regular basis, organise, audit and purchase central and class-based Maths resources.

- The subject leader will keep up to date on current developments in Maths education and disseminate information to colleagues.
- The subject leader will extend relationships and make contacts beyond the school.
- The subject leader will develop opportunities for parents/carers to become more involved in Maths education.
- The subject leader will ensure that all staff have access to professional development including observations of outstanding practice in the subject.
 - The subject leader will also keep a portfolio of work from each year group. They will ensure that they collect examples of all areas of mathematics.

5. Inclusion

At St Nicholas School we aim to provide an inclusive curriculum which will meet the needs of all pupils, where the teaching and learning, achievement and well being of every child matters. All pupils have equal access to the curriculum regardless of ability.

6. Equal Opportunities

All pupils have equal access to mathematics. We pay particular attention to ensuring there is no gender bias in materials, including ICT. Any displays and references to mathematics in society should demonstrate positive role models of gender, race, culture, ethnicity and disabilities.

Home/School Links

Our relationship with parents is very important when supporting their child's mathematical skills. We involve parents in their children's learning by:

- Providing regular parents' evening, which give them verbal and written feedback (Pupil Passports).
- Providing verbal and written feedback on progress during reviews of EHCPs.
- Providing weekly curriculum letters informing the parents on the areas of the curriculum that are being covered.
- Providing an end of year report.
- Providing Parent Support Group meetings on how we teach mathematics and how they can help.

This policy is to be read in conjunction with:

- Teaching and Learning Policy
- Curriculum Policy
- Assessment Policy
- Effective Marking and Feedback Policy
- Calculation Policy
- ICT Policy

- Equal Opportunities Policy
- SMSC Policy