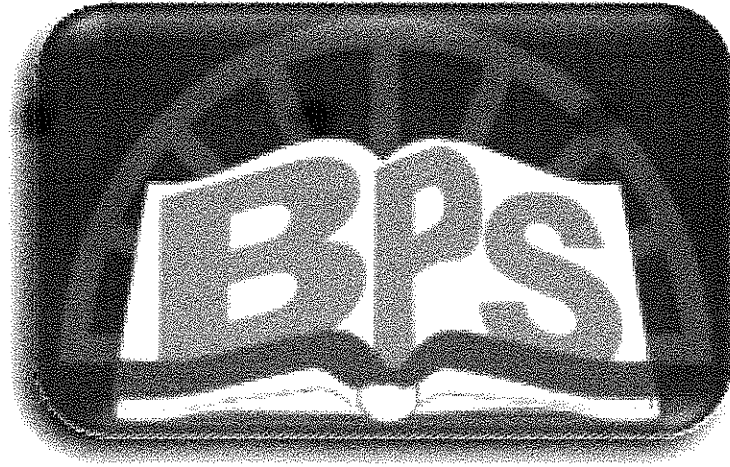


Science Policy



Brinsley Primary and Nursery School

School Policy for

Science

Updated: January 2019

Review: January 2020

Science Policy

Introduction

Science teaching provides pupils with an understanding the world through the specific areas of biology, chemistry and physics. Science has changed our lives and is vital to the world's future. Through developing a secure understanding of key knowledge and concepts, pupils should be encouraged to develop a sense of excitement and curiosity in finding out how and why things happen. Pupils learn to ask scientific questions and begin to investigate these through predicting, enquiring and analysing.

Aims

- To stimulate pupils enjoyment of scientific concepts.
- To develop secure scientific knowledge and understanding of biology, chemistry and physics.
- To equip pupils with key scientific vocabulary which they can use accurately.
- To support pupils, through practical work, in developing the way in which they work scientifically. This will be done by asking questions, making predictions, making observations, recording and presenting evidence, drawing conclusions and evaluating what they have found.
- To encourage pupils to raise their own questions, and learn how to investigate and explore these using both first-hand experience and secondary sources.
- To develop a sense of care, wonder, responsibility and interest for our environment, by treating things around them with respect and sensitivity.
- To help pupils recognise and assess risks and hazards to themselves and to others, when working with living things and materials and to take action to control them.

Planning

- Teachers use the Cornerstones planning as the main base for their teaching. Each teacher selects the Imaginative Learning Projects (ILP) for their class. Each project has a main curriculum focus but also links to the programmes of study for other areas of the curriculum.
- At the beginning of the school year the science coordinator is required to generate a 'Detailed Coverage Checker' in Cornerstones, for the coverage of science linked to the year group ILP's. This ensures that the programmes of study are being covered, and highlights which will need to be covered discreetly.
- 'Love to Investigate' plans are then available for all year groups covering all of the programmes of study for 'working scientifically'. These investigations can be used to discreetly teach objectives that are not covered fully through the Cornerstones unit that is being taught. These consolidate the scientific

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knowledge and skills that have been taught in other areas and also encourage children to be curious, ask questions and explore the world around them.

- To enable the teaching of 'Love to Investigate' sessions, each half term science days are timetabled for all of key stage one and two.
- Planning should include use of ICT to support the teaching of scientific concepts and investigation, as well to capture and inspire the pupil's interests.

Progression through school

Foundation Stage

- In Foundation stage teachers use the Early Years Foundation Stage Curriculum to support their teaching.
- Science is covered through 'Understanding of the World', where pupils will have the chance to explore and ask questions about where they live and their environment, the plants and animals they find there and how to care for living things.
- They look at how and why things happen and work, and begin to compare patterns and changes.

Key stage 1 and 2

- The National Curriculum for Science (Programmes of study) 2015 is followed.
- Each year has its own Programme of Study with years 1 & 2 being KS1, years 3 & 4 being lower KS2 and years 5 & 6 being upper KS2.
- Science is taught through our Cornerstones topic which fit the curriculum programmes of study, but the importance of the scientific knowledge, skills and understanding must be highlighted with the learning objective.
- Throughout school, pupils are introduced to a variety of plants and animals, materials and physical phenomena.
- Working scientifically, should be embedded in each unit taught.
- Pupils should work scientifically, practically and use a variety of research methods including books and ICT.
- They will use scientific equipment to take measurements and record and present their findings in different ways.
- As pupils move through school, we expect them to take increasing responsibility for their work. They will work independently and in groups.
- Pupils will be given the opportunity to work on open ended questions, where they have planned and set up their own investigations.
- During each year, pupils should experience each main type of scientific enquiry - Observation (including over time), pattern seeking, fair testing, identifying and classifying and researching using secondary sources.
- It is important for the pupils to be able to review and consolidate their learning rather than moving on without securely understanding.

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- Questioning and discussion should be aimed to develop higher order thinking skills rather than pure recall of facts.
- To enrich and extend understanding, teachers provide opportunities for the pupils to apply, evaluate, justify and explain the knowledge and understanding they have developed.
- Full investigations can follow those suggested by Cornerstones and in key stage two investigation templates are available on the common drive, to record these.
- Key scientific vocabulary **must** be a key focus.

Assessment

- Lessons are differentiated and success criteria is shown so that pupils can all achieve each learning objective.
- Teachers use FLiC (Framing Learning in Classrooms) tracking software to assess each pupil's understanding against the science objectives for each year group. Pupils are highlighted as 'working towards', 'at expected' or 'above expected'. Collation and analysis of this data is done each term by the science coordinator and highlights strengths, weaknesses and particular pupils that may be need extra support.

Extra Opportunities

- Out of school visits are planned, when applicable, to extend and enrich Science. Guest speakers do also visit the pupils in school.
- We have continued links with the RSPB and Severn Trent Water. We have also forged links with Nottinghamshire Schools Action Waste Club and Veiola, who organise educational visits to the local materials recovery facility.
- Science days are timetabled for the whole school, where 'Love to Investigate' sessions can be taught. Foundation Stage pupils will also begin to take part in these during the spring and summer terms.
- Pupils will be visited again by Fizz Pop Science, who will lead an assembly and then pupils given the chance to sign up to a 4 week after-school club led by Fizz Pop Science staff.
- Through a link with Scientists at The University of Nottingham, pupils will be given an assembly with a question and answer session relating to science career opportunities, along with a class workshop.
- Pupils and parents are encouraged to recycle textiles, and each term bring these into school to be collected by 'Bag2school', who weigh the donation and send school payment for the textiles.

Resources

- The school has a resource room in the old building.
- Resources are kept in labelled trays.
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- Pupils are taught to use scientific resources correctly.
- Parents/Carers are informed of science topics, so that they can support with work at home.
- Books are available to support pupil's learning in each class. These link to the unit being covered.

Health and safety

- Pupils should be taught about hazards, risks and risk control.
- They should begin to recognise hazards and take steps to control risks to themselves and others around them.

Inclusion (Please also refer to the school's Inclusion Policy)

We aim to meet the needs of all our pupils by differentiation in our science planning, and in providing a variety of approaches and tasks appropriate to ability levels. This enables pupils with learning and/or physical difficulties to take an active part in scientific learning and practical activities and investigations and to achieve the goals they have been set.

Written by Karen Williams

January 2019