# CARR HEAD PRIMARY SCHOOL: SCIENCE POLICY

***Vision: "At Carr Head Primary school, we strive to empower a generation of curious, enthusiastic and revolutionary thinkers. Our learners will ask questions to develop their critical and logical thinking skills, enabling them to make sense of the ever-changing world around them and to see the 'bigger picture'. Our children will operate as scientists by working systematically to build on their existing knowledge and develop new skills to solve problems, sparking awe and wonder".***

## A. RATIONALE

It is very important that this policy reflects the essential part that science plays in the education of the children at Carr Head Primary School. It is also important that a positive attitude towards science is encouraged amongst all our children to understand the world around them.

**Intent:**

In Science, we intend to inspire pupils with a curiosity and fascination about the world around them. We will develop their scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. We will develop their scientific language, enabling children to talk about their methods and explain their findings and conclusions. The curriculum will motivate them to become effective communicators of scientific ideas, facts and data whilst enhancing their practical skills of scientific enquiry.

**Implement:**

- A clear and comprehensive scheme of work in line with the National Curriculum where teaching and learning should show progression across all key stages within the strands of Science.
- Children have access to key language and meanings in order to understand and readily apply to their written, mathematical and verbal communication of their skills.
- Children will use a range of resources to develop their knowledge and understanding that is integral to their learning and develop their understanding of working scientifically.
- Clear and comprehensive scheme of work in line with the National Curriculum where teaching and learning should plan for practical investigative opportunities within Science lessons.
- Children will reflect on previous learning and cross curricular links will be made wherever possible
- Children will be able to build on prior knowledge and link ideas together, enabling them to question and become enquiry-based learners.
- Attainment will be assessed each term through related topic assessment for learning & tracking data.
- Where applicable links to Science will be made to develop the children's topical learning.
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**Impact**

| Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| Children to be able to identify similarities and differences in relation to places, objects, materials and living things. They are able to discuss the features of their own environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes. | Children should be able to name, label and sort animals, plants and body parts into groups. They should be able to perform simple tests, gather data and discuss what they find out. | Children should be able to experience and observe phenomena, looking more closely at world around them. They should be curious and ask questions about what they notice. They should be developing their scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things and carrying out simple tests | Children should be able to label the parts of a plant and have a secure knowledge of what a plant needs to survive. Undertake observations over a period of time, make predictions, present data and analyse findings. Explain how water transportation occurs. Children should be able to confidently compare and group together different kinds of rocks & fossils based on their appearance and physical features. To sort, name and identify magnetic and nonmagnetic objects. To understand light & shadows, patterns and reflection. | Children should be able to explain how sound is made up of vibrations. Children have an understanding of different materials and their state of matter. Children have a deeper understanding of animals within their habitat and a food chain. Children should be able to scientific vocabulary to plan, carryout their own investigations. | Children use their knowledge of the solar system to explain regularly experienced natural processes such as day and night and gravity. They can explain similarities and differences between the life cycles of plants, animals and humans using appropriate scientific vocabulary. | Children use their scientific skills and vocabulary to plan, carry out and evaluate appropriate investigations to explore the wider world. |

## B. PURPOSE

- To ensure that teachers meet their statutory obligations with regards to the teaching of science.
- To raise science standards by promoting a high standard of excellence and consistency of approach amongst all staff.
- To ensure procedures for planning and assessment enable a broad and balanced curriculum that has continuity and progression and addresses equal opportunities.
- To foster a positive attitude to science as an exciting, creative and 'hands-on' part of the curriculum.
- To foster in children the confidence to apply their knowledge, skills and ideas in real life contexts both within and outside the classroom and become aware of the uses of science in the wider World.
- To provide children with scientific experiences that develop their understanding of themselves and the world in which they live.
- To develop the enquiry skills of predicting, asking questions, making inferences, concluding and evaluating based on evidence and understanding and use these skills in investigative work.
- To introduce and extend children's knowledge and understanding and know that scientific ideas change and are modified.
- To develop the ability of pupils to communicate their ideas using appropriate scientific vocabulary.
- To encourage safe practice in all areas of science.
- To help provide pupils with the competence and confidence to deal with a life in an increasingly scientifically complex society.
- To develop the ability of pupils to question the World around them.
- To use science as a vehicle to enhance reading, writing and numeric skills.

## C. GUIDELINES

- There will be a weekly dedicated science session (years 1-6) including introduction ('Creative Questioning Starters'), main teaching, mid-plenary (if required) and plenary.
- Staff will identify appropriate learning objectives and success criteria.
- Science is to be used in other curriculum areas, when appropriate to help consolidate science concepts and skills.
- Children will be introduced to the appropriate and varied scientific vocabulary.
- In Early Years the development of scientific thought is an important area of experience. Learning should be active, bearing in mind the requirements of the EYFS Curriculum Guidance.
- Materials and equipment required for the delivery of the science curriculum will be available in a central scientific store (stored in the DT Room – individuals are responsible for returning materials and equipment to their correct location).
- Teachers need to explicitly teach the process skills for investigations e.g. observing, planning, predicting etc.
- Teaching should make use of direct first-hand experience whenever possible.
- There should be opportunities for cross curricular links.

## D. TEACHING AND LEARNING

Science is taught on a weekly basis from Reception to Y6 and supported and enhanced through other curriculum areas. In Foundation stage, science forms the basis of one of the seven areas of learning. KS1 and KS2 use the 2014 National Curriculum as a basis for planning within the subject. Year groups cover their allotted units of work (see 'Crib Sheets', as distributed by the Science Co-ordinator). Learning takes place in mixed ability groups within classes and differentiation takes place where appropriate. Support will also include partner/ group work. Teachers deliver the curriculum and achieve set learning objectives. Teachers use a variety of interactive teaching methods and draw upon elements of the Lancashire's 'Creative Contexts' Curriculum to enliven teaching and learning. Key features of outstanding teaching and learning of science include:

- Lessons have clear learning intentions and success criteria.
- Appropriate pace of learning is in place and high expectations maintained.
- Account is taken of pupils' prior learning.
- High standards of presentation are expected.
- Pupils are regularly given opportunities to plan, predict, investigate and evaluate different types of practical activities.
- Pupils are given plenty of opportunity to learn through 'hands-on' science.
- Good use is made of a wide range of resources.
- Pupils are praised effectively to encourage and motivate them and are well supported according to their needs.
- ICT is used to enhance learning and teaching experiences e.g. use of iPads.
- Pupils are aware of the importance of scientific work to everyday life and make relevant links.
- Pupils are encouraged to share responsibility for their own learning.
- Pupils are encouraged to question the World around them.
- Pupils are aware of their strengths and points for development through quality next steps marking and other feedback (please see Carr Head's Marking Policy).
- Clear differentiation is apparent, when appropriate, including those with SEN and the more able.
- Strong behaviour for learning is celebrated and built upon.

## E. RECORDING

Scientific work should be recorded by the children in a variety of ways e.g. drawings, scribed or verbal, recordings in floor books or on video (e.g. iPads), graphs, photos, diagrams (mode chosen should also suit the requirements of the task set).

## F. ASSESSMENT

- It is necessary to be constantly evaluating what individuals and groups are learning and what they bring to the learning situation. Through evaluation, any difficulties can be identified and specific help to remedy the problem can be given.
- Evidence of children's work may be kept in the form of teacher's notes, children's drawings, plans, photographs, construction models, writing etc.
- Feedback to pupils about the progress in science is achieved through the marking of work (please see Carr Head's Marking Policy) and more often through informal verbal feedback.

- Years 1, 2, 3, 4, 5 and 6 summative assessment will level the children as 'emerging', 'developing', or at 'greater depth' for their relevant year group. Work will be assessed against the National Curriculum. Data will be entered onto the school's tracking database for monitoring purposes.

## G. ICT

The use of the interactive whiteboard-based lessons should support the concentration of children during science lessons. Teachers need to exploit opportunities to incorporate ICT into the teaching and learning of science. For example, through the use of iPads and their apps. Teachers should also make use of material available on the internet for planning and delivering science lessons. ICT can play an important role in supporting science, but it should not be a substitute for practical science.

## H. INCLUSION

At Carr Head Primary School we plan to provide for all pupils to achieve, including boys and girls, pupils with SEN, pupils with disabilities, Pupil Premium children, higher attainers, pupils from all social and cultural backgrounds, children who are in care and those subject to safeguarding, pupils from different ethnic groups and those from diverse linguistic backgrounds.

**Policy Date: January 2022**
**Review Date: January 2024**

# CARR HEAD PRIMARY SCHOOL: ECO POLICY (2022 Edition)

## A. RATIONALE

It is very important that this policy reflects the essential part that ecology plays in the education of the children at Carr Head Primary School. It is important that a positive attitude towards ecology is encouraged amongst all our children to protect our environment. At present, Carr Head Primary School holds an Eco-School Bronze Award. Carr Head Primary School aims to gain an Eco-Schools Silver Award by July 2021. A key feature in our bid will be the completion of a new nature area within the school grounds by July 2021. The school will also work closely with Wyre Borough Council to inform a local 'Climate Emergency Plan'.

## B. PURPOSE

Human activity has a direct impact upon the Earth. It is imperative that children are educated about: their impact on the environment; ways in which we can reduce that impact; issues of sustainability; and ways in which we can support ecological recovery.

## C. GUIDELINES

- Staff will elect two Eco Representatives on an annual basis.
- An Eco Meeting will be held on a monthly basis where Eco Representatives will work to develop the school's nature area.
- Staff will allow Eco Representatives time to discuss the agenda with their respective class and allow them time to feedback the minutes of the meeting.
- Ecology is to be used in other curriculum areas, when and where appropriate, to help consolidate scientific concepts and skills.
- In Early Years the development of ecology is an important area of experience. Learning should be active, bearing in mind the requirements of the EYFS Curriculum Guidance.
- Teaching should make use of direct first-hand experience whenever possible.
- Staff will be committed to Carr Head Primary School's aim to gain an Eco-Schools Silver Award by July 2023.

## D. ECO COMMITTEE AND MOVING TOWARDS SILVER AWARD STATUS

- Pupils share the responsibility with adults for running the committee (the level of responsibility expected depends on the age and ability of the pupils involved).
- Records are kept of meetings.
- The Eco-Committee will complete an Environmental Review covering the Eco-Schools nine topics.

- Results of the review will be discussed by the Eco-Committee and communicated with the whole school.
- The Eco-Committee will produce a detailed Action Plan.
- The plan contains timescales, targets and who is responsible.
- The Eco-Committee will share the plan with the rest of the school.
- The school will indicate that some environmental issues have been covered within curriculum work in most year groups.
- The school will have a prominent, designated notice board, detailing Eco-Schools activities.
- The Eco-Committee will regularly communicate Eco-Schools activities to the whole school and wider community (e.g. via assemblies and newsletters).
- The Eco-Committee will monitor the effectiveness of Eco-Schools work (e.g. via data collection, before and after photographs, etc.)
- The school will have an agreed, adopted and displayed Eco-Code.
- The school will complete in-depth work on at least one of the Eco-Schools nine topics.

## E. RECORDING

Evidence recorded and portfolio building will be carried out by the children in a variety of ways e.g. drawings, scribed or verbal, or on video (e.g. iPads), graphs, photo's, diagrams. Work will be collated by the Eco Co-ordinator ready for submission to Eco Schools in 2021.

## F. ASSESSMENT

Carr Head Primary School's bid to gain an Silver Award will be assessed by Eco Schools through the collation and submission of a comprehensive 'Eco Portfolio' of evidence. This will take place in 2023.

## G. ICT

The use of the interactive whiteboard based sessions should support the concentration of children during ecological sessions. Teachers need to exploit opportunities to incorporate ICT into the teaching and learning of ecological issues. For example, through the use of iPads and apps. Teachers should also make use of material available on the internet for planning and delivering ecological lessons. ICT can play an important role in supporting the teaching and learning of ecology, but it should not be a substitute for practical experience.

## H. INCLUSION

At Carr Head Primary School we plan to provide for all pupils to achieve, including boys and girls, pupils with SEN, pupils with disabilities, Pupil Premium children, higher attainers, pupils from all social and cultural backgrounds, children who are in care and

those subject to safeguarding, pupils from different ethnic groups and those from diverse linguistic backgrounds.

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