



LW – Feb 2024

Science is the study of the world around us. Scientists learn about their subject by observing, describing, and experimenting.

At Carbeile Junior School we value Science because:-

- Science makes an increasing contribution to all aspects of life.
- Children are naturally fascinated by everything in the world around them and science can provide a deeper understanding and thereby a greater respect for the environment.
- It teaches methods of enquiry and investigation that stimulates creative thought.

A. Aims of our Science Teaching

We aim to provide a breadth of study to address the following aspects of learning:-

1. Understanding key concepts and applying methods of investigation.

Pupils should:-

- Develop their understanding of key scientific concepts relating to the living world, materials and physical processes through the medium of scientific enquiry.
- Apply their knowledge of concepts to new situations with confidence.
- Develop skills in posing questions and suggesting ideas.
- Plan an investigation considering the need for fair testing, reliability and validity.
- Observe carefully and measure accurately.
- Display information using a range of methods.
- Consider the evidence that has been collected, seek patterns, draw conclusions and offer explanations.
- Communicate their ideas using appropriate scientific vocabulary.

2. Personal development

Pupils should develop:-

- A basic understanding of how the world works.
- Their science and cultural capital.
- An enjoyment for all science activities and participate with enthusiasm.
- An increasing sense of curiosity.
- A respect for living things and the environment.
- Skills in working collaboratively and a respect for their peers.
- An appreciation of the achievements of past scientists – particularly from diverse backgrounds.
- Powers of reasoning and problem solving.
- An awareness of the important aspects of health education in relation to their own well being.

3. Appreciating the contribution that science makes to society

Pupils should become increasingly aware of the technological, social, ethical, environmental and economical implications on the way we live and will spend time researching specific scientists and their individual contributions to science.

B. Links with other curriculum areas

At Carbeile we value...

kindness **PRIDE** *honesty* **RESPECT** *ASPIRATION* *endeavour*

At Carbeile, it is important that our learning is linked so that learning is embedded in the long-term memory through exposure and revisiting of information in different contexts. There are many links between science and other subjects particularly:

- **English**

Science supports the teaching of English in the school by actively promoting the skills of reading, writing (including spellings), speaking and listening. Many of the non-fiction texts used during Reading Skills are of a scientific nature. The children develop oral skills when discussing methods, when recounting and explaining results and interviewing visiting scientists. They develop extended pieces of writing through projects, written reports, persuasive leaflets, posters and many other related tasks.

- **Maths**

Science supports the teaching of maths in a number of ways. Pupils use different equipment for measurement. They are encouraged to make estimations and measure with accuracy. They present their findings in different ways such as tables, bar charts, line graphs and Venn diagrams and are encouraged to look for patterns in the data to formulate conclusions.

- **Computing**

Computing is used frequently to support learning in science. The internet is used extensively to research areas of study, simulations provide the pupils with insight into a great variety of experiments and technology such as data logging equipment is used for gathering, organising and displaying results.

C. Subject Distribution

Science is taught weekly from between 1.5 to 2 hours.

D. Planning Science

Our science is based on the National Curriculum Programme of Study for Key Stage 2.

Long term and medium term planning describe the activities that will be used to achieve objectives, while lesson plans provide greater detail.

Initial assessment, through the use of concept maps at the beginning of topics, allows teachers to modify planning accordingly to suit the needs of all pupils.

E. Pedagogy

We use a variety of teaching styles (direct instruction for novices and enquiry-based learning as their learning deepens) in science lessons. Wherever possible, science is taught through first-hand experience, by carrying out experiments and using the local environment. We encourage the children to ask as well as answer scientific questions. Pupils can work independently or be organised into small groups and encouraged to work co-operatively for science work when appropriate. The group size will be determined by the age, task and ability of the pupils as well as the activity. At all times we try to encourage/include a 'wow' experience to stimulate and enhance learning.

F. Science Subject Leader

The role of the Science Subject Leader is to:

- be responsible for the development of science in school
- monitor the effectiveness of science in school audit assessments
- support teachers in their planning and strategies for classroom management
- disseminate new information
- provide or organise staff training
- be responsible for providing appropriate science resources.

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G. Equal Opportunities

We aim to provide suitable learning opportunities for all pupils regardless of gender, race, class, physical or intellectual ability, by matching the challenge of the task to the needs of the child.

- We set tasks that are open-ended and can have a variety of responses.
- Differentiated resources are provided. Planning sheets of varying complexity ensure that all abilities are catered for.
- Pupils who need additional help are provided with frameworks, key vocabulary mats, pre-teaching of key vocabulary and phrases to support their science work.
- Teaching assistants provide further support for all abilities.
- Science strongly engages our iPupils and we aim to challenge and extend them every lesson and have arranged several trips and science days in order to challenge and inspire.
- We run science clubs focused on pupil premium children to help develop their own science capital.

H. Safety in Science Activities

We accept that we must all plan safe activities for science. When unsure, we can refer to the A.S.E. publication 'Be Safe' kept centrally by the coordinator. If an activity is to be conducted where there is an element of risk, then 'risk assessments' are completed. Pupils are taught that safety is a priority and they are encouraged to take this into account when planning and carrying out activities.

I. Resources for Science

Most resources are kept by individual year groups who are responsible for their maintenance. New resources requested by the year groups are ordered via the co-ordinator. Useful publications are to be kept centrally by the co-ordinator and are made available to year groups.

J. Monitoring and Assessment

Summative and formative assessment of science skills, knowledge and understanding is undertaken throughout the year. This includes initial assessments, investigative work, teacher assessments and tests. Science attainment and progress is reported to parents in the annual report.

The science curriculum is monitored by the Co-ordinator, especially during reviews.

K. Related Documents

Curriculum Policy

Teaching & Learning Policy

Subject Policies

Equal Opportunities Policy

Health & Safety Policy

Assessment, Record Keeping & Reporting Policy

Marking & Presentation Policy

L. Policy Review

Unless a specific need arises, this policy will be reviewed every other year in line with English and Maths policies. Electronic copies of the document will be retained by the Clerk and is available on the staff shared area of the computer system. A hard copy will be stored in the Policy file.

Date of next review: Autumn 2026

Signed Headteacher: Mr P Hamlyn

Signed Science Coordinator: Mr L Webb