



This policy outlines Garstang Community Primary School's approach to teaching and learning in science.

It should be read in conjunction with the 'National Curriculum in England: framework for key stages 1 and 4' (2014), the statutory framework for the early years foundation stage, the school's curriculum policy, and both the school's health & safety and equal opportunities policies.

The implementation of the policy is the responsibility of all teaching staff and will be led and monitored by the Science subject leader, together with the school's senior leadership team and governing body.

It will be reviewed periodically.

### Rationale

We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability. In our school, science is about developing children's ideas and working in a way that enables them to make sense of the world. Children at our school are entitled to a science curriculum that allows them to acquire a body of knowledge built up through experimental testing of ideas and which allows them to experience science as a methodology, a practical way of exploring through investigation, as well as using and applying process skills.

### Visions, Aims and Purposes

At Garstang Community Primary School, we believe that pupils should have opportunities to participate in and learn from engaging science lessons, through which they develop a sense of excitement and fascination about natural phenomena and that such experiences inspire a curiosity to last a lifetime.

The pupils of Garstang Community Primary School develop the skills required to become successful scientists by taking part in activities derived from the specific disciplines of biology, chemistry and physics. Through different types of scientific enquiries, they will be taught essential aspects of the knowledge, concepts, methods, processes and uses of science that help them to answer scientific questions about the world around them. As they build up a body of knowledge, alongside key concepts, our pupils will be encouraged to recognise the power of rational explanation and learn how to use science to explain what is occurring, predict how things will behave and analyse causes. Through this policy the children will be able to make links between scientific ideas, processes and skills and relate these to everyday experiences.

Through a high quality science education, the children will develop the foundations for understanding the world and be equipped with the scientific knowledge to help them understand how science has changed our lives, as well as the implications for the world's future prosperity.

## Garstang Scientists

- possess curiosity and fascination about natural phenomena;
- have the ability to think independently, raising questions about working scientifically and the scientific ideas and knowledge that arise from such work;
- have confidence and competence in the full range of practical skills, taking the initiative in, for example, planning and carrying out practical investigations;
- develop excellent scientific knowledge and understanding, which they demonstrate through verbal or written explanations;
- develop a scientific approach to problems to explore and solve scientific questions or challenges, reporting what they observe and discover;
- have the ability to undertake practical work in a variety of contexts, including fieldwork;
- develop positive attitudes about science and its application in past, present and future technologies;
- are open minded, can persevere and take responsibility.

## Aims

- to prepare our children for life in an increasingly scientific and technological world;
- to foster concern about, and actively care for, our environment;
- to help our children acquire a growing understanding of scientific ideas;
- to develop and extend our children's scientific concept of their world;
- to develop our children's understanding of the international and collaborative nature of science whilst developing our children's social skills to work cooperatively with others;
- to provide our children with an enjoyable experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further;
- to teach science in ways that are imaginative, purposeful, well managed and enjoyable, making links between science and other subjects;
- to give clear and accurate teacher explanations and use skilful questioning.

## Statutory Requirements

Science is a core subject in the National Curriculum. The programmes of study for science from the 'National Curriculum in England: framework for key stages 1 to 4' (2014) are set out year-by-year for key stages one and two and we are required to teach the relevant programme of study by the end of the key stage. Within each key stage, we may introduce content earlier or later than set out in the programme of study. In addition, it is possible to introduce key stage content during an earlier key stage if appropriate. We are required to set out our school curriculum for science on a year-by-year basis and ensure it is published on each year group's curriculum map.

In the foundation stage, the children experience science through 'understanding the world' which is one of the seven statutory areas of learning and development for foundation stage.

Both of the above documents outline the knowledge, understanding, processes and skills of science to be taught at each stage of the child's education throughout the primary phase of their education and these are embedded into the school's scheme of work.

### Organisation of the Science Curriculum

Class teachers are responsible for the organisation of the science curriculum for their own year group through planning, teaching and assessment.

At Garstang Community Primary School, science is taught through a sequence of themed lessons, developed and planned from the National Curriculum. A unit of work may be developed to link with complimentary learning opportunities from other subjects to become the main learning topic over a half term. Alternatively, each unit may be taught as a sequence of weekly lessons. Occasionally, it is more appropriate and beneficial for the children's learning to block lessons of the science unit together over a few consecutive days or a week. Each class teacher determines how they map out the science curriculum for their year group.

### Assessment

Formative assessment is used to guide the progress of individual pupils in science. Teachers will use a variety of AfL techniques to identify children's progress in each area of the science curriculum, determining what each child has learnt and what therefore should be the next stage in their learning. Marking of pupils' work is used to inform teachers' planning and to give feedback to pupils regarding next steps.

Summative assessments of science are in line with the school's assessment policy. Formative assessment of pupil performance is ongoing through the daily observation of pupils during learning activities and this informs the teacher's overall summative judgement.

Guidance about the expectations for years 1-6, produced by the Lancashire Science advisory team, is stored on the school's sharepoint and in class teacher's science files. Teachers should use these documents to make a best fit summative assessment of each child. Foundation stage children are assessed against the Early Learning Goals.

Reporting to parents is done through parents' evenings and annually through a written report.

Science results are to be inputted into the Lancashire Tracker termly along with the other core subjects.

### The Role of Science Subject Leader

The role of the science subject leader is to:

- Take lead in policy development and the implementation of the Scheme of Work.

- Support colleagues in their development of work plans, and implementation of the Scheme of Work;
- Monitor the resources in Science and advise the Head Teacher of any action needed.
- Take responsibility for the purchase and organisation of central resources for Science.
- Keep up to date with developments in Science education and disseminate information to colleagues as appropriate.
- Monitor the teaching and learning of Science throughout the school.

### Equal Opportunities

Science is taught within the guidelines of the school's equal opportunities policy. All children are encouraged and supported to develop their full potential in science. Some children may require extra support in the classroom and opportunities for consolidation and reinforcement. Activities are differentiated to meet the needs of all pupils. At Garstang Community Primary School we aim to offer a science curriculum in which:

- we ensure that all our children have the opportunity to gain science knowledge and understanding regardless of gender, race, class, physical or intellectual ability;
- our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias;
- we aim to teach science in a broad global and historical context, using the widest possible perspective and including the contributions of people of many different backgrounds;
- we draw examples from other cultures, recognising that simple technology may be superior to complex solutions;
- we value science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their science experiences;
- in our teaching, science is closely linked with English and maths;
- we recognise the particular importance of first-hand experience for motivating children with learning difficulties;
- we recognise that science may strongly engage our gifted and talented children, and we aim to challenge and extend them;
- we exploit science's special contribution to children's developing creativity; we develop this by asking and encouraging challenging questions and encouraging original thinking.