

Science Policy

Ledbury Primary School



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1. Aims

1.1 Intent

At Ledbury, we offer a rich and vibrant curriculum which is ambitious for all learners. Through our curriculum, we develop the essential knowledge, skills and understanding which are the building blocks for later life. Our curriculum encompasses not only the formal requirements of the National Curriculum, but goes beyond the experiences of the classroom to ensure that our children are exposed to the richest and most varied opportunities that we can provide. Our aim is to enrich every child's school experience by creating an environment where they are encouraged to succeed and be the best they can be. At Ledbury, cultural capital prepares children with the essential knowledge and skills for their future. The exploration of new skills and experiences help to nurture resilience, curiosity and creativity. The curriculum is further enhanced by our commitment to Values Education (including British Values) and, through this, alongside our spiritual, moral, social and cultural development; we provide learning experiences which promote confident, self-disciplined pupils, eager for lifelong learning.

We understand the crucial role we have in teaching children about the world in which they live. It is our hope that this learning will equip them for life beyond the classroom and as global citizens. As science links direct practical experience with ideas, it can engage learners at many levels. It aims to stimulate a child's curiosity in finding out why things happen in the way they do. It teaches methods of enquiry and investigation to stimulate creative thought. Children learn to ask scientific questions and develop an understanding of natural phenomena. Through science, pupils understand how major scientific ideas contribute to our lives. The development of scientific skills is important in preparing all pupils for citizenship in a technological world where they can question and discuss science based issues that may affect their lives, the direction of society and the future of the world.

1.2 Aims of Science at Ledbury:

- develop an everyday application of scientific knowledge in the world around them.
- develop a respect for all living things and the environment and an understanding of their interdependence.
- promote the learning of skills, understanding and key vocabulary through a scientific attitude to the solving of problems.

- develop the skills of experimenting, devising and carrying out investigations and testing hypotheses by means of fair tests.
- communicate and record information following practical observations.
- promote confidence in the safe use of appropriate scientific equipment.
- use computing and mathematical skills to collect, display and analyse data.
- encourage the ability to make predictions and suggest explanations based on an understanding of the world around them and scientific know
- develop an ability to understand and interpret scientific information presented in verbal, mathematical, diagrammatic or graphic form.

2. Legislation and guidance

This policy reflects the requirements of the [National Curriculum programmes of study](#), which all maintained schools in England must teach.

It also reflects requirements for inclusion and equality as set out in the [Special Educational Needs and Disability Code of Practice 2014](#) and [Equality Act 2010](#), and refers to curriculum-related expectations of governing boards set out in the Department for Education's [Governance Handbook](#).

In addition, this policy acknowledges the requirements for promoting the learning and development of children set out in the [Early Years Foundation Stage \(EYFS\) statutory framework](#).

3. Roles and responsibilities

3.1 The governing board

The governing board will monitor the effectiveness of this policy and hold the headteacher to account for its implementation.

The governing board will also ensure that:

- A robust framework is in place for setting curriculum priorities and aspirational target
- Enough teaching time is provided for pupils to cover the National Curriculum and other statutory requirements
- Proper provision is made for pupils with different abilities and needs, including children with special educational needs (SEN)
- The school implements the relevant statutory assessment arrangements
- It participates actively in decision-making about the breadth and balance of the curriculum
- It fulfils its role in processes to disapply pupils from all or part of the National Curriculum, where appropriate, and in any subsequent appeals

3.2 Headteacher

The headteacher is responsible for ensuring that this policy is adhered to, and that:

- All required elements of the curriculum, and those subjects which the school chooses to offer, have aims and objectives which reflect the aims of the school and indicate how the needs of individual pupils will be met
- The amount of time provided for teaching the required elements of the curriculum is adequate and is reviewed by the governing board
- Where appropriate, the individual needs of some pupils are met by permanent or temporary disapplication from all or part of the National Curriculum
- They manage requests to withdraw children from curriculum subjects, where appropriate
- The school's procedures for assessment meet all legal requirements

- The governing board is fully involved in decision-making processes that relate to the breadth and balance of the curriculum
- The governing board is advised on whole-school targets in order to make informed decisions
- Proper provision is in place for pupils with different abilities and needs, including children with SEN

3.3 Subject leader

The role of the subject leader is to:

- provide a strategic lead and direction for the subject;
- support and offer advice to colleagues on issues related to the subject;
- keep up to date with new initiatives;
- monitor pupil progress in that subject area, particularly at the end of each key stage;
- provide efficient resource management for the subject.

The school gives subject leaders non-contact time, so that they can carry out the necessary duties involved with their role. It is the role of each subject leader to keep up to date with developments in their subject, at both national and local level. They review the way the subject is taught in the school and plan for improvement. This development planning links to whole-school objectives. Each subject leader reviews the curriculum plans for their subject, ensures that there is full coverage of the National Curriculum and that progression is planned for. The subject leader carries out book trawls, questionnaires, learning walks/ lesson observations to ensure that the children are achieving their full potential at each key stage and that attainment is as expected.

4. Organisation and planning

4.1 Implementation

Our curriculum at Ledbury is divided into past (autumn), present (spring) and future (summer). The autumn term topic is led by history, the spring term by geography and the summer term by science, although science is taught throughout the year. This design allows the children to connect past, present and future in their learning and to build upon existing knowledge and skills to ensure that these can be applied in all areas of the curriculum. In this respect, our curriculum allows for the accumulation of knowledge and skills, for the children to build on what they know and allow knowledge to enter the long-term memory – making it stick! Each year group follows a theme, such as Flight in year 1. These themes have been planned with the children's needs in mind, ensuring that the local community plays a part alongside the wider world. In order to broaden the children's experiences, visits and visitors are carefully planned to support and inspire the learning. This theme weaves throughout the year, ensuring curriculum coherence and motivating the children to seek patterns across subjects. In order to support curriculum coherence our science is linked to that term's topic wherever possible however some science content is taught as stand-alone units. Working scientifically is intertwined throughout them all.

As a staff we have agreed upon a set of principles for teaching and learning in science that we apply to all lessons:

- S. subject knowledge focus
- C. cross-curricular links
- I. interesting, relevant and challenging
- E. enquiry led
- N. new vocabulary
- C. careers, scientists and real-life applications
- E. encouraging curiosity

All classes teach Science/STEM on Friday mornings. Wherever possible we try to make the learning of science realistic and incorporate it into our topic work. This gives the learning a clear context and purpose.

Planning takes the form of knowledge organisers, giving clear guidance on previous learning objectives (where relevant), future learning and opportunities for teaching new vocabulary. A series of lesson plans are then written.

4.2 Values

At Ledbury our curriculum is underpinned by the values that we hold dear, including British Values. The curriculum is the means by which the school achieves its objective of educating children in the knowledge, skills and understanding that they need in order to lead fulfilling lives.

These are the main values of our school, upon which we have based our curriculum:

- We value the way in which all children are unique, and our curriculum promotes respect for the views of each individual child, as well as for people of all cultures. We value the spiritual and moral development of each person, as well as their intellectual and physical growth.
- We value the importance of each person in our community. We organise our curriculum so that we encourage co-operation and understanding between all members of our community, promoting community cohesion.
- We value the rights enjoyed by each person in our society. We respect each child in our school for their individuality, and we treat them with fairness and honesty. We aim to enable each person to be successful, and we provide equal opportunities for all the children in our school.
- We value our environment and encourage sustainability. We aim, through our curriculum, to teach respect for our world; how we should care for it for future generations, as well as our own.

4.3 Extra-curricular Activities

At Ledbury, we are committed to developing the whole child. We extend the curriculum by offering a weekly science club which targets all the year groups in KS1 and KS2 during each academic year.

We have trained up Science Ambassadors to help deliver this extra curricular club who will, in turn, train up the next years Ambassadors.

4.4 Early Years Foundation Stage

The curriculum taught in the Nursery and Reception classes meets the requirements set out in the National Curriculum at Early Years Foundation Stage.

4.5 Contribution to other subjects and areas

English

Science contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. The children develop oral skills in science lessons through discussions and through recounting their observations. They develop their writing skills through writing reports and projects and by recording information.

Mathematics

Science contributes to the teaching of mathematics in a number of ways. The children use weights and measures and learn to use and apply number. Through working on investigations they learn to estimate and predict. They develop the skills of accurate observation and recording of events. They analyse and present data in different ways. They use numbers in many of their answers and conclusions.

Computing

Children use computing skills in science lessons where appropriate. They use it to support their work in science by learning how to find, select, and analyse information on the Internet. Children use computing skills to observe, record, present and interpret data and to review, modify and evaluate their work and improve its presentation. Children have the opportunity to use equipment such as log boxes, digital microscopes, ipads and pulse meters to take measurements and make observations.

Relationships, sex and health education (RSHE) and citizenship

Science makes a significant contribution to the teaching of RSHE and citizenship. This is mainly in two areas. Firstly, the subject matter lends itself to raising matters of citizenship and social welfare. For example, children study the way people recycle material and how environments are changed for better or worse. Secondly, children benefit from the nature of the subject in that it gives them opportunities to take part in debates and discussions. Science promotes the concept of positive citizenship.

Spiritual, moral, social and cultural development

As a Values school we are constantly looking for ways to promote and embed Values in all our teaching and learning. Science teaching offers children many opportunities to examine some of the fundamental questions in life, for example, the evolution of living things and how the world was created. Through many of the amazing processes that affect living things, children develop a sense of awe and wonder regarding the nature of our world. Science raises many social and moral questions. Through the teaching of science, children have the opportunity to discuss, for example, the effects of smoking and the moral questions involved in this issue. They have the chance to reflect on the way people care for the planet and how science can contribute to the way we manage the earth's resources. Science teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people and for the planet we live in.

5. Inclusion

Teachers set high expectations for all pupils. They will use appropriate assessment to set ambitious targets and plan challenging work for all groups, including:

- More able pupils
- Pupils with low prior attainment
- Pupils from disadvantaged backgrounds
- Pupils with SEND
- Pupils with English as an additional language (EAL)

Teachers will plan lessons so that pupils with SEN and/or disabilities can study every National Curriculum subject, wherever possible, and ensure that there are no barriers to every pupil achieving.

Teachers will also take account of the needs of pupils whose first language is not English. Lessons will be planned so that teaching opportunities help pupils to develop their English, and to support pupils to take part in all subjects.

Further information can be found in our statement of equality information and objectives, and in our SEN policy.

6. Assessment

Continuous assessment for learning combined with an end of unit recorded task supports our final professional judgement.

6. Monitoring arrangements

Governors monitor coverage of National Curriculum subjects and compliance with other statutory requirements through liaising with subject leaders, monitoring subject action plans and planning, carrying out learning walks and discussions with children.

Subject leaders monitor the way their subject is taught throughout the school by carrying out learning walks/observations, scrutinising planning and books and discussions with children.

Subject leaders also have responsibility for monitoring the way in which resources are stored and managed.

This policy will be reviewed annually by the subject leader responsible for science. At every review, the policy will be shared with the full governing board

7. Links with other policies

This policy links to the following policies and procedures:

- EYFS policy
- Assessment policy
- Marking policy
- Relationships, sex and health education (RSHE) policy
- SEND policy
- Basic Skills policy
- Pupil Premium
- Equality information and objectives