



**CHARLESWORTH SCHOOL**

*...from tiny acorns great oaks grow*

# Science Policy



## Rationale:

*'A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.'*

Science Purpose of Study, National Curriculum 2014, DFE

## Aims and Objectives:

At Charlesworth School, the Science curriculum aims to ensure that all children are well prepared for the next stage of their education and to achieve the aims outlined in our Curriculum Vision so that our pupils:

- Develop a sense of awe and wonder for the world around them
- Become articulate in communicating their ideas and in listening to and considering the ideas of those around them
- Are able to make informed risks in their learning
- Develop the wisdom to constructively challenge perceptions, opinions and actions in order to embed their learning

We want all children to develop the ability to think scientifically and have a wide knowledge about the world around them so that they:

- Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around they
- Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

## Roles and Responsibility:

### Headteacher

The Headteacher retain overall responsibility for the implementation of this policy across the school. They will also ensure that high quality teaching and learning is provided in line with then Teaching and Learning Policy. They will, in discussion with the Subject Leader and the link governor ensure that this policy is reviewed according to the governor policy review schedule.

### **Subject Leader**

The role of the Subject Leader is to provide professional leadership and management in order to secure high quality teaching and learning, effective use of resources and high standards of achievement for all pupils. They will regularly monitor various aspects of the Science curriculum being taught within the school, e.g., planning, assessments, marking and pupil interviews.

### **Teachers**

The teacher is responsible for delivering learning opportunities across the Science curriculum, including developing those skills through cross-curricular tasks where ever possible, in line with this policy. They will ensure that ongoing assessments is used to identify gaps in pupils learning to inform future planning.

### **Governors**

Governors, with the support of the Headteacher, are responsible for ensuring that the Science National Curriculum is delivered across the school and that pupils make good progress in the different aspects of Science. They are also responsible for ensuring the monitoring and review of the Science Policy occurs in line with the governor policy review schedule.

The designated link governor will meet with the curriculum Subject Leader at least once a year to discuss how the policy is implemented, how resources are allocated and how well the pupils achieve. The will also help to promote and support the positive involvement of parents in the children's development of Science skills.

### **Parents**

Parents are key partners in the development of good Science skills and knowledge for the pupils at Charlesworth School. They will be encouraged to be active participants in home learning through homework tasks, dialogue with teachers and parent information open evenings.

### **Teaching and Learning:**

All teaching must be at least good and in many cases outstanding (see Teaching and Learning Policy). All staff will demonstrate expertise and sound subject knowledge and be guided by clear policies, detailed guidance and regular professional development from a range of sources in order to:

- Deliver the school's curriculum thoroughly and consistently
- Enhance staff subject knowledge
- Choose practical resources, visual images and information and digital resources that promote inclusive teaching and a deeper understanding for all
- Use good Assessment for Learning techniques to listen flexibly to children and to check and probe their understanding throughout.

At Charlesworth School we believe that developing the ability to work scientifically is at the heart of the Science curriculum, ensuring that pupils can:

- ask relevant questions
- plan, organise and carry out meaningful investigations
- gather, interpret and evaluate data
- communicate outcomes with clarity and accuracy
- Challenge/support predictions based on scientific knowledge using evidence to form conclusions related to scientific phenomena

Scientific knowledge should be developed through a range of approaches, where children should have the opportunity to learn through a variety of different learning styles, (for further information refer to Teaching & Learning Policy) and through the use of appropriate digital resources and technology..

## Curriculum

### Early Years Foundation Stage (EYFS):

Science is a broad and exciting subject especially for children, who are naturally curious and have questioning minds. It is therefore important that a wide range of experiences is introduced to children in the early years so that they can begin to develop their scientific knowledge. Inquisitive children can easily be encouraged to find things out for themselves by making observations, carrying out simple experiments and sharing their discoveries. It is also easy to extend activities and introduce ways of recording their findings.

At Charlesworth School the development of independent thought, exploration and child-initiated learning is at the centre of our EYFS curriculum. Science is generally assessed through **Knowledge and Understanding of the World** but the skills for working scientifically can be found in most aspects of Early Years play and exploration.

### Key Stages 1 and 2:

Teaching and Learning in Key Stages 1 and 2 is planned according to the programme of study for Science in the National Curriculum 2014. This has been further broken down into defined year group objectives that are used as a basis for planning and assessment. Science is delivered in units of work that are often linked to the termly themes (see Curriculum Policy that can be downloaded from the school website). Occasionally, this is not possible and aspects of Science are delivered as stand-alone sessions.

Charlesworth School uses the Science Bug scheme and resources to deliver teaching and learning opportunities. This is supplemented by other available online (Espresso and Purple Mash) or textbook (Star Science) resources.

### Homework:

Science homework tasks will be set as part of the thematic curriculum where appropriate.

### Assessment:

On-going formative assessment is used to identify children's understanding in order to overcome misconceptions and address gaps in learning (see Assessment Policy available for download from the school website). Summative assessment records progress towards expected standards defined by the National Curriculum.

At Charlesworth School, we assess children in Science by a number of mechanisms:

- **Assessment for learning** through continuous feedback and dialogue with the pupils to guide their learning and quickly address misconceptions.
- **Peer and self-assessment** to ensure that the pupils are clear about their achievements and their targets for future progress.
- Written comments through the **Marking and Feedback** Policy (see website to download the Policy for Marking and Feedback) in order to celebrate achievements and to encourage pupils to identify ways to improve their work. This is directly linked to the year group objectives that are displayed in the front of Science books. Science Bug assessments will be used to support teacher judgements.
- Termly **teacher assessment** through the assessment tracker grids that demonstrate retention and application of year group skills
- End of Key Stage judgements in Y2 and Y6
- **EYFS baseline and profile** that tracks progress of children towards being ready for the National Curriculum.

The progress of children is discussed at termly Pupil Progress meetings and this information is then reported to parents each term and to the child's next teacher on transition.

### Use of IT and Digital Resources:

At Charlesworth School, we recognise the importance of digital resources as a tool for communication and therefore, following the school Computing Policy, we use software, mobile apps and internet search engines to encourage and support research skills, presentation of data and reading across wide range of contexts and writing across a wide range of media. Internet sites set up by Scientific organisations enable the school to bring science to life by looking at real time events e.g., solar eclipses and Tim Peake's journey into space.

### **Equal Opportunities/ Inclusion:**

As a school we strive to teach Science within contexts which are meaningful and engaging for all learners, regardless of race, religion, gender or socio-economic background. We challenge all children regardless of ability reach their potential. We meet the needs of SEN children, by providing targeted, focussed support with areas of the Science curriculum which they are finding challenging. We also meet the needs of our Gifted and Talented children, by providing focused challenges that will extend and reinforce their Science skills across a range of subjects and contexts.

### **Monitoring and Review**

The Headteacher and Governing Body will review the implementation of the Science Policy in line with the agreed schedule for policy review.

Staff and governors will be involved and asked to contribute to the review and all staff will be informed of the outcome of the review.



