



## Science Policy

***Safeguarding Statement***

*West Heath Primary will continuously strive to ensure that everyone in our school is treated with respect and dignity. Each person in our school will be given fair and equal opportunity to develop their full potential with positive regard to gender, ethnicity, cultural and religious background, sexuality or disability. West Heath Primary School is committed to safeguarding and promoting the welfare of children and young people, and expects all staff to share this commitment. Please also refer to the No Platform, Visiting Speaker Policy.*

### Purpose:

The purpose of this policy is to describe our practice in Science and the principles upon which this is based.

### Audience:

This policy is designed to be used by teachers at West Heath Primary School to ensure the expectations in relation to the teaching of Science are clear and there is consistency across the school.

### Aims:

This policy is set out to ensure consistency in the teaching and learning within Science across the school in order to ensure pupils are equipped with the ability to explore, discover and investigate. These first hand experiences will in turn enable them to understand more about the world they live in. We aim to ensure such experiences will be appropriate, relevant, challenging and satisfy the children's curiosity, whilst educating them about the world they live in.

We aim to:

- build on the children's natural curiosity.
- teach the children scientific knowledge.
- teach the children scientific skills.
- stimulate them to investigate, question and develop attitudes of science.
- teach them to communicate ideas using appropriate scientific language.
- teach them how to evaluate their findings and suggest explanations.

This policy supports our whole school ethos of developing the whole child, including their head (knowledge), heart (values) and hands (skills). Additionally, this includes the *Spiritual Moral Social and Cultural Development* and supports Fundamental British Values.

### Curriculum Statement:

#### **Intent:**

At West Heath, it is our intention to recognise the importance of Science in every aspect of daily life. We give the teaching and learning of Science the prominence it requires, through both theory and practical opportunities. The Scientific area of learning is concerned with increasing pupils' knowledge and their understanding of our world, along with developing skills associated with Science as a process of enquiry. Our Science curriculum encourages the development and natural curiosity of the child, encourages respect for living organisms and the physical environment, whilst providing opportunities for evaluation and critical thinking. We intend to build a Science curriculum, which develops learning and results in the acquisition of knowledge. We strive to enable children to become enquiry based, knowledge thirsty learners, who appreciate the Science of yesterday, today and the future.

#### **Implementation:**

Deliver a designated Science lesson of 90 minutes each week.

Follow 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 scientific vocabulary in their written and verbal communication.

Children will use a range of resources to develop their knowledge and understanding that is integral to their learning and further develop their understanding of working scientifically.

Clear and comprehensive scheme of work in line with the National Curriculum where teaching and learning plans 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 half term through related topic assessments and tasks.

Where applicable links to Science will be made to develop the children's topical learning.

### **Impact:**

At West Heath, we ensure that pupils' have the opportunity to secure and retain knowledge that is pertinent to Science with a real life context. We want children to be able to question ideas and reflect on their own knowledge (new and gained). The Science curriculum encourages them to work collaboratively and practically to investigate and experiment, whilst building on a child's science capital. This then allows our pupils' to explain the process they have taken and be able to reason scientifically. Our Science curriculum is high quality, well thought out and is planned to demonstrate progression across key phases and subject areas. We focus on progression of knowledge and skills.

We measure the impact of our curriculum through the following methods:

- Assessing children's understanding of subject specific vocabulary and prior knowledge before the unit is delivered.
- Questioning during lessons.
- Recording images and videos of practical learning.
- Pupil voice.
- Moderation staff meetings where pupil's books are scrutinised and there is the opportunity for a dialogue between teachers to understand work.
- Annual reporting of standards across the curriculum.
- Marking of work in books.
- End of subject module assessments to inform teacher judgement.

### Organisation and Procedures:

#### **EYFS:**

Science at Foundation Stage is covered in the 'Understanding the World' area of the EYFS curriculum. It is introduced indirectly through activities that encourage children to explore, problem solve, observe, think, make decisions and talk about the world around them.

Across the EYFS framework, children have the opportunity to explore creatures, people,

plants and objects in their natural environment. Additionally, they have the opportunity to manipulate objects and materials, observing change and patterns as they occur. Teachers carry out active dynamic planning to support the development of Science in the Foundation Stage, as well as using questioning as a tool to develop knowledge and understanding led by the child, whilst allowing pupils to form their own questions and opportunities for exploration. Pupils are exposed to a wide range of learning opportunities and will begin the development of subject specific vocabulary. These concepts are then built upon in Year 1 and beyond to help develop curious learners.

**KS1:**

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe science, looking more closely at the natural and human-constructed world around them. At West Heath, children are encouraged to be curious and ask questions about what they notice. Their understanding of scientific ideas is supported through the use of different types of scientific enquiry so that children can answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information. Children are supported to begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science is done through first-hand practical experiences, and children are encouraged to begin to use appropriate secondary sources, such as books, photographs and videos. 'Working scientifically' is described separately in the National Curriculum programme of study, but is always taught through and clearly related to the teaching of substantive science content in the programme of study. Opportunities are provided for the children to read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

**KS2:**

The principal focus of science teaching in key stage 2 is to enable pupils to broaden and develop a deeper understanding of a wide range of scientific ideas. Children do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper key stage 2, they encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. Children are also supported to begin to recognise that scientific ideas change and develop over time. The school curriculum provides opportunities for children to answer science questions using different types of scientific enquiry, including: observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Children learn to draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings. 'Working and thinking scientifically' is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive

science content in the programme of study. Opportunities are provided for the children to read, spell and pronounce scientific vocabulary correctly.

### Planning Expectations:

It is expected that all class-based teachers complete a midterm plan, each half term, outlining a series of progressive lessons that cover all strands of the National Curriculum for their focus topic. Teachers must use the generated curriculum maps to help ensure all knowledge and skill strands are taught. To support planning, teachers have access to a variety of Science resources to ensure accurate scientific knowledge and a range of scientific enquiry is planned for and delivered.

Teachers have access to resources from:

- Switched on Science Scheme
- Reach Out CPD
- Grammarsaurs Science Scheme
- White Rose Maths Science Scheme

It is the responsibility of the subject co-ordinator to evaluate planning and ensure full curriculum coverage (theoretical and practical).

### Presentation of work:

All work in Science books should be presented in the following way:

- All pages in the workbook have a margin
- The short date must be written at the top of the piece of work
- The title must be recorded in the book and underlined with a pencil and ruler
- In KS1 and Early Years it is acceptable for the date and title to be glued into books
- When writing numbers only one digit should be recorded in each square of the book
- When drawing tables and graphs a ruler and a pencil must be used
- Where worksheets have been used they must be trimmed and securely glued into the children's books neatly
- A red circle should be placed in the top right-handed corner of the cover to identify that the child is entitled to pupil premium funding.
- A green circle should be placed at the top-right hand corner of the cover to identify if the child is on the SEN register.
- Practical work/ outside experiences are to be evidenced through Twitter posts (appropriate to the children with permission)

### Assessment:

Children should receive regular feedback during every lesson. This immediate verbal feedback should address misconceptions, as well as providing opportunities for pupils to deepen their understanding of a topic. A wide range of questions should be used to stretch and challenge pupils and support children to draw their own conclusions. The assessment of pupils is ongoing;

therefore, class teachers must ensure that this informs future planning and delivery of lessons. Teachers must mark work in Science in line with the school's Marking Policy.

Children will complete a Switched on Science end of topic assessment to assess for knowledge gained. To support with the assessment of Science, our school have adopted the FFT online assessment tool, which allows teachers to track pupils achievement through a numerical 1,2,3 rating. This also supports assessment of practical skills, allowing a profile of the child to be built over a period of time.

#### Inclusion:

At West Heath Primary School, we will continuously strive to ensure that everyone in our school is treated with respect and dignity. Each person in our school will be given fair and equal opportunity to develop their full potential with positive regard to gender, ethnicity, cultural and religious background, sexuality or disability. Additionally, children on the SEN register are offered quality first teaching and are suitably supported by teaching staff to access lessons, engage in scientific knowledge and develop their working scientifically skills.

#### Role of the subject leader and teachers:

The Science leader is responsible for providing an overview of the subject across the school to inform staff planning and to offer advice in the ways in which the curriculum can be delivered in an effective and engaging way. They should have an up-to-date knowledge of the subject requirements and ensure that these are met across the school through supporting staff with CPD opportunities and constructive monitoring, as well as having an overview of assessment. They are responsible for ensuring that an overview of the subject is available on the school website. The Science leader also has a sound knowledge of the resources, which are available within school, and ensures that resources are replenished and updated as necessary. The Science leader is responsible for the planning and implementation of any subject specific events, which are ran in the school.

Individual teachers are responsible for the planning, delivery and assessment of the Science curriculum. Midterm planning must be planned and submitted each half term to show progression of learning. Teachers must also ensure that Science is taught weekly and provide opportunities for pupils to develop their scientific theoretical knowledge and practical skills.

#### Review and Monitoring:

The Science subject co-ordinator, along with the senior leadership team are responsible for monitoring the standards of children's work and the quality of teaching. The co-ordinator should support colleagues in the teaching of science by addressing CPD needs and by giving them information about current developments in the subject, and by providing a strategic lead and direction for the subject in the school. The subject co-ordinator is also responsible for reviewing developments for Science identified on the School Improvement Plan, evaluating strengths and weaknesses in the subject, and indicating areas for further improvement.

Through lesson observations, work scrutiny, pupil voice and learning walks; compliance with this policy will be monitored and annual reviews will take place to ensure the Science policy accurately reflects Science teaching and learning at West Heath Primary School.