

## Science Vision Statement

### 'The Brockley Way – Only My Best is Good Enough'

“Science and everyday life cannot and should not be separated”

-Rosalind Franklin

“We should not teach children the Sciences but give them a taste for them”

- Jean Jacques Rosseau

### Intent

There is much evidence showing that children’s interest in science is shaped before they leave primary school. At Brockley Primary School, we do not want lose that latent interest and enthusiasm that children have for the world around them, and the science that underpins this. While not all children will follow a career in science or related disciplines when they leave Brockley, science literacy will influence their lives daily: for example, managing their health and understanding issues such as climate change. This means that science taught in our school is of vital importance to our pupil’s wellbeing now and in the future.

Our vision is to give children a Science curriculum which enables them to explore and discover the world around them, confidently, so that they have a deeper understanding of the world we live in. To achieve this it involves exciting, practical hands on experiences that encourage curiosity and questioning and using all the skills involved in working scientifically.

In science, we will inspire our children by giving them the opportunities to pursue their natural curiosity; promoting the experience of exploring and investigating scientific phenomena, in a range of contexts, to ensure a continually evolving knowledge and understanding of the world around them. Our children will be encouraged to ask questions, take risks, experiment, reflect, make and learn from mistakes, in a safe environment; whereby they acquire and apply core skills which equip them for an ever-changing world.

We believe that these opportunities will ensure that our children are confident, life-long learners who will explore the world around them and by setting our high standards we believe they are all excellent Scientists!

## Aims

At Brockley Primary School, we aim to:

- Implement the current legal requirements of the Early Years Foundation Stage (EYFS) and the National Curriculum
  - To foster positive attitudes, fascination and excitement of discovery through the teaching and learning of scientific concepts
- Provide stimulating and challenging experiences to secure and extend their scientific knowledge and vocabulary
- Embed the skills involved for working scientifically, giving ownership to the children of when and why they are using those skills
- Develop our children so that they have a 'can do' attitude and perceive themselves as scientists
- Broaden children's knowledge and understanding of how science is used in the wider world
  - Ensure our children use and understand scientific language and recognise its importance as a language for communication and thinking

## Implementation

### Science Medium Term Planning

Our science curriculum has been developed to ensure every child can use and develop their scientific skills. Children can experience a sense of awe and wonder as they experiment and explore, discover different solutions and make links between different areas of science. It aims to build on prior learning to ensure consistency through the school.

#### Key features of our planning:

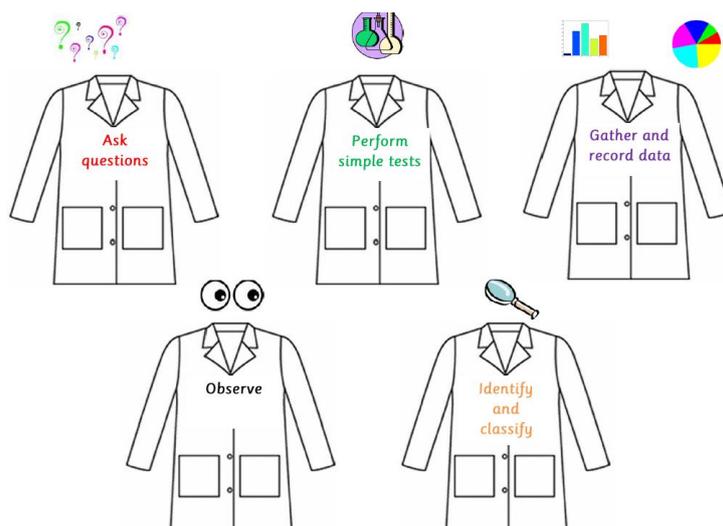
- High expectations for every child
- National Curriculum objectives at the heart of Science planning and lessons
  - Common misconceptions identified so they can be addressed by teacher
  - Focus on the correct scientific vocabulary for each year group and ensures vocabulary isn't introduced too early
    - Books linked to each topic
- Enquiring and questioning with confidence

Our approach places emphasis on the skills required to be an excellent scientist (see lab coats below) and encourages pupils' independence by questioning, exploring and investigating.

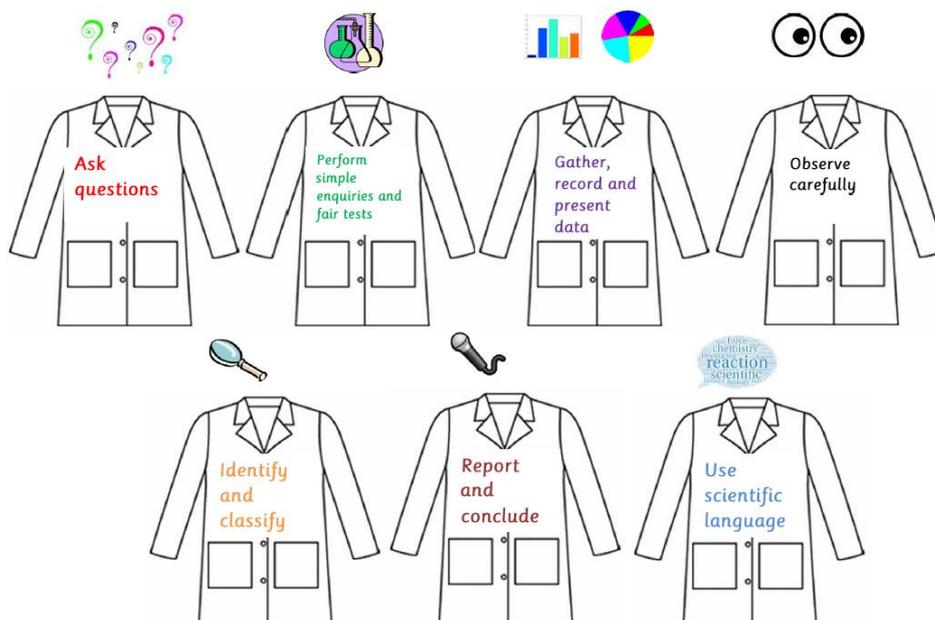
## Lab Coats

We use our 'Lab Coats' to ensure children are aware of the skills involved in working scientifically. There are lab coats for Key Stage 1, Lower Key Stage 2 and Upper Key Stage 2, in line with the progression of the skills outlined in the National Curriculum. These are displayed in each class, with key stage 2 developing their independence by using lab coat stickers to identify which scientific skills they have used in their lesson.

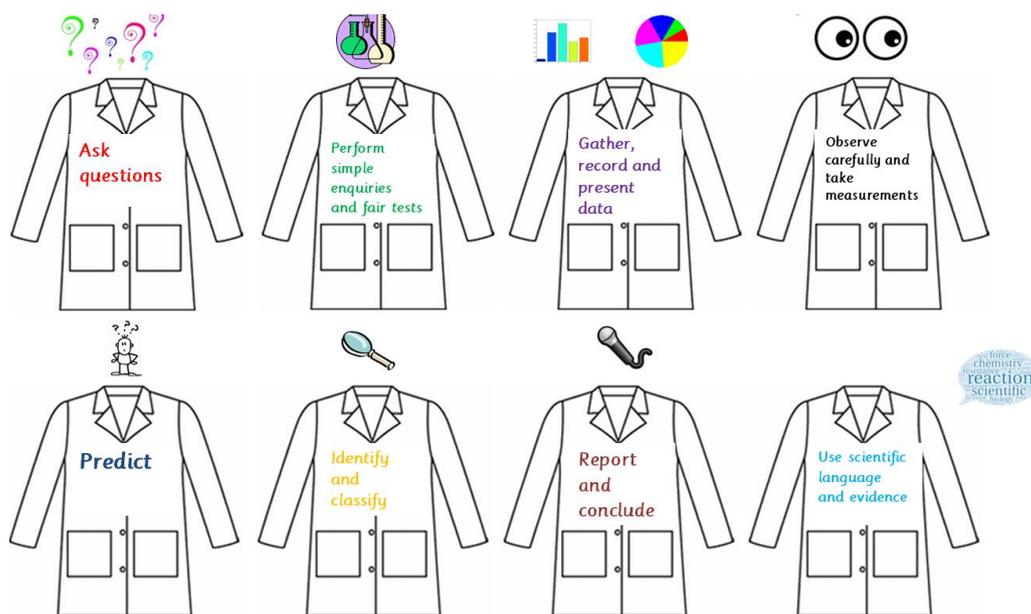
### Key Stage One



### Lower Key Stage Two



## Upper Key Stage Two



### Organisation of teaching and learning

During a sequence of learning, our children will be provided with opportunities for enquiries, investigations, experiments and other practical opportunities..

#### Early Years Foundation Stage

In the Early Years Foundation Stage (EYFS), teaching is planned through adult supported teaching and learning following the EYFS framework. Continuous provision inside and outside provides daily opportunities to informally develop scientific understanding through child-initiated activities and routines are capitalised on.

#### Key Stage 1 and Key Stage 2

In Key Stage 1 (KS1) and Key Stage 2 (KS2), teaching follows the National Curriculum and medium term planning set out for each topic. Science is taught consistently, once a week for up to two hours, but is discretely taught in many different contexts throughout all areas of the curriculum. For example, through English, i.e. writing a letter to a local politician regarding the closure of a park/biography of a famous scientist's life, etc.

## Resources

- Brockley has a range of resources to support learning. These are easily accessible for the children to promote independence
- A range of ICT software to support learning in specific areas, including the use of Ipads for research and displaying of evidence and conclusions.
  - Environments have been designed to support and enhance learning
  - Websites to help promote enquiry: <https://www.stem.org.uk/> and <https://explorify.wellcome.ac.uk/>

## Assessment

At Brockley, our assessments in Science are continuous. In KS1, the teacher will complete a mind map at the start and end of each unit. Specific unit assessments contained in the medium term planning will be used in Key Stage 2 at the start and end of each unit. This will help to identify progress throughout the unit and areas that might need revisiting. During lessons, misconceptions are dealt with immediately and **all** pupils are challenged. Same day interventions are in place to support those children who have not grasped a concept within the lesson. Pre and post teaching ensures that all children can achieve and are prepared for the following lesson.

### Early Years Foundation Stage

- As in KS1 and KS2, formative assessment is used in the EYFS continuously to inform practitioners of next steps in learning and to determine the progress made. Photographs and teachers' comments are noted and inform assessments on our online assessment system: Eazmag
- Summative assessments are made either termly or half termly to monitor children's learning and understanding
- Eazmag is used daily to assess children both formatively and summatively – this is done through short observations by practitioners
- Progress of all pupils is discussed at termly 'Pupil Progress Meetings' and focus children are identified and intervention put in place to support these children

### KS1 and KS2

- In science lessons, formative assessments are made during lessons. Practitioners observe, question and evaluate lesson outcomes to further determine progress made and the next steps in learning
- The summative unit assessments made at the end of each term are used to monitor children's knowledge and understanding of concepts taught.
  - Both formative and summative assessments are used to inform our online assessment system: Eazmag

### Monitoring Procedures

The head teacher and science subject leader play a central role in the monitoring and evaluation of the quality of teaching and learning of science at Brockley Primary School.

### Monitoring Strategies

- 'Book Looks' conducted in deep dive and subsequently will be reviewed once in the academic year.
  - Pupil progress meetings held termly

### Impact

In ensuring high standards of teaching and learning in science, we implement a curriculum that is progressive throughout the whole school. The impact and measure of this is to ensure children not only acquire the appropriate age related knowledge linked to the science curriculum, but also skills which equip them to progress from their starting points, and within their everyday lives.

All children will have:

- A wider variety of skills linked to both scientific knowledge and understanding, and scientific enquiry/investigative skills.
- A richer vocabulary which will enable to articulate their understanding of taught concepts.
- High aspirations, which will see them through to further study, work and a successful adult life.