



## Science at Heathfield

### Intent

The Science curriculum at Heathfield is **ambitious, broad** and **balanced** fully meeting the expectations of the National Curriculum ensuring that all **key knowledge** is covered. It has been designed in collaboration with staff, pupils and parents to ensure that recognises the school's **context** and reflects the **diverse nature** of our community.

It is rigorous in its design and planning: well-paced, systematic and high in expectation. Science aims to give all children a **strong understanding** of the world around them and for every child to be at the heart of all that we do, enjoy and achieve within a nurturing ethos of learning, harmony, mutual support and respect.

A **variety of purposeful learning opportunities** are provided for all children to **enrich** and enliven the science experience, **broaden their horizons** and **raise aspiration**.

Science at Heathfield ignites pupils' **curiosity** and offers **opportunities** to develop their observation, questioning and reasoning skills whilst increasing their appreciation, knowledge and understanding of the world around them and stimulating a lifelong interest in science.

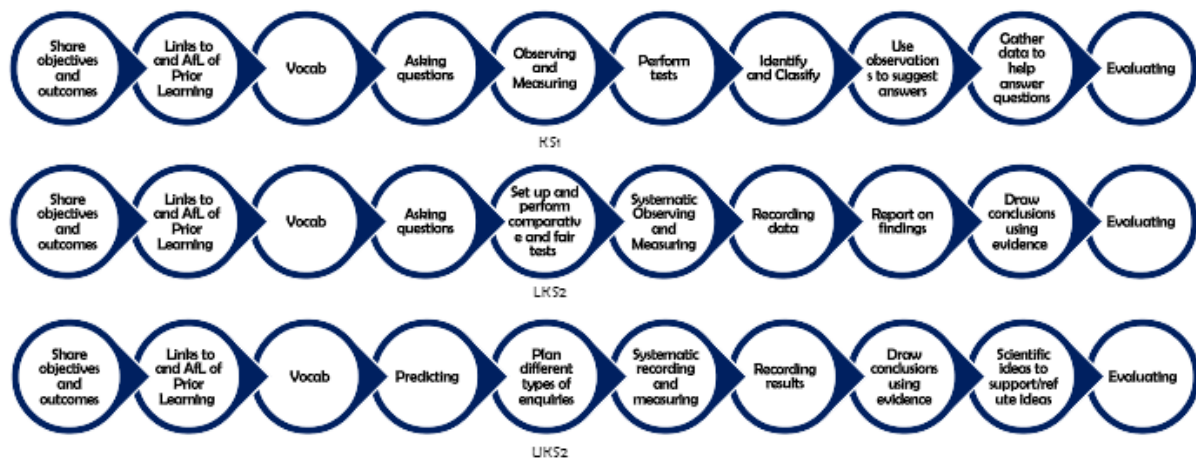
### Implementation

Each unit of Science follows the same sequence of learning.

#### Science – Knowledge



#### Science – Enquiry



- 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 to their written, mathematical and verbal communication of their skills.
- Children will use a range of resources to develop their knowledge and understanding that is integral to their learning and develop their understanding of working scientifically.
- Clear and comprehensive scheme of work in line with the National Curriculum where teaching and learning should plan 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 assessment tasks
- Where applicable links to Science will be made to develop the children's topical learning.

### SEND Provision and differentiation

Inclusivity is part of our Science philosophy. Teachers are able to tailor each area of science to meet the needs of the children in their classes. Through using Bronze, Silver and Gold challenges, children are able to access learning to work to their full potential. Through scientific enquiry, ALL pupils are able to participate in practical investigations and share their findings, both verbally and in written format.

### Assessment

At Heathfield we use our school foundation assessment tracker to monitor the progress of RE. This is teacher assessed twice a year and is linked to the learning objectives in each year group. Through monitoring, subject leaders can monitor the impact, gap analysis and extra provision required for each year group or vulnerable groups.

## Impact

- Most children will achieve age related expectations in Science at the end of their cohort year.
- Children will retain knowledge that is pertinent to Science with a real-life context.
- Children will be able to question ideas and reflect on knowledge.
- Children will work collaboratively and practically to investigate and experiment.
- Children will be able to explain the process they have taken and be able to reason scientifically.
- Children's aspirations will be raised and horizons broadened

## How the Heathfield Pledge is delivered through Science

### Happy, safe and confident

- Children will show pride and confidence in their work, particularly when sharing and presenting their findings
- When discussing scientific topics, children will show a high level of confidence in sharing their new knowledge
- Children enjoy science lessons and this is shown in the work that they produce
- Understanding of how to be safe while engaged in practical science

### Eager to learn

- Science lessons are planned and delivered effectively to engage children

- Work that is produced reflects children's eagerness to learn
- Practical lessons engage children

### Aiming high

- Excellent standard in the quality of work that is produced in topic books across school
- Future ambitions addressed and encouraged

### Taking care

- Understanding of how science can influence how we look after ourselves in all year groups
- Understanding of how science can help us look after our planet.

### Healthy attitudes

- All year groups study the importance of a healthy lifestyle and what contributes to an unhealthy one

### Focused on enrichment

- Science weeks to inspire
- University visits give opportunities for children to work in a laboratory environment
- Links with University of Nottingham
- Science focussed trips

### Including everyone

- All children are involved in class discussions
- Children work together effectively during practical lessons

### Environmentally aware

- Understanding of how science can help the environment
- Children are aware of current science regarding environmental issues

### Living in harmony

- Working together as one. Children are encouraged to work together to develop bonds and support each other during lessons

### Developing global citizens

- Aspirational talks with local university to discover science beyond the class room.

## How does Science link to other subjects?

Science has strong links to almost every subject. These include:

Maths – use skills of data collection to present findings in graphs, bar charts etc.

English – writing detailed reports to present findings.

Computing – present findings electronically. Use data loggers to record data.

History – Study of historical scientific figures.

Geography – Understanding of where scientific theories originated. Study of current scientific practices in other countries.

Music – the understanding of how sound is generated.

P.E. – develop an understanding of how our bodies function when exercising

Design and Technology – uncovering the science behind technological creations. E.g. pressurised water rockets.

PSHE – understanding how drugs affect the human body. Learning about SRE.

## What can Science inspire children to be in the future?

Science at Heathfield aims to give pupils high aspirations regarding their future careers. The foundations and learning of key knowledge that are implemented at Heathfield drive this. Careers in science are genuinely some of the most exciting, interesting and significant out there.

Some career choices are:

- Psychologist
- Industrial Psychologist
- Biochemist
- Epidemiologist/Medical Scientist
- Anthropologist
- Environmental Science and Protection Technician
- Vet
- Doctor
- Analytical Chemist
- Animal Technologist
- Archaeologist
- Astronautical Engineer
- Astronomer
- Cartographer
- Forensic Scientist
- Geochemist
- Scientific researcher