

**Science Policy**

**2024**

**Adopted by the Local Advisory Board of**

**Highfields Academy**

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| **Approved by:** LAB  | **Date:** April 2024  |
| **Last reviewed on:** June 2022  |  |
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# Definition

Science is a way of working that allows children, through practical first hand experiences and secondary sources, to develop their knowledge and understanding of the world in which they live. These experiences should enable children to observe, question, investigate, make sense of and communicate and evaluate their findings.

**“Science is different to all other systems of thought because you don’t need faith in it, you can check that it works.”**

Professor Brian Cox

# Curriculum Intent

## Aims

To encourage children to:

* Develop knowledge, working scientifically and scientific enquiry skills
* To understand metacognitive strategies to embed concepts where learning is recapped and received throughout the unit and across units.
* Be curious, hands on with learning and engage in activities.
* Experience science through stories to promote a love of reading.
* Developing cultural capital – focus on the work of scientist and how people have changed the world (Including: Forest School, The Life Education Bus and Chemistry with Cabbage)
* Develop a questioning and reflective mind by providing a range of exciting and enjoyable activities.
* Develop a systematic and logical way of working.
* Apply their skills and knowledge to investigative work.
* Work safely and carefully.
* To ‘Know more, remember more, apply more’

# Curriculum Implementation

## Teaching and Learning

At Highfields Academy we follow ‘Plymouth Science’ Scheme of learning which is designed around the Early Years Foundation Stage Curriculum and the National Curriculum Statements for knowledge, working scientifically and scientific enquiry.

Each year group has a set of units which are 6 weeks long that are delivered each week for 2 hours or that equivalent (12 hours each half term).

EYFS: Related to child led topics.

Year 1: Plants, Animals including humans, everyday materials and seasonal changes.

Year 2: Plants, Animals including humans, Living things and their habitats and Uses of everyday materials.

Year 3: Plants, Animals including humans, Rocks, Light and Forces and Magnets.

Year 4: Living things and their habitats, Animals including humans, States of matter, Sound and Electricity.

Year 5: Living things and their habitats, Animals including humans, Properties and changes of materials, Earth and space and Forces

Year 6: Living things and their habitats, Animals including humans, Evolution and inheritance, Light and Electricity.

The Scheme of work includes:

* Pre-learning, from previous year groups and lessons.
* Cross curricular links across modules
* Detailed lesson plans with knowledge, working scientifically and scientific enquiry objectives.
* Embedded working scientifically assessments.
* Hands on learning in each lesson with easy to follow slides.
* Metacognitive approaches which include mini quizzes, recapping, revisiting knowledge.
* Knowledge quizzes at the end of each unit.
* Resources included with adaptive teaching in working scientifically skills.
* Key vocabulary related to each unit

**Working scientifically**

Children will:

* Set up tests
* Record Data
* Observe and Measure
* Make predictions
* Interpret and Communicate results
* Evaluate
* Enquire
* Ask questions

Through this approach we aim to develop the following **Scientific Enquiry Skills**:

* Research
* Pattern Seeking
* Observation over time
* Identifying grouping and classifying
* Enquiry Approaches
* Comparative fair testing

## Curriculum enrichment

We ensure that children have access to a wide range of educational experiences outside of school through trips and visits from Chemistry with Cabbage and other outside science agencies. We celebrate national science week in March and invite visitors, speakers, companies leading workshops in order to inspire learning. We also ensure that the natural resources in the school grounds are fully utilized such as the pond and woodland areas.

As part of our science scheme children will learn about scientists and other important individuals that have had an impact on the world.

## Life skills developed in Science

Through Science we endeavour to foster the following school qualities: -

* Respectful
* Responsible
* Resilient
* Rounded
* Rewarded

## Equal opportunities

All children at Highfields Academy are given equal opportunities in all areas of Science. We monitor the attainment and engagement of all groups of children to ensure there are no patterns of attainment causing concern. Every attempt will be made to integrate children with Special Needs, including the Gifted and Talented, into participating on equal terms with other children. Activities are planned and adapted to encourage active participation by all children. More able children will be given, if appropriate, more open ended and challenging tasks to work through.

# Curriculum Impact

## Progression

Progression is planned through the Plymouth Science Scheme that is followed by all classes. Clear progression with knowledge, working scientifically and scientific enquiry skills can be viewed. Teachers ensure that previous learning has been embedded at the start of each unit and that assessments are taking place frequently throughout each unit of study.

## Monitoring the impact of the Science curriculum

At Highfields, the Science leader will monitor the impact of the curriculum through:

* Lesson observations
* Learning walks, including display and environment.
* Scrutiny of planning and books
* Discussions with pupils/pupil voice surveys
* Analysis of progress and attainment data

and are held to account for this through:

* Production of a termly report to the Local Advisory Board
* Attendance at the LAB teaching and learning committee meetings as requested.
* Appraisal and Performance management.

## Information Communication Technology

We see ICT as an important tool in Science. Children research, communicate, collect and interrogate data in a variety of ways.

## Safety

It is important that children are taught the rules of safety when undertaking experiments and investigations. Materials and equipment need to be handled sensibly and we try to ensure that children do this. It is the teacher’s responsibility to make sure that all helpers (TAs, parents etc.) are aware of safety implications connected with any Science activity they are undertaking.

## Resources

The science resources are kept mostly in the Science cupboards for the use of all classes. Resources are regularly audited and replaced when obsolete.