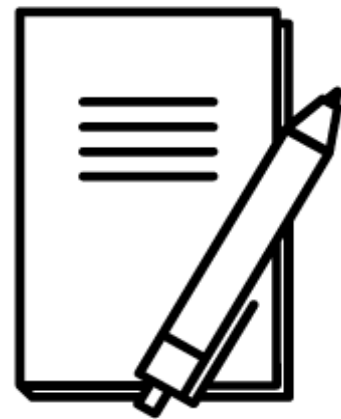


Curriculum Subject Guidance 2026



Science

Reviewed: March 2026

Subject Intent

At Brook, our children as scientists will be able to work scientifically, apply previous knowledge, to link theories and concepts. They are able to make predictions, carry out investigations, analyse data mathematically and draw conclusions linking to known scientific research across all areas. Children will also have an awareness of working safely.

Statutory Guidance

The national curriculum for science aims to ensure that all pupils: 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 them; are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Implementation

How is science organised at Brook Primary School?

What do we teach?

	Autumn Term	Spring Term	Summer Term
Pre-school	Liquids and solids Animals and their habitats Seasons Materials	Liquids and solids Seasons/ weather Animals and their habitats Shadows Materials Magnets	Liquids and solids Seasons/ weather Animals and their habitats Day and night Floating and sinking Materials Human body
Reception	Homes – buildings/materials Our bodies All 5 Senses Electricity (creating light) Hibernation Nocturnal animals Weather/seasons- autumn Light and dark Shadows	Heating /freezing (changing states) Dissolves Push and pull Magnets Babies and adults Animals- parts of an animal Weather/seasons Space Woodland animals Life cycles Habitats	Dinosaurs Tree and flower recognition Plants Recycling/materials Weather/seasons Floating and sinking Planting/growing Parts of a plant Growth and decay Sea creatures Mini beasts

Year 1						
Science focus	Seasonal Changes					
	Animals, including humans All about me	Animals, including humans All about animals	Everyday Materials <i>Exploring everyday materials 1</i>	Everyday Materials <i>Exploring everyday materials 2</i>	Plants	
Year 2						
Science focus	Everyday Materials	Animals, including humans <i>1 Growth</i>	Animals, including humans <i>2 Life cycles</i>	Living Things and Their Habitats	Plants	Living things and their habitats <i>Habitats around the world</i>
Year 3						
Science focus	Animals, including humans	Light	Rocks	Plants	Forces and Magnets	
Year 4						
Science focus	Electricity	States of Matter	Sound	Animals Including Humans	Living things and their habitats	
Year 5						
Science focus	Earth and Space	Forces	Properties of Materials Changes of Materials	Living things and their habitats	Animals, including humans	
Year 6						
Science focus	Light	Electricity	Living things and their habitats	Animals Including Humans	Evolution and Inheritance	

How do we teach science?

At Brook, science is taught in units, each focusing on a key area of scientific knowledge. Each unit is taught through a sequence of knowledge-based lessons, introducing the children to new scientific knowledge, concepts and vocabulary. These are further embedded through scientific enquiry and investigation which gives the children opportunities to demonstrate a range of scientific skills. Our science planning is informed through Developing Experts; however, staff should adapt lessons as they see fit to meet their children's needs.

Enrichment and Experiences

Through a wide range of enrichment opportunities and experiences we aim to inspire a thirst for learning within science and across the wider curriculum. Firsthand practical opportunities to collaborate, investigate, problem solve, question, present and explore are an integral part of our science curriculum. This includes enrichment activities such as utilising the school garden, forest school, visitors within school such as the animal man, annual participation in British Science Week and exposing pupils to future scientific career pathways through selected 'Expert films' present within the Developing Experts scheme.

Why is science important?

The skills associated with ‘working scientifically’ are vital for children to begin to think like scientists. It refers to the methods and processes pupils use to explore and understand the world around them in a scientific way. These methods include asking questions, setting up practical experiments, making observations, collecting and recording data, and drawing conclusions. Practical exploration through these methods encourages curiosity, problem-solving, and critical thinking.

What do your children say about science?

‘We get to experience things in science’ (Florence 1T)

‘Science is my favourite lesson because we get to find things out.’ (Ellisia) 2H

‘I am really excited in science because I love predicting the answer and testing if I have it correct.’ (Sienna 3F)

‘Science makes me happy because it improves my mind ready for GCSEs and I am confident in science because I know a lot.’ (Hayden 4H)

Science is a very bonding experience: you can bond with your friends, having fun doing experiments.’ (Eva 5S)

‘I can see myself doing a job related to science and math – I want to do the calculations needed to build rockets.’ (Zoya 6D)

Inclusion of pupils with special educational needs and disabilities (SEND)

At Brook, we believe all children are individuals and have an equal right to a full-rounded education which will enable them to achieve their full potential. Therefore, class teachers will ensure that appropriate changes are made within the science curriculum to support and extend each child to achieve their full potential. This scaffolding may take the form of word mats, writing frames, adapted source materials, sentence stems, questioning and extension of tasks including, developing further lines of questioning, limiting or widening the range of sources used and independent research into own areas of interest with the unit of study.

Recording, assessment and reporting of science

Assessment within science will take place 5-6 times throughout the year (at the end of each unit of work). Assessments will be made against the National Curriculum statutory requirements for each topic within the programme of study. These NC statutory requirements are presented on an Excel tracker and are completed as a record of attainment for each child. All assessments will be recorded on Arbor using the Excel tracker as guidance. Teachers will use the statements below to communicate a child's attainment.

1. WTS (working towards the expected standard)
2. EXS (working at the expected standard)

Assessment levels for science will be reported to parents formally at the end of the year through the school report. Teachers will make an overall judgement for science, following completion of the year group's programme of study. A pupil's attainment and progress in science may also be discussed at parent consultations where appropriate.

Teachers in Year 2 and Year 6 will make a statutory end-of-key stage judgement against the teacher assessment frameworks. Year 2 and 6 teachers should have evidence from the classroom that pupils have grasped all the 'working scientifically' statements and all the 'science content' taught in the final year of the key stage. It will be reported to the local authority whether pupils have or have not met the expected standard. (See appendix 1 and 2 for teacher assessment frameworks).

Monitoring arrangements

The delivery of science is monitored by the science subject leader (currently Vicky Tsang) through:

- Book scrutinies
- Learning walks
- Pupil interviews/questionnaires
- Staff interviews/questionnaires

This policy will be reviewed by the science subject leader every two years. At every review, the policy will be approved by the governors and the Head Teacher.

Appendix 1: KS1 Science Assessment Framework

Working at the expected standard

Working scientifically

The pupil can, using appropriate scientific language from the national curriculum:

- ask their own questions about what they notice
- use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions:
 - observing changes over time
 - noticing patterns
 - grouping and classifying things
 - carrying out simple comparative tests
 - finding things out using secondary sources of information
- communicate their ideas, what they do and what they find out in a variety of ways

Science content

The pupil can:

- name and locate parts of the human body, including those related to the senses (year 1), and describe the importance of exercise, a balanced diet and hygiene for humans (year 2)
- describe the basic needs of animals for survival and the main changes as young animals, including humans, grow into adults (year 2)
- describe the basic needs of plants for survival and the impact of changing these and the main changes as seeds and bulbs grow into mature plants (year 2)
- identify whether things are alive, dead or have never lived (year 2)
- describe and compare the observable features of animals from a range of groups (year 1)
- group animals according to what they eat (year 1), describe how animals get their food from other animals and/or from plants, and use simple food chains to describe these relationships (year 2)
- describe seasonal changes (year 1)
- name different plants and animals and describe how they are suited to different habitats (year 2)
- distinguish objects from materials, describe their properties, identify and group everyday materials (year 1) and compare their suitability for different uses (year 2)

Appendix 2: KS2 Science Assessment Framework

Working at the expected standard

Working scientifically

The pupil can, using appropriate scientific language from the national curriculum:

- describe and evaluate their own and others' scientific ideas related to topics in the national curriculum (including ideas that have changed over time), using evidence from a range of sources
- ask their own questions about the scientific phenomena that they are studying, and select the most appropriate ways to answer these questions, recognising and controlling variables where necessary (i.e. 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)
- use a range of scientific equipment to take accurate and precise measurements or readings, with repeat readings where appropriate
- record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- draw conclusions, explain and evaluate their methods and findings, communicating these in a variety of ways
- raise further questions that could be investigated, based on their data and observations.

Science content The pupil can:

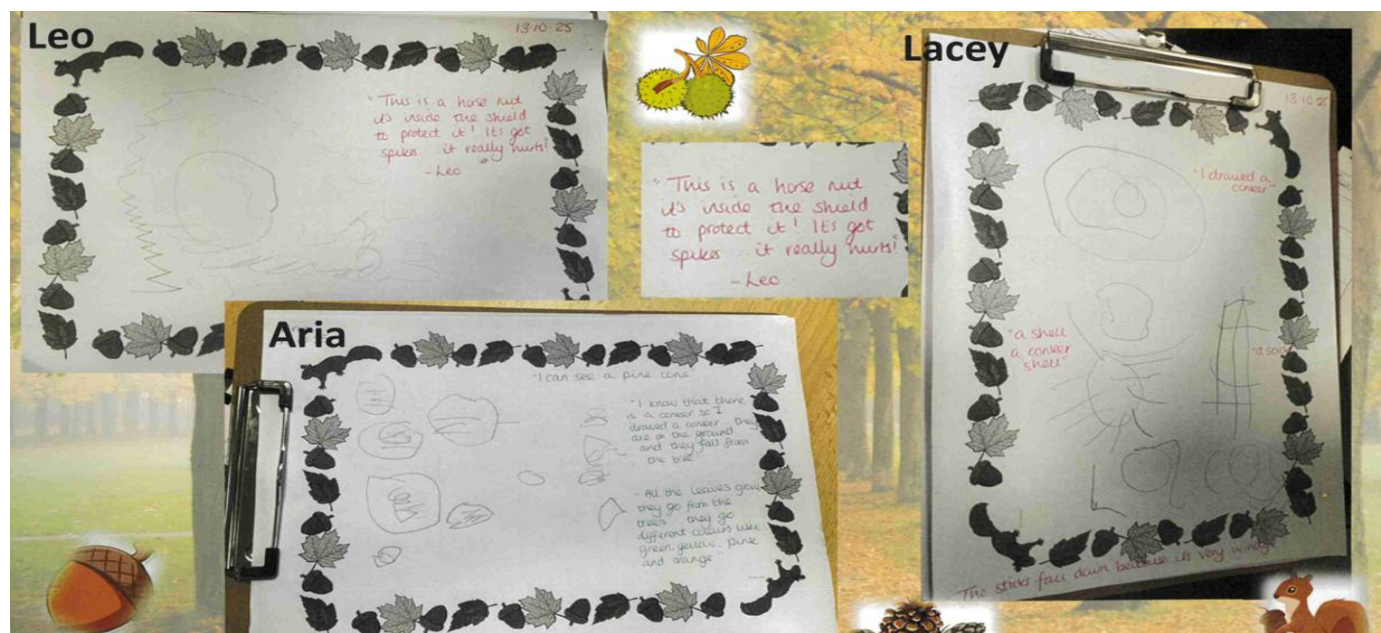
- name and describe the functions of the main parts of the digestive [year 4], musculoskeletal [year 3] and circulatory systems [year 6]; and describe and compare different reproductive processes and life cycles in animals [year 5]
- describe the effects of diet, exercise, drugs and lifestyle on how the body functions [year 6]
- name, locate and describe the functions of the main parts of plants, including those involved in reproduction [year 5] and transporting water and nutrients [year 3]

Continued on the next page

- use the observable features of plants, animals and micro-organisms to group, classify and identify them into broad groups, using keys or other methods [year 6]
- construct and interpret food chains [year 4]
- describe the requirements of plants for life and growth [year 3]; and explain how environmental changes may have an impact on living things [year 4]
- use the basic ideas of inheritance, variation and adaptation to describe how living things have changed over time and evolved [year 6]; and describe how fossils are formed [year 3] and provide evidence for evolution [year 6]
- group and identify materials [year 5], including rocks [year 3], in different ways according to their properties, based on first-hand observation; and justify the use of different everyday materials for different uses, based on their properties [year 5]
- describe the characteristics of different states of matter and group materials on this basis; and describe how materials change state at different temperatures, using this to explain everyday phenomena, including the water cycle [year 4]
- identify and describe what happens when dissolving occurs in everyday situations; and describe how to separate mixtures and solutions into their components [year 5]
- identify, with reasons, whether changes in materials are reversible or not [year 5]
- use the idea that light from light sources, or reflected light, travels in straight lines and enters our eyes to explain how we see objects [year 6], and the formation [year 3], shape [year 6] and size of shadows [year 3]
- use the idea that sounds are associated with vibrations, and that they require a medium to travel through, to explain how sounds are made and heard [year 4]
- describe the relationship between the pitch of a sound and the features of its source; and between the volume of a sound, the strength of the vibrations and the distance from its source [year 4]
- describe the effects of simple forces that involve contact (air and water resistance, friction) [year 5], that act at a distance (magnetic forces, including those between like and unlike magnetic poles) [year 3], and gravity [year 5]
- identify simple mechanisms, including levers, gears and pulleys, that increase the effect of a force [year 5]
- use simple apparatus to construct and control a series circuit, and describe how the circuit may be affected when changes are made to it; and use recognised symbols to represent simple series circuit diagrams [year 6]
- describe the shapes and relative movements of the Sun, Moon, Earth and other planets in the solar system; and explain the apparent movement of the sun across the sky in terms of the Earth's rotation and that this results in day and night [year 5].

Appendix 3: Examples of work (Working scientifically focus - recording data)

In EYFS, pupils record their observations using drawings



In KS1, when recording data, pupils add their data to a prepared table.

Friday 7th February

WALT: explore materials: absorbent or not?

Object	Material	Absorbent?
Sponge	fabric	✓
foil	metel	X
paper towel	Paper	✓
Plastic bottle	Plastic	X
felt	fabric	✓

Challenge

Which material would be best to make an umbrella from? Why do you think this?

I think a umbrella is made out of plastic and it is not absorbent it is water proof.

Tuesday 30th September

WALT: explore the stretch of different materials

Complete the stretch test.

- For each material, make several attempts to see how far it stretches.
- Measure the length of the stretch. Does the material break?

Material	Start	Attempt 1	Attempt 2	Attempt 3
Fabric	16 cm	18 cm	18.5 cm	18.5 cm
Elastic band	9 cm	18 cm	26 cm	35 cm
Cotton wool	2 cm	X	X	X
Crepe paper	6 cm	8 cm	X	X
Wool	10 cm	11 cm	11 cm	11 cm

Answer the questions about the stretch test.

- Which material was the most stretchy? Elastic band
- Which material was the least stretchy? Cotton Wool

Challenge

Can you explain why some materials are more stretchy than others?

because some have got more plastic in them.

In LKS2, when recording data, pupils choose how to add data to complex tables provided for them. They record measurements onto bar charts with axes and scales provided.

Wednesday 21st January
 observe the effects of weathering on rocks
 Good observations 😊

Rocks	Durability Does the rock start to crumble easily?	Permeability Does water soak into the rock easily?	Density Does the rock float or sink?	Crystals Are there any crystals embedded in the rocks?
Plate A	no It doesn't	no It ran away	It sinks	Yes a bit. ✓
Plate B	Yes it does	Yes it does	sink	no its a igneous rock maybe
Plate C	no its a quartz	maybe because it soaks so	sink	Yes lots of



I think plate A are the Sedimentary rocks because

some are smooth and some are rough

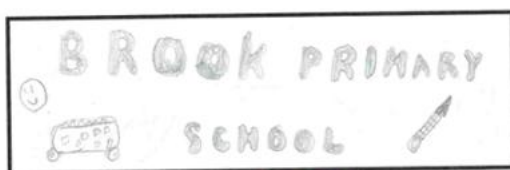
I think plate B are the igneous rocks because

there are very hard and have some bubbles

I think plate C are the Metamorphic rocks because

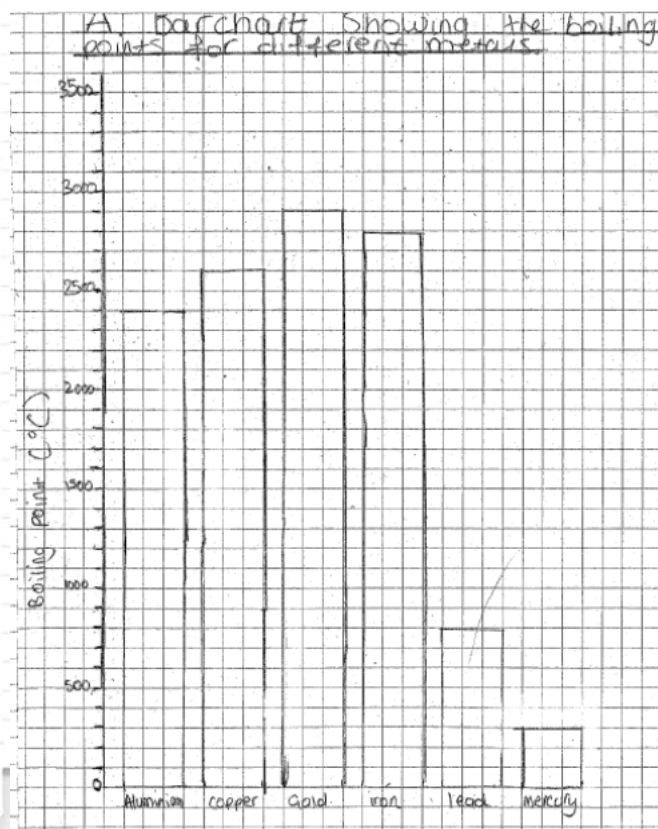
they have lots of crystals and they are shiny

Challenge: design a plaque made of rock to go on the outside wall above the front door of school. What rock would you make it out of and why?



My plaque would be made from the stone marble because

It looks cool, its strong and it doesn't crumble



1. What does 'boiling point' mean?

it means when something is hot.

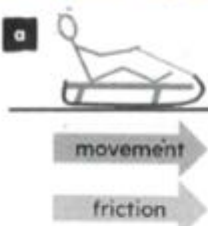
1. Which substance has the highest boiling point?

Gold with 2970 boiling to point.

In UKS2, when recording data, pupils construct and record data in complex tables, bar charts and line graphs. With guidance, they label axis, identify scales and plot points.

Wednesday 25th November
WALT: identify the effect of friction

a



b

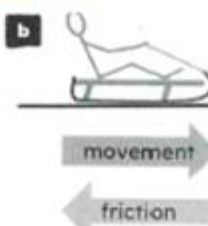
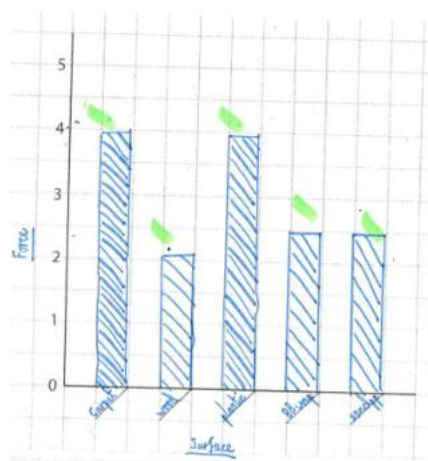


Diagram **b** is right as it correctly shows how friction acts between two surfaces. Friction affects moving objects by slowing them down.

Without friction everything would just slip.

Results:

Floor material	Force needed to drag shoe (N)
carpet	4
plastic	4
wood	2
bubble wrap	3.5
sandpaper	3.5



WALT: investigate how shadows can change

Question:

How does the distance from a light source affect a shadow's size?

Hypothesis:

I predict that the closer the object to the light source, the bigger the shadow will be because it will block more light.

Your results:
Record your results here

Distance from light source (cm)	Height of the shadow (cm)
30cm	8.3cm
25cm	8.9cm
20cm	10.9cm
15cm	13.6cm
10cm	20.7cm
5cm	29.2cm

