Brownlow Fold Primary School

Science Curriculum Conversation
2025 - 2026
Welcome

Brownlow
Fold Primary

Mission Statement

Our mission is to improve educational outcomes for all pupils at Brownlow Fold and to ensure that pupils leave us well prepared academically, socially and emotionally for the next stage of their education.

At Brownlow Fold our aim is to:

- Provide a stimulating, child-centred curriculum which inspires pupils to learn.
- Promote challenge in a safe and nurturing environment.
- Develop pupils that are confident, resilient, self-assured learners with excellent attitudes to learning.
- Work collaboratively with all stakeholders (home / school /child / governors / community).
- Ensure that pupils are safe and feel safe at all times.
- Encourage curiosity, enthusiasm and independence.
- Engender within school a caring and sharing ethos where children, parents and staff feel welcome, valued and respected.
- Teach children to respect each other and themselves.

At Brownlow Fold we want our pupils to:

- Love the challenge of learning and develop resilience.
- Be curious, interested learners who seek out and use new information to develop, consolidate and deepen their knowledge, understanding and skills.
- Thrive in lessons and regularly take up opportunities to learn.
- Recognise the difference between right and wrong.
- Discuss and debate issues in a considered way, showing respect for different ideas and points of view.
- To make informed choices about healthy eating, fitness and their emotional and mental well-being.
- Make consistently high rates of progress in relation to their starting points.

To achieve all of the above we must engage with those in the school community and beyond, to build a learning community which supports achievement and attainment because:

Together we Fly

Brownlow
Fold Primary

Brownlow Fold Early Years

The Curriculum

Communication and Language development involves giving children opportunities to experience a rich language environment; to develop their confidence and skills in expressing themselves; and to speak and listen in a range of situations.

Physical development involves providing opportunities for young children to be active and interactive; and to develop their co-ordination, control, and movement. Children must also be helped to understand the importance of physical activity, and to make healthy choices in relation to food.

Personal, social and emotional development involves helping children to develop a positive sense of themselves, and others; to form positive relationships and develop respect for others; to develop social skills and learn how to manage their feelings; to understand appropriate behaviour in groups; and to have confidence in their own abilities.

It is important that children know ***how*** to learn just as much as ***what*** to learn. They learn best by ***doing***. They need first-hand experiences and learning that makes sense to them. In fact, they learn best through ***play***.

Within continuous provision there are planned weekly opportunities linking to our themes/key texts where children can further develop and apply the skills they have learnt during their learning during Art. Children will have daily opportunities to access a variety of materials to create and mark make, both adult-led and child-initiated.

Each half term the children draw their self-portrait. This is used as an informal assessment tool to support children's fine motor and drawing skills.

Purpose of Study

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Aims

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

Knowing more and remembering more

All teachers follow this approach which supports the consolidation of prior knowledge and the incremental development of new knowledge. Brownlow is Brilliant (whole school PP) is shared daily with children and is an opportunity for the children to retrieve key learning. Timetabled retrieval lessons also focus on retrieving learning from the previous term. School have purchased LBQ questions which are low stakes quizzes which assess the children's knowledge of the key curriculum content. Pupils use ipads to answer questions and progressing at their own pace. Teachers gain immediate feedback and live analysis that supports assessment and future planning.
Retrieval curriculum conversations also take place in mixed year groups with a subject focus once every half term. This provides opportunities for pupils discuss their learning, from previous year groups, learn about future learning, consolidate their understanding and strengthen their recall.

Link	Learn	Know	Retrieve	Apply
				
Focus on prior knowledge through pre learning questions ▪ Within the same subject ▪ Within another subject ▪ From personal experience	Use the prime learning challenge, expressed as a question. Use the information gained from pre-learning tasks and our school context, to answer the subsidiary questions	Use the Knowledge Organisers and the Green for Growth Check	Link ideas to existing knowledge and organise into mental models/schemata	Apply knowledge to future learning

Teaching and Learning Pedagogy

Principles of Direct Instruction at Brownlow Fold

Each lesson contains a short review of previous learning New material is presented in small steps with opportunities to practise	Children are asked lots of questions and responses checked Models are provided	Practice is guided by the teacher The teacher checks for understanding	Obtain a high success rate The teacher provides a scaffold for difficult tasks	The teacher monitors independent practice The teacher facilitates daily, weekly and monthly retrieval practice

Pre learning task

YEAR 3 SCIENCE

Pre-Learning Date: _____

1. What is the image showing?

_____

_____

_____

2. Can you label any parts that you know on the picture?

_____

_____

_____

3. What specific job to any of these bones have?

_____

_____

_____

Brownlow Fold Primary

Prime Learning Challenge

Animals, including humans

How do animals and humans stay healthy?

Big Question

Can you explain the importance of a nutritionally balanced diet?	How do animals, including humans, get nutrition from what they eat?	Can you to identify and name bones in the human skeleton?	How do you sort animals based on their skeleton?	What do muscles do to allow movement?

Small Questions and knowledge
Which help to answer the big question.

Key Vocabulary				
nutrition	balanced diet	food groups	skeleton	bones
protection	vertebrate	muscles	contract	relax

Glossary of key vocabulary

nutrition
The process of providing or obtaining the food necessary for health and growth.

balanced diet
A diet consisting of a variety of different types of food and providing adequate amounts of the nutrients necessary for good health.

food groups
Any of the categories into which different foods may be placed according to the type of nourishment they supply, such as carbohydrates or proteins.

skeleton
The framework of bones and cartilage that supports and protects the internal organs of the body.

bones
Any of the pieces of hard whitish tissue making up the skeleton in humans and other vertebrates.

protection
The job of the bones of the skeleton is to protect the internal organs and reduce the risk of injury on impact.

vertebrate
A creature that has a spine. Mammals, birds, reptiles, and fish are vertebrates.

muscles
A band of fibrous tissue in a human or animal body that gives the ability to move.

contract
When a muscle contracts, it gets shorter and tighter. This pulling action helps your body move.

relax
Letting your muscles go loose and limp, when muscles return to their normal relaxed state

contracted

Key facts about animals including humans

Animals including humans – Year 3

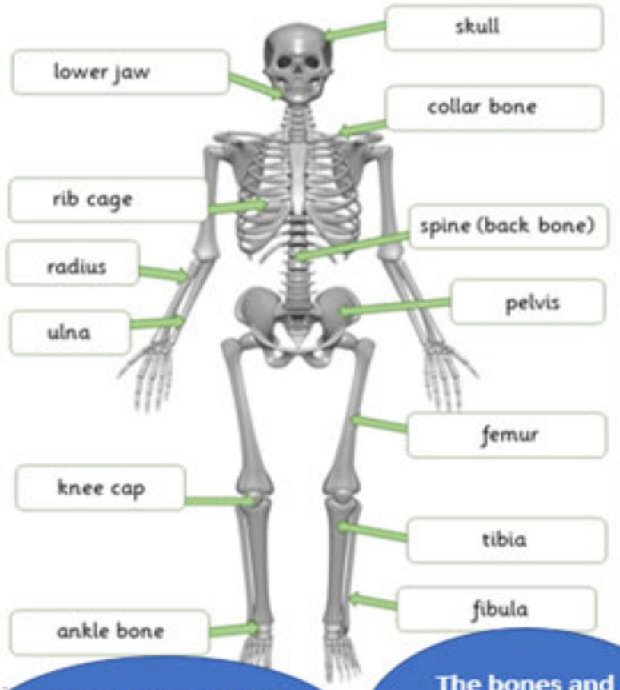
Significant scientist	
Wilhelm Conrad Rontgen *(1845-1923)* 	Wilhelm Rontgen was a German physicist who discovered X-rays in 1895. He was awarded many honours and won the Nobel Prize for physics in 1901.

Animals need to eat food to get the nutrients they need.

What type of foods should we eat to stay healthy?

One piece of food can provide a range of nutrients.

The skull protects our brain.



The bones in our legs support us and help us stand.

The bones and muscles in our legs help us move.

Big Question

YEAR 3 SCIENCE GREEN FOR GROWTH CHECK

What must animals and humans do to stay healthy?

What does a nutritionally balanced meal include?

How can you sort animals based on their skeleton?

What bones can you name in the human skeleton?

How do muscles allow movement?

End of Y3 expectations for science

Lower KS2 Science End Points
What will the children be able to know and do?

Year Three

- Ask relevant scientific questions and use different types of scientific enquiry to answer them.
- Set up simple practical enquiries and fair tests with support.
- Make systematic observations and take simple measurements.
- Record findings using drawings, labelled diagrams, keys, bar charts, and tables.
- Use results to draw simple conclusions and make predictions for new values.
- Use scientific evidence to answer questions or support findings.

Plants

- Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves, and flowers.
- Explore and explain what plants need to grow and stay healthy (including light, water, nutrients from soil, and room to grow).
- Investigate and describe how water is transported within plants.
- Explore the life cycle of a flowering plant, including pollination, seed formation, and seed dispersal.

Animals, Including Humans

- Identify that animals, including humans, need the right types and amount of nutrition.
- Understand that animals cannot make their own food and get nutrition from what they eat.
- Identify that humans and some other animals have skeletons and muscles for support, protection, and movement.

Year Four

- Set up simple fair tests and practical enquiries with increasing independence.
- Ask relevant scientific questions and use different types of enquiry to answer them.
- Make careful, accurate observations and use standard units when measuring.
- Record findings using drawings, keys, tables, bar charts, and other simple scientific formats.
- Identify patterns in results and use them to draw conclusions.
- Use scientific language to explain and justify their ideas.

Animals, Including Humans

- Describe the basic functions of the digestive system in humans.
- Identify and name the different types of teeth in humans and their functions.
- Construct and interpret a simple food chain, identifying producers, predators, and prey.

States of Matter

- Group materials as solids, liquids, or gases.
- Observe and describe how materials change state when they are heated or cooled.
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Electricity

- Identify common appliances that run on electricity.

TALK LIKE A ... SCIENTIST 1

NOTICE SOMETHING

I have noticed ...

I have observed ...

MAKE A PREDICTION

I think ... because ...

I predict ... because ...

Using what I know, I think ...

GATHER THE DATA

I have already noticed ...

What I am seeing so far is ...

QUESTION IT

I wonder why ... ?

I wonder what would happen if ... ?

I want to find out ...

GET PLANNING

The one thing I will change will be ...

The things I will keep the same are ...

We will be observing ...

We will be measuring ...

The best way to record this is ...

DRAW A CONCLUSION

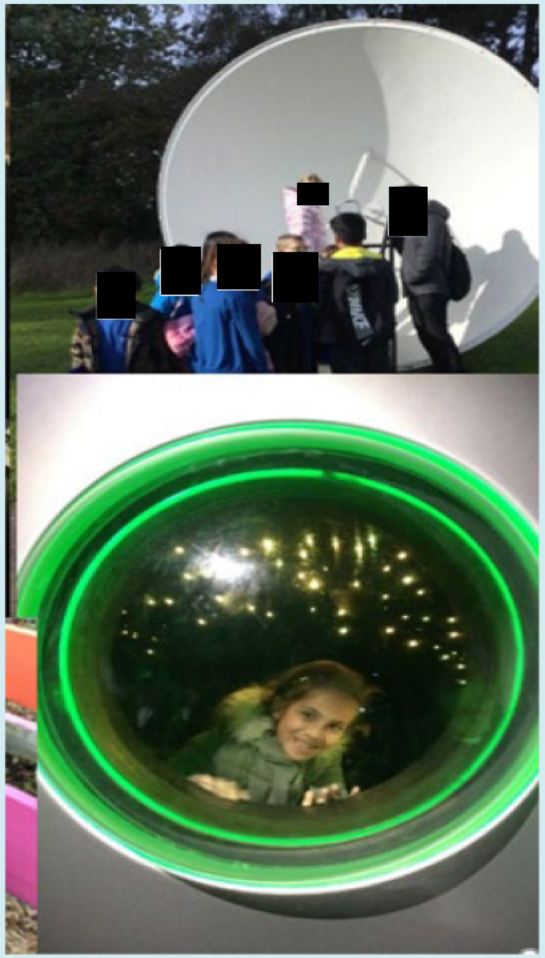
Looking at the results, I can see ...

The results show that my prediction is correct because ...

The results show that my prediction is incorrect, because ...

The Science Curriculum at Brownlow Fold

Cultural Capital



We utilise our outdoor learning environment in many different ways during our science investigations. For example in year one the children identify what happens during the different seasons of the year. In year three the children investigate the different plants and trees.

At Brownlow Fold we also use trips to further develop our scientific knowledge and vocabulary the children visit the Zoo in year three linked to animal skeletons and movement.