



Brandesburton Primary School
Subject area: Science



Science Statement of Intent, Implementation and Impact

By the time pupils leave Brandesburton Primary School we aim to develop pupils who:-

Science

First and foremost develop a sense of excitement and curiosity about natural phenomena. Science has changed our lives and is vital to the world’s future prosperity and we want our pupils to understand how science can be used to explain what is occurring, predict how things will behave and analyse causes. The science curriculum is designed to fully reflect the school aims of providing a curriculum that motivates, inspires and meets the needs of all pupils. The skills of ‘working scientifically’ are embedded into our lessons to ensure these skills are developed and built upon over time. We have recently developed the use of class floor books for recording scientific investigations to more easily show progression from year group to year group. Suggested investigations to demonstrate and develop working scientifically skills have been mapped to the Key Stage One and Key Stage Two long-term plans.

Careful consideration is given to aligning science topics with the overarching key stage theme wherever possible to help to build and retain knowledge, for example, when Key Stage One study Africa, the science units on animals and their habitats focuses on African animals. For the History of Flight theme, the science unit on materials allows the opportunity to investigate the development over time of materials used to build aircraft. Similarly, when Key Stage Two study the Stone Age, the science units on rocks and evolution are incorporated. This gives pupils the opportunity to make real life historical and geographical links to their developing scientific knowledge. Science units fully align with the National Curriculum Programmes of Study and build progressively, with staff able to refer to knowledge matrices that show prior and successive learning opportunities as shown in this example based on the year one unit animals, including humans.

Year	1	Topic	Animals, including humans
<ul style="list-style-type: none"> Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. 			

Prior learning	Future learning
<ul style="list-style-type: none"> Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal) 	<ul style="list-style-type: none"> Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. (Y2 - Living things and their habitats) Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. (Y6 - Living things and their habitats) Give reasons for classifying plants and animals based on specific characteristics. (Y6 - Living things and their habitats)

We endeavour to increase children's knowledge and understanding, so that they become more proficient in selecting and using scientific equipment, collating and interpreting results as well as becoming increasingly confident in their ability to draw conclusions based on real evidence. Our curriculum delivery is designed to promote critical thinking, questioning skills and the use of a wider range of vocabulary in communicating with their peers. We aim to help them understand the uses and implications of science, today and for the future.

Pupil Voice

My favourite part of science week was the balloon flight because on the string it went really far. Grace class 2

My favourite part of science week was Delia the Marine Medic because I loved learning about plastic pollution. Thomas Class 2

Photos



Educational visits, visitors and theme days

These experiences provide great enrichment opportunities for pupils and help to foster a love of learning through hands on activities. They also make a major contribution to the acquisition of knowledge and development of skills.

Here are just some of the things our children have experienced to enrich their learning experiences and increase their science capital.

- Attending a STEM in Action Day at Hull Collegiate
- Working with a STEM ambassador on a K'Nex Challenge
- Enjoying a visit from Sam's Safari
- Taking part in the annual British Science Week
- Accessing the Forest Schools Programme
- Accessing virtual visits from people working in STEM based careers

Careers Mark

One of our aims is to allow pupils to gain knowledge about the world we live in and the world of work and broaden their knowledge of different career opportunities. Through our themed Career weeks, our pupils have had the opportunity to meet with many people linked to the world of science including a vet, a nurse, an astrophysicist and a laboratory scientist. In March 2021 class 5 accessed a virtual visit (due to Covid-19) from a STEM ambassador working within the construction industry. Class 3 and 4 accessed a virtual visit from two female engineering and business management graduates both now working within STEM industries, who were able to support our cluster aim of raising the profile of women within STEM.

STEM

We aim to increase our pupils' engagement, enjoyment interest and attainment in STEM (Science Technology, Engineering and Maths) subjects. We want to develop important life skills through enrichment and facilitate our pupils to engage with the wider community in practical, enjoyable and meaningful ways. We hope to ignite new interest or raise attainment in STEM subjects through more imaginative and interactive teaching including practical investigations and the development of an after school STEM club. As a result of Covid-19 making visitors to school impractical, Key Stage One have instead accessed a virtual visit from the Cornish Plastic Pollution Coalition linked to both the National Curriculum topic on materials and also the wider environmental issue of pollution.

Enthuse Partnership

We are one of a small cluster of East Yorkshire schools involved in a STEM Learning partnership with Orsted, the renewable energy company responsible for creating windfarms along the East Yorkshire coast. Orsted are funding a two year intensive improvement programme to raise achievement and aspiration in STEM subjects. Fran Dainty, Head of STEM Expertise at STEM Learning, stated: "Through excellent STEM teaching and by building awareness of STEM careers and the opportunities they offer, we can improve the life chances of some of the most vulnerable young people in the East Riding area."

Useful Websites

<https://www.bbc.co.uk/bitesize/primary>

<https://www.stem.org.uk/>

<https://www.nasa.gov/kidsclub/index.html>

<https://bpes.bp.com/>

<https://pbskids.org/designsquad/games/>

<https://www.nationaltrust.org.uk/50-things-to-do>

<https://wowscience.co.uk/>

<https://explorify.wellcome.ac.uk/>

<https://pstt.org.uk/>