

# BLACK HORSE HILL INFANT SCHOOL



## SCIENCE POLICY

28<sup>th</sup> February 2019

Approved by Committee \_\_\_\_\_

21<sup>st</sup> March 2019

Approved by Full Governing Body \_\_\_\_\_

Signed \_\_\_\_\_ (Chair)

Signed \_\_\_\_\_ (Headteacher)

# BLACK HORSE HILL INFANT SCHOOL



## SCIENCE POLICY

### Purpose Statement

We work together as staff, pupils, parents and governors in order to create a safe environment where there is a strong ethos of mutual respect, co-operation and understanding, which contribute to the healthy development of all.

We encourage children to become confident, self-motivated learners with recognition of their own personal value. Through high quality teaching and high expectations of the children, we promote an enjoyment of life-long learning.

We believe in nurturing the skills, knowledge and attributes that will prepare our children to make a positive contribution to society.

### AIMS OF SCIENCE POLICY

Our Science Policy follows The National Curriculum 2014 for Science Guidelines and 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 scientific 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.

### PURPOSE OF STUDY-WHY TEACH SCIENCE?

A high-quality science education provides foundations for understanding the world. Science has changed our lives and is vital to the world's future prosperity. Through building 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 key knowledge and concepts can be used to explain what is occurring, predict how things will behave, and analyse causes. This understanding should be consolidated through their appreciation of applications of science in society and the economy.

In teaching science we are developing in our children:

- a positive attitude towards science and an awareness of its fascination;
- an understanding of science through a process of enquiry and investigation;
- confidence and competence in scientific knowledge, concepts and skills;
- an ability to reason, predict, think logically and to work systematically and accurately;
- an ability to communicate scientifically;
- the initiative to work both independently and in co-operation with others;
- the ability and meaning to use and apply science across the curriculum and real life.

## PLANNING

### School curriculum

The programmes of study for science are set out year-by-year for Key Stage 1. We are however, only required to teach the relevant programme of study by the end of the key stage. Within each key stage, school has the flexibility to introduce content earlier or later than set out in the programme of study and may introduce key stage content during an earlier key stage if appropriate.

Teachers will base their planning on the programmes of study for their relevant year groups.

### Scientific knowledge and conceptual understanding

The programmes of study describe a sequence of knowledge and concepts. While it is important that pupils make progress, it is also vitally important that they develop secure understanding of each key block of knowledge and concepts in order to progress to the next stage.

Pupils should be able to describe associated processes and key characteristics in common language, but they should also be familiar with, and use, technical terminology accurately and precisely. They should build up an extended specialist vocabulary. They should also apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data.

### The nature, processes and methods of science

'Working scientifically' specifies the understanding of the nature, processes and methods of science for each year group. It should not be taught as a separate strand.

### Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

## **Science Teaching at Black Horse Hill Infant School**

Black Horse Hill Infant School caters for children between the ages of three and seven. The nature of the school is such that the children are taught in single age groups. Each class teacher teaches Science to the pupils in their class often with the support of a Teaching Assistant.

The Year 1 programme of study includes Plants, Animals, including humans, Everyday materials and Seasonal changes. The Year 2 programme of study includes Living things and their habitats, Plants, Animals including humans and uses of everyday materials. Teachers strive to develop and exploit the important relationships which exist between Science and other areas of the curriculum. Observing, pattern seeking, explaining, experiencing, communicating and applying ideas and knowledge to new problems are valuable skills which can be applied in different ways in a range of curriculum areas including Mathematics, Literacy, Physical Education, Art, Design Technology and Computing. Cross curricular links are identified on the topic planning. Science units are sometimes taught as part of a topic where links can be made between subjects.

### **The Organisation of Learning Experiences**

Pupils will learn through active engagement in learning experiences and these are outlined in the Science Programmes of Study related to Key Stage One (September 2013) and the Foundation Stage Curriculum.

### **Assessment & Record Keeping**

Teacher assessment is crucial in determining the pupils' level of attainment. In addition to the summative assessment required at the end of Key Stage One, formative judgements concerning pupils' achievements are necessary to assist in the planning of future learning activities. Key Stage 1 are developing the use of new assessment sheets informed by National Curriculum Level descriptors to aid differentiation, assess prior knowledge and also set clear targets for the next step forward for child and teacher. Each half term assessment information will be put on Target Tracker. On management days this information will be analysed. Assessments in the Foundation Stage are made on a regular basis through observations and specific tasks. Each child's work is collected and assessed via Tapestry. The assessments are kept in the Update files and on Target Tracker.

### **The Role of the teacher**

The teacher will:-

1. Provide real life opportunities for children to investigate scientific problems.
2. Provide the resources, materials, time and organisation for children to raise questions, to find answers and check ideas.
3. Encourage situations where the children can discuss ideas together in small groups so

that by listening to each other and combining ideas they can refine their own ideas.

4. Encourage situations where children can discuss their ideas with the teacher and review the evidence that has been gathered in order to strengthen knowledge and understanding.

5. Facilitate whole class discussion which will allow the children the opportunity to hear everyone's ideas, to comment on alternative views and defend their own. The teacher will be able to direct children to sources that will extend their ideas.

### **The Role of the Teaching Assistant**

During science activities, small groups or individual children are supported by the Teaching Assistant, in order to focus their attention and develop specific skills and knowledge. Support is also given with recording scientific investigations. The Teaching Assistant can also be responsible for collecting and preparing resources and creating interactive science displays.

### **The Role of the Subject Leader**

The Science/KUW Team Leader will:-

1. write, review and implement the school science policy
2. support staff in developing their own scientific skills and knowledge through leading and organising In-service Training
3. review the science scheme of work
4. audit and purchase suitable resources
5. monitor planning
6. monitor children's work and conduct pupil interviews
7. develop assessment systems and analyse data
8. develop a science portfolio
9. observe science lessons and provide constructive feedback
10. develop links with the LEA science Inspector and Advisory Teachers
11. attend courses and meetings to keep up to date, and also to exchange ideas with other subject leaders

### **Resources**

The school is fortunate in having a wide range of science resources including practical investigative equipment. Each class has its own science resources suitable for the age and abilities of the children. The subject leader has some text books available for staff to

use and other books are kept in the staffroom. New items relating to the new curriculum are purchased when necessary.

### **Special Educational Needs**

Every child is entitled to a broad and relevant science curriculum and it is important to cater for children of all abilities. We do this by providing activities that challenge all pupils and at the same time provide them with success at some meaningful level appropriate to the children's ages and differing abilities. We have a range of resources to support children with specific needs.

### **Equal Opportunities**

We offer a broad and balanced curriculum which will help to eliminate sex stereotyping and encourage the equal involvement of both boys and girls. We strive to deliver a curriculum which takes into account ethnic and cultural diversity.

### **Health and Safety**

Black Horse Hill Infant School follows Wirral Education Authority Health & Safety documents and the ASE "Be Safe" handbook which can be found in the staffroom

Each year group assesses the risks involved with science activities. Risk assessments are written and can be found in year group Science files. A copy is also kept by the Headteacher.

January 2019