Ightenhill Science Policy

Our Intent

At Ightenhill Primary School, our children are **SCIENTISTS!**

Our intent is to give every child a broad and balanced Science curriculum which enables them to confidently explore and discover what is around them, so that they have a deeper understanding of the world we live in. We want our children to love science. We want them to have no limits to what their ambitions are and grow up wanting to be astronauts, forensic scientists, toxicologists or microbiologists. We want our children to remember their science lessons in our school, to cherish these memories and embrace the scientific opportunities they are presented with! To achieve this, it involves exciting, practical hands on experiences that encourage curiosity and questioning. Our aim is that these stimulating and challenging experiences help every child secure and extend their scientific knowledge and vocabulary, as well as promoting a love and thirst for learning. At Ightenhill, we have a coherently planned and sequenced curriculum which has been carefully designed and developed with the need of every child at the centre of what we do. We want to equip our children with not only the minimum statutory requirements of the science National Curriculum but to prepare them for the opportunities, responsibilities and experiences of later life.

Our aims in teaching science include the following:

- ✓ Preparing our children for life in an increasingly scientific and technological world.
- ✓ Fostering concern about, and active care for, our environment.
- ✓ Helping our children acquire a growing understanding of scientific ideas.
- ✓ Helping develop and extend our children's scientific concept of their world.

Attitudes

We aim to:

- ✓ Encourage the development of positive attitudes to science.
- ✓ Build on our children's natural curiosity and developing a scientific approach to problems.
- ✓ Encourage open-mindedness, self-assessment, perseverance and responsibility.
- ✓ Build our children's self-confidence to enable them to work independently.
- ✓ Develop our children's social skills to work cooperatively with others.
- ✓ Provide our children with an enjoyable experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further.

Skills

We aim to:

- ✓ Give our children an understanding of scientific processes.
- ✓ Help our children to acquire practical scientific skills.
- ✓ Develop the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- ✓ Develop the use of scientific language, recording and techniques.
- ✓ Develop the use of ICT in investigating and recording.
- ✓ Enable our children to become effective communicators of scientific ideas, facts and data.
- ✓ Provide opportunities for children to make cross-curricular links across other subjects allowing skills to be transferrable.

Our Science Principles

- Children to be encouraged to become independent learners and thinkers through relevant practical and hands on activities.
- To be posed open ended questions to challenge and lead children's thinking.
- Adult's model activities and thinking for children and to aid understanding.
- To be curious about the world; using a variety of enquiry strategies, independently making decisions, answering our own questions.
- To have fun whilst learning
- To learn scientific vocabulary and can use it appropriately in our work
- To work well together.

Implementation

As stated in the National Curriculum, science has four areas of learning:

- Sc1 Scientific enquiry;
- Sc2 Life and living processes;
- Sc3 Materials and their properties;
- Sc4 Physical processes.

Our overarching aim is to further embed scientific enquiry through the contexts of the three main content areas (Sc2, 3, 4). A weekly science lesson is taught in all year groups with scientific enquiry embedded in lessons where appropriate.

In EYFS, children are taught using the EYFS scheme from the Ogden Trust. This allows children to secure some of the basic skills in the 'Understanding the World' and "Expressive Arts and Design" areas of learning that will build the foundation for the Key Stage One science curriculum.

In Key Stage One and Two, children are taught using the "Engaging Science" scheme of work. The scheme ensures that all the four areas of learning, as stated by the National Curriculum, are taught throughout both key stages. The scheme allows science to be taught through practical and investigative activities which encourage children to think both scientifically and creatively.

When planning, teachers use the National Curriculum Science statutory requirements document alongside the "Engaging Science" lesson plans to ensure that key elements are taught and so that teachers can ensure that there is progression throughout the year groups. We also use the Plan Assessment progression grids so teachers are aware of previous learning and where the learning in their year group fits in. This allows teachers to make sure their lessons are pitched appropriately for their year group.

Impact

The successful approach to the teaching of science at Ightenhill results in a fun, engaging, high quality science education, that provides children with the foundations for understanding the world that they can take with them once they complete their primary education.

So much of science lends itself to outdoor learning, and so we aim to provide children with opportunities to experience this. Children learn the possibilities for careers in science as a result of our community links and enrichment activities.

Pupil voice is used to further develop the Science curriculum, through questioning of pupils' views and attitudes towards Science, to assess the children's enjoyment of science, and to motivate learners.

Equal opportunities in science

Science is taught within the guidelines of the school's equal-opportunities policy.

We ensure that all our children have the opportunity to gain science knowledge and understanding regardless of gender, race, class, physical or intellectual ability.

- ✓ Our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias.

- ✓ We aim to teach science in a broad global and historical context, using the widest possible perspective and including the contributions of people of many different backgrounds.

- ✓ We draw examples from other cultures, recognising that simple technology may be superior to complex solutions.

- ✓ We value science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their science experiences.

- ✓ We recognise the particular importance of first-hand experience for motivating children with learning difficulties.

- ✓ We recognise that science may strongly engage our more able children, and we aim to challenge and extend them.

- ✓ We exploit science's special contribution to children's developing creativity; we develop this by asking and encouraging challenging questions and encouraging original thinking.

Pupils records of their work

There are various ways for pupils to record their work in science. These may include:

- written work demonstrating knowledge
- investigations
- diagrams
- photographs of practical activities

In EYFS, records are kept in floor books and examples of children words/answers are collated to support the key areas of the EYFS framework.

In Key Stage One and Two, work is completed in science books; children are encouraged to work creatively whilst ensuring they are using the school's presentation policy and DUMTUMS.

Feedback

Work is marked in accordance with the feedback policy.

Assessment/Record Keeping

Each child's progress in school is tracked using assessment grids. Each grid contains the year group's objectives taken from the National Curriculum. Teachers complete these grids termly and they are submitted to the science leader in order to track the progress in science throughout school.

Monitoring/Feedback

Monitoring and feedback to staff consists of the following:

- book looks
- staff CPD
- learning walks
- pupil interviews.

Resources

Resources are stored centrally in the Phiz Lab. . It is the responsibility of the science lead to audit the resources. However, all teachers must be responsible for returning any equipment they have used.

Health and Safety

Teachers are responsible for ensuring the health and safety of their children at all times. Any concerns regarding equipment/substances must be raised with the science lead who will then seek further advice.

All staff are reminded of CLEAPSS annually to support keeping children safe during practical investigations.

Risk assessments are carried out as appropriate.

Online Safety statement

All members of the school community have a responsibility for promoting and supporting safe behaviours online. ICT and online resources are increasingly used across the curriculum. At Ightenhill, we believe it is essential for e-safety guidance to be given to the pupils on a regular and meaningful basis. Pupils are taught about copyright and respecting other people's information, images, etc. through discussion, modelling, and activities as part of the curriculum. Additionally, pupils are taught to critically evaluate materials and learn good searching skills. Staff must preview any recommended sites before use. Particular care must be taken when using search engines with the children as these can return undesirable links. We continually look for new opportunities to promote e-safety.

Rapid Recalls

Teachers are encouraged to recall learning through evidence in books entitled 'Rapid Recalls'. These activities allow children to recall knowledge, vocabulary and skills learnt in previous months or year groups to ensure that learning has been retained – sticky learning approach.

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