

Science at Barley Croft



Intent – Why?

“The important thing is to never stop questioning” – Albert Einstein

At Barley Croft we aim for the children to develop an enthusiasm and enjoyment of Science. We want children to be confident learners and ask questions that they don't know the answer to and have a desire to want to discover things for themselves. We strive to develop their knowledge and understanding of important scientific ideas, processes and skills and encourage them to relate these to their everyday experiences and how they could be useful in their future. Our REAL projects allow children to see that science is part of their everyday world and we aim to teach children different ways of thinking, how to find things out and how to communicate their ideas effectively. We want children to develop a thirst for how things work by providing moments of fascination. We attempt to challenge stereotypes around science and that anyone can be a scientist.

Implementation – How?

Science is delivered through our REAL project approach. REAL projects are the means by which we bring the National Curriculum and Barley Croft curriculum alive. It stands for 'Rigorous, Engaging, Authentic Learning' and we place importance on each of those elements in order to run a successful curriculum project. Each project culminates in a final product or event which showcases their learning. Children can talk about what scientific skills they have learnt within the project and how these have been used in the final outcome.

All skills are taught progressively during a two-year cycle and this is monitored at regular intervals throughout the year. Children are taught the knowledge and skills they need as part of REAL project lessons. It is made explicit to the children what they are learning. This builds on their previous knowledge and skills and how this contributes to the project. Children are assessed throughout the project using a range of methods and this is captured at two points in the year.

It is expected that one scientific enquiry is carried out during every project. These will allow the children to develop their working scientifically skills as well as embed the knowledge they have learnt. Knowledge is assessed at the end of every unit of work to ensure progression across phases. Where necessary, science is taught discretely to ensure curriculum coverage across all year groups.



Impact – What?

When children leave Barley Croft they will be able to;

- Animals, humans and plants live and grow. In order to do this all things “eat” use a product and create “waste”. All the things need to be looked after correctly and if you put the ‘wrong’ things into them they become damaged. E.G plants need the right amount of sunlight and water and humans and animals need the correct amount of food and exercise.
- Classify foods in a range of ways and know that bodies need different amount of food groups to remain healthy.
- Exercise is a vital part of staying healthy, and how the circulatory system carries oxygen around the body during exercise.
- All things are made of materials. Materials can be naturally occurring or man-made. Materials have different uses and can also be changed by heating or cooling.
- The ability to observe and record the results of an investigation to help find something out.
- The contribution of science to the wider world and that science can help us to explore and understand things better.
- Create a simple circuit and draw it using scientific symbols.
- Know that the UK has 4 seasons and that weather around the world is different.
- Know that Earth is part of a series of planets in space. That the planets orbit the sun.
- Ask questions (such as what something is, how things are similar and different, the ways things work, which alternative is better, how things change and how they happen).

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- Confidence based on basic understanding to try something out/experiment when wanting to find something out or explain something.
- Know that things float and sink
- Know how to keep a plant alive / that plants are an important part of the world
- How babies are made / reproduction
- To use real-life science e.g. cooking, temperatures – melting, cooling, labels on cleaning liquids and what mean e.g. flammable, corrosive, irritant