Hatch Warren Junior School – Science Curriculum

Our vision for Science

At Hatch Warren Junior School we recognise the vital role that science plays in our everyday lives and helping to develop the world we live in. Through the delivery of practical, engaging scientific investigation the children will pursue their natural curiosity and develop a love of enquiry.

Intent:

Develop a mastery of the following **skills;**

- Using ideas to predict what might happen.
- Using ideas to find out what happens (investigating). Questions will be posed by their teacher and themselves (based on prior learning or teaching of enough scientific knowledge needed to investigate these questions)
- Facilitate investigations via a problem solving, practical approach. Children will communicate their findings and present them using diagrams, graphs (using ICT where appropriate) and in written report form. Measurements and tests need will be carefully planned and based on questions posed.
- Using ideas to hypothesise why something did happen. Giving reasons based on findings presented.

Develop **knowledge** of…

- Animals including humans
- Light
- Plants
- Properties and changes of materials
- Electricity
- Living things in their habitats
- Adaptation
- Rocks
- Forces (Including magnets.)
- Space and gravity
- Sound
- Evolution and inheritance

Develop an **understanding** of…

- How to acquire and apply core science skills which will equip them for an ever-changing world.
- How they can learn from mistakes in a safe environment
- How they can take risks in their thinking
- How they can foster curiosity and ask their own questions that help them to explore questions where answers are unknown.

Implementation:

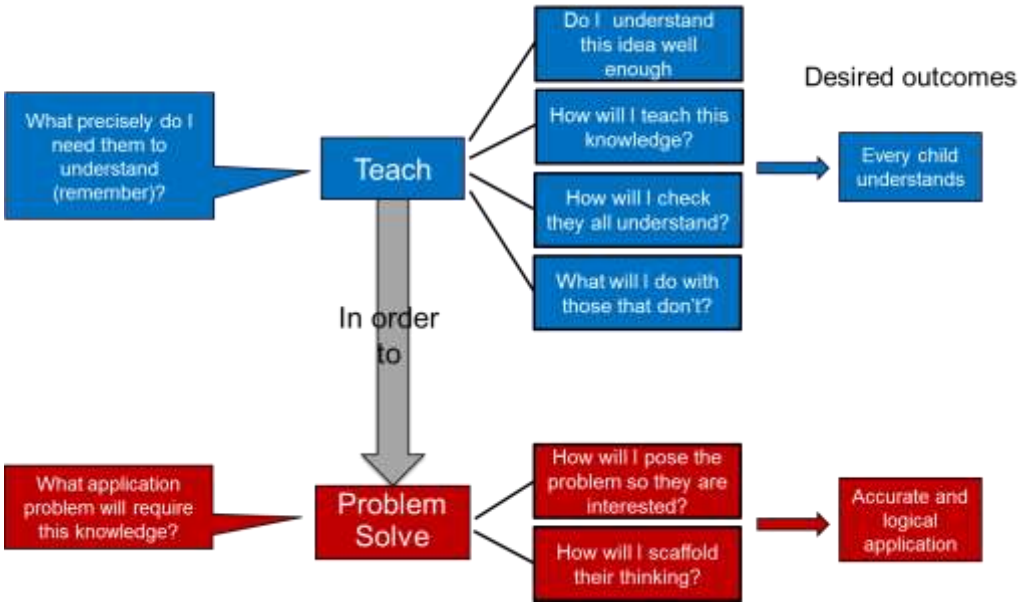
How do we help children commit this knowledge and these skills into their long term memory? What is our approach to the delivery of science?

When delivering science there are three types of 'learning journey'

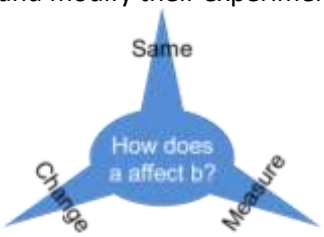
1. The building block topic: Ideas build upon each other sequentially making and increasingly sophisticated model
2. The big model topic: An important model is shared at the beginning but detail and complexity is added through the topic.
3. The multiple context topic: An important overarching concept or idea is taught at the beginning and then applied in a number of different contexts through the topic.

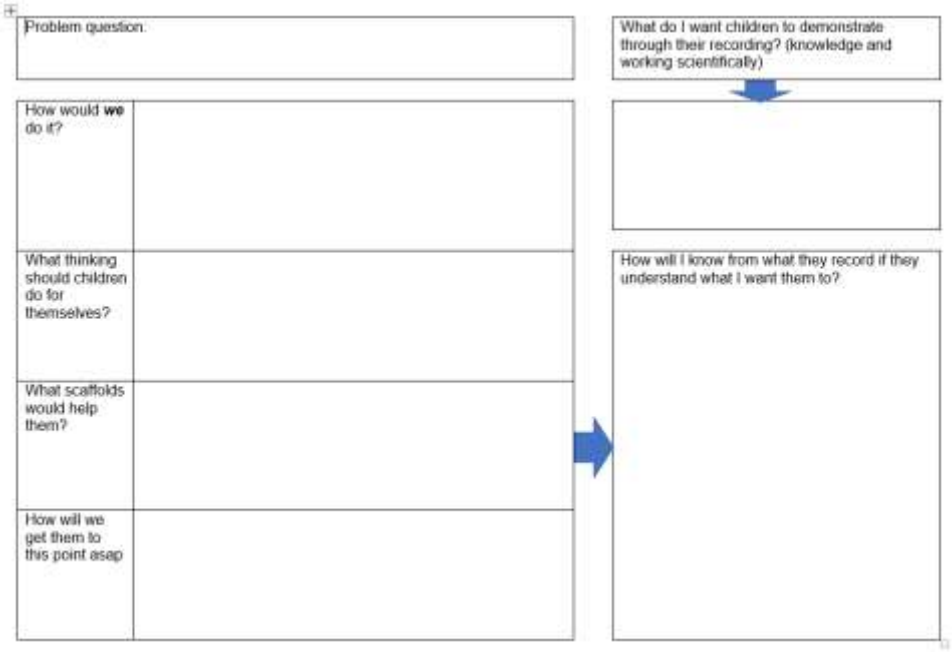
How do we deliver the elements of science?

- The statutory elements of The National Curriculum will be covered using The Hampshire Science Team's guidance. This model starts by looking at essential prior and new knowledge that children need to learn in each science unit. Most importantly, this then quickly moves to the children carrying out their own investigative, problem solving experiments. (see diagram below). Teachers would check understanding before embedding knowledge through doing meaningful science. Investigations need to allow for application, analysis and evaluation of the science learnt. The intention is to embed key ideas and skills through practical investigation.



- They will experience and investigate scientific phenomena (for the process see recording diagrams below), in a range of contexts, to ensure a continually evolving knowledge and understanding of the world around them. Wherever possible science will be taught through real life experiences promoting curiosity and engagement. Children will develop confidence in planning, (including consideration of variables) and collaboratively record their findings in a variety of ways including with the use of ICT. They will begin to draw reasoned conclusions about what they notice and will develop independent questioning their findings. Where needed they will test further and modify their experiments.





- Children will therefore build a clearer understanding of the physical and natural world around them, recognising the essential concepts of physics, chemistry and biology. They will gain familiarity with and use the appropriate related technical vocabulary.
- Whenever pertinent, links will be made to the maths and literacy curriculums. (E.g. creating and analysing graphs, writing explanatory texts, report writing.)
- They will be inspired to investigate and learn about established scientific facts and theories, keep up to date with current developments in science and recognise the importance and place of science in their world.