

Greenfields Academy – Science Rationale

Intent:

Science teaching at Greenfields Academy aims to give all children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them to think scientifically, to gain an understanding of scientific processes and also an understanding of the uses and implications of Science, today and for the future. Scientific enquiry skills are embedded in each topic the children study and these topics are revisited and developed throughout their time at school. This model allows children to build upon their prior knowledge and increases their enthusiasm for the topics whilst embedding this procedural knowledge into the long-term memory. All children are encouraged to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them and become independent learners in exploring possible answers for their scientific based questions. Specialist vocabulary for topics is taught and built up, and effective questioning to communicate ideas is encouraged.

Implementation:

In Primary all pupils receive 2 45-minute Science lessons a week. Last academic year we only offered 1 1-hour lesson a week, however we found that this did not give pupils enough time to develop and master their knowledge, equally it did not provide sufficient time for planning and carrying out high quality practical enquiry, hence we have increased our Science teaching time. All children study 6 different Scientific topics a year (linked to Topic learning where possible), which is support in other curriculum areas. Children are given opportunities to revisit the same topics as they move through Primary and then into Secondary to give them the opportunity to build on their existing knowledge each year.

The national curriculum for science 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 science 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.

As we have a high staff to pupil ratio, we are able to offer personalised and caring support to all of our children to ensure that they make good progress. In addition to this at the end of each unit of work, each pupil will complete a structured assessed piece of work to demonstrate their learning over time, this is highlight on our long-term planning. Pupils are also encouraged to assess and improve their own, and the work of their peers on a regular basis.

Intended Impact:

We aim to ensure that pupils are secure in their Primary Science knowledge to be able to access the curriculum as they progress into secondary.

Termly assessment is showing that most children are making good progress each term in Science, feedback from our current pupils also suggests it is one of their favourite subjects to study, we hope to continue to develop this to ensure it applies to all of our pupils.

This academic Year we intend to make further impact in the following areas of Science:

- All children to make good progress in Science
- Children will be able to retain the knowledge they have learnt in Sciences lessons and apply it to real-life contexts.
- Pupils will be able to constructively question scientific ideas and reflect on their knowledge.
- Pupils will develop collaborative and practical working skills to investigate and experiment.
- Pupils will be able to use appropriate scientific language to explain the processes they have taken and be able to reason scientifically.