SIR ROBERT GEFFERY'S PRIMARY SCHOOL

A School for Enthusiasts

Where we 'live life in its fullness' (John 10.10)
Knowing that God is our strength and with His help we will be the best we can

Science – Intent, Implementation and Impact

Intent

This is clearly referred to in the school science policy and focuses on:

- Encourage an interest in and an enjoyment of science and for pupils to look forward to their learning.
- Developing an avid curiosity in pupils about the world around them.
- To develop scientific knowledge and vocabulary to effectively discuss the wider world at all ages.
- To understand the importance of science in the world now and in the future.
- To develop curious questioning, increasingly independent investigative skills and practical methods from which analytical conclusions can be drawn.
- To further develop critical, reflective thinking.
- To develop the skills of prediction, hypothesising, experimentation, investigation, observation, measurement, interpretation and communication.
- To allow pupils to make links between topics in science, other curriculum subjects and the world around them.

Science updates feature within staff meetings and particularly in the lead up to theme weeks. The need for a practical, investigative approach is discussed to form a common approach to curriculum intent.

Implementation

Within KS1, there is a 3 year rolling programme with science themes that link strongly with the over-arching themes of 'Once Upon a Time', 'Oodles of Noodles and 'Big Splash'. Science is taught by class teachers in KS1.

At KS2, there is a 4 year rolling programme and again topics are organised to match with overall KS themes such as 'Food and Farming' and ' The Ancient Greeks'. Science is taught by the subject lead within KS2 within a rotating weekly timetable.

The SRG science curriculum is spiral in nature and deliberately hooks back on itself in order to build on skills and knowledge from previous year groups. In KS2, pupils will generally

meet each theme twice - once within Year 3 or 4 and then again within Year 5 or 6. If a topic is only visited once within the KS2 National Curriculum Programme of Study (eg parts of a plant) then this is differentiated to allow for exploration of KS3 knowledge and understanding. For example more detailed focus on photosynthesis or chemical formulae within equations.

Knowledge mats have been introduced to clearly set out to teachers, pupils and parents what the specific vocabulary and related facts are.

These are available on the school website under the science topic. Pupils also have the relevant knowledge organiser in their book for the current topic of study alongside the relevant enquiry skills for their year group. This is the case across the school.

Scientific enquiry skills are also planned to progress in a similar cyclical manner. Through the use of two part learning questions, planning aims to build knowledge and understanding whilst developing enquiry skills such as planning, questioning, collecting data etc. Some topics will lend themselves more easily to this hands on approach but teachers are expected to focus on incorporating both aspects within the majority of lessons. These increase in autonomy and decision making as the children follow their SRG adventure!

In addition to timetabled science the curriculum is also enriched by:

- Regular visits to the farm to learn about growing, looking after animals, appreciating nature, preserving the environment, working co-operatively and developing a love of the outdoors! The farm is a rich resource that contributes hugely to the science curriculum.
- Science weeks - these have a theme that often follows British Science Week. Lessons regularly involve the school grounds and in the outdoor classroom.
- Visitors - these have included an inventor, parents linked to scientific backgrounds during careers day, marine biologist to discuss manta ray study, forest schools for all year groups.
- Outdoor learning lessons - a weekly timetabled lesson plus being out as much as possible!
- Eco committee - we have held the green flag for more than 10 years and have also been a platinum schools to support other schools seeking to develop their ecological thinking and teaching.

Impact

The successful approach to the teaching of science Sir Robert Geffery's will result 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.

Assessment at Sir Robert Geffery's School is teacher based and formed using formal strategies (e.g. periodic year group assessment tasks, quizzes) and informal strategies (Use of concept maps, verbal/written outcomes, reflection tasks/presentations).

Formative assessment is used as the main tool for assessing the impact of science as it allows for misconceptions and gaps to be addressed more immediately rather than building on insecure scientific foundations.

The following have been decided through a process of discussion with staff and children:

- SRG scientists ask curious questions about the world around them.
- SRG scientists work collaboratively.
- SRG scientists aim to think creatively to solve problems.
- SRG scientists are reflective learners.
- SRG scientists look for patterns and anomalies.
- SRG scientists explore and discover together.
- SRG scientists make links with other topics and subjects.
- SRG scientists are inspired to find out more!
- SRG scientists have fun and learn together.
- SRG scientists have respect for the environment.
- SRG scientists use the school grounds and farm to explore and learn.
- SRG scientists know how science links to the wider world and their futures!