Science Policy

St Luke's Primary School

'Love God. Love your neighbour as yourself: be the Good Samaritan. Luke 10:25-37

Science is important because it opens up our children's understanding of what the world is made of and how it works. It encourages discovery and questioning – building hypothesis and challenging commonly held beliefs, using an evidence-based approach. It gives children hands on experiences and a chance to experience new phenomena, developing team work, investigative, problem solving, thinking and questioning skills.

CURRICULUM RATIONALE

What do we teach? Why do we teach it?

At St Luke's, science

- inspires and develops curiosity about the world, encourages children to think for themselves as capable scientists.
- involves practical learning as children are involved in decision making
- develops children's independence in investigating and promotes good team work skills
- allows children to experiment and experience new things, which might lead to new questions, investigations, discoveries and even inventions
- encourages children to confidently learn and use new vocabulary
- is fun and hands on, so children can develop a love for the subject
- is linked to and reinforced by cross-curricular activities
- involves children being engaged in learning by discovering
- allows children to test out their own ideas and record their own data
- encourages pupils to reflect on and evaluate what they have learnt
- gives our children opportunities to work in a variety of environments and settings
- is taught so that children can relate their learning to real life situations and experiences including meeting scientists and going on science related visits
- ensures that children are given responsibility and trusted to use materials and equipment safely
- provides children with real life experiences for the application of the learning of science e.g. growing plants in the school garden

CURRICULUM ROLL-OUT

How do we teach and assess and how does this look in practice?

Teaching Includes a balance of:

- whole class/group/individual teaching
- practical/using secondary sources (including multi media/written work)
- explaining/questioning/demonstrating

- links with ICT, English and Maths
- investigative work

There are opportunities for:

- teacher/pupil discussion
- pupil/pupil discussion
- group discussion
- problem solving tasks
- co-operative work
- individual work
- use of secondary sources to access information in science (including multi-media)
- talks and workshops from various external organisations

High and low achieving children are given equal opportunities to progress and are supported by the teacher and teaching assistant in conjunction with the science co-ordinator.

Lessons are paced to ensure progression and understanding and that children maintain interest.
Once a year a science day takes place which may consist of a series of workshops, a quiz, an assembly and other activities across the school aimed at stimulating children's interest in the subject.

Each classroom should have an interactive display in the science area and scientific vocabulary should form part of these displays.

From time to time children go on educational trips to places like the science museum etc to further enhance their knowledge and understanding of the subject.

Science homework is given from time to time by class teachers as part of children's homework in line with the current homework policy.

1. **<u>Teaching and Learning</u>**

   Our teaching

   - Promotes learning through peer led, collaborative learning and hands on investigation
   - Begins with a challenge/question for pupils to investigate.
   - Encourages discussion of ideas and concepts
   - Enables children to build links through building a cross curricular approach
   - Modes expectations and approaches to enable children to work independently.
   - Encourages children to see themselves as scientists.

Teachers use practical modelling including ICT to demonstrate support and extend principles. Science is related, where possible to everyday life and practical application of science in technology, medicine and general human advancement.
Children are taught the need for safety and safe practice in science.

2.Promoting key skills through science

Pupils are given opportunities to develop the key skills of

- Communication through finding out about and communicating facts and ideas in a variety of contexts.
- Application of number, through collecting, recording and analysing first hand and secondary data.
- Through using ICT support, collect, retrieve, and present scientific information.
- Working with others, carrying out scientific investigations.
- Improving own learning and performance, through reflection and evaluation of own work.
- Problem solving, through finding ways to answer scientific questions and creative solutions.

2. Promoting other aspects of the curriculum through science

Science provides opportunities to promote:

- Thinking skills, through engaging in scientific enquiry processes.
- Enterprise skills, through learning about scientists and how scientific ideas are presented.
- Education for sustainable development, developing skills in decision making, exploration of values and ethics.

In addition, particular attention is given in planning and teaching science to promoting spiritual, moral social and cultural development. Moral development is promoted through drawing conclusions using observation and evidence rather than preconceptions or prejudices and by discussing implications of scientific knowledge.

CURRICULUM OUTCOME

Our science curriculum equips pupils with both the knowledge and understanding of basic scientific concepts along with essential investigative, recording, thinking and problem-solving skills. Science should be enjoyable and further stimulate their curiosity. It gives them a sound background for learning science in secondary school.

We also record the impact of our curriculum using

- Images and videos of the children's practical learning.

- Meeting with children in the stem group and finding out about their learning of science (pupil voice).
- Verbal feedback during the course of lessons
- Regular book looks which provide opportunities to discuss and develop activities.
- Lesson observations including discussion with children in lessons.
- End of unit assessment tests
- Feedback from ex pupils who have gone on to study science related courses at higher levels.

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