St Luke's School: Science Policy
2024

At St Luke's School we believe that through high quality teaching and learning of science, children will be taught transferable skills and attitudes that will equip them for their future.

Aims
We aim to provide an education in science which will:

- stimulate and excite children's interest in science.
- provide a variety of scientific experiences which are realistic and relevant to the child's future.
- provide opportunities for all children to fulfil their scientific potential.
- develop individual scientific skills, concepts and attitudes.
- develop each child's understanding of scientific concepts and their ability to apply them in everyday contexts.
- facilitate an inquisitive and motivated approach to science through discussion, investigation and active learning.
- encourage children to ask and answer scientific questions.
- encourage children to plan and carry out scientific investigations choosing the most appropriate equipment for themselves, with consideration for their own safety and others.
- promote discussion about the children's work employing suitable scientific vocabulary.
- enable children to describe their environment in a scientific way.

Principles
We believe science should be taught as:

- it promotes communication in a specific and precise language involving mathematical and logical thinking.
- it allows children to develop ways of finding out for themselves and gives them practice in problem solving.
- children become more proficient in selecting and using scientific equipment and collating and interpreting results.
- it fosters a healthy curiosity in children about our universe and promotes respect for the living and non-living.
- it allows children to develop original ideas and a questioning attitude.
- pupils are encouraged to be open-minded and to try and make sense of what they see and find out.
- through teaching and encouraging these skills children will gain a greater understanding about life processes and living things, materials and their properties and physical processes.

Health & Safety
When working with science equipment and materials during practical activities teachers should ensure that children understand the hazards and learn how to control them, ensuring the safety of themselves and others.

The safe use of equipment and consideration of others is promoted at all times. Some general risk assessments have been taken from the CLEAPS website and read/amended by class teachers, when necessary, before specific tasks are carried out/ equipment is used. Children are made aware of safety issues and, where appropriate, the reasons behind them.

Teachers should be following the St Luke's School's Health and Safety policy in lessons that require children to handle items such as:

- batteries
- wires
- glass
- lights/torches
- sharp objects
- magnets
- liquids and food-based items that include but are not limited to – oil, vinegar, rice, bicarbonate soda and ice

Teaching and Learning

Foundation Stage

Science in The Foundation Stage is covered in the Understanding of the World section of Development Matters. The children will learn about similarities and differences in relation to places, objects, materials and living things. They will learn to talk about the features of their own immediate environment and how environments might vary from one another. They will make observations of animals and plants and explain why some things occur and talk about changes.

KS1 and KS2

We are following the 2014 Jersey Curriculum for science which covers a range of Biology, Physics and Chemistry units of work. Our units are planned using the Pearson Science Bugs scheme of work (supplemented as/when teachers feel they can enhance the provision).

It is essential for teachers to find out 'where their children are at' before delivering a new unit. Teachers must allow children to generate their own questions at the beginning of a unit and allow them to show what they already know - this should then inform teachers' medium-term planning. Each unit is started with the teacher assessing children's prior knowledge in order to find the right starting point. Teachers are responsible for ensuring that learning questions are relevant, purposeful and ensure continuity and progression, especially where topics overlap from one year group to another.

Children should have opportunities for individual and collaborative work that involves them doing the finding out – preferably through hands on, investigative work. They should be independent and reflective of their own learning, with the teacher acting as 'coach' and facilitator to guide them in their next steps. Activities should inspire the pupils to experiment and investigate the world around them and to help them raise their own questions such as "Why...?", "How...?" and "What happens if...?"

Teachers must ensure that activities are challenging, motivating and extend pupils' learning. A ceiling will not be placed on the children's learning.

Teachers will produce a Medium-Term Plan at the beginning of every term which should include: a pre-unit assessment, clear learning questions and activities, planned visits or visitors and investigative as well as topic vocabulary. Medium term planning scrutiny's will be carried out termly and teachers will be given feedback on these. Planning is expected to show a detailed explanation of the lesson with clear learning intentions and success criteria, assessment opportunities, challenge and how speaking & listening will be enhanced in each topic via Oracy. Differentiation to meet all learning needs should be clear as well as any risk assessments. Risk assessments should be made in line with the Policy and Practice Guidelines for Jersey (see appendix).

Assessment, Recording and Reporting

- Assessment of science should be ongoing throughout the year in the form of formative assessment, which could include observations, questioning the children and feedback on their work.
- Before the beginning of each unit teachers should carry out a pre-unit assessment. This should inform teachers' planning in order to, more accurately, meet the needs of the children.
- For each unit of work teachers will need to assess children on the knowledge gained from the unit as well as their investigative skills. This assessment should be in the form of an activity or investigation whereby the teacher has previously highlighted the skill the children will utilise and the knowledge that they could show. This assessment will help inform the teachers overall judgement. End of unit/topic assessments are available on the Science Bugs website.
- Teachers are expected to provide constructive oral and written feedback to their pupils throughout the year.
- Children themselves should be encouraged to be reflective learners – of both their own learning and that of their peers. A range of AFL strategies should be employed and used regularly to encourage the children to be independent learners.
- A teacher assessment for science is entered on the class data sheet as a working document, following Pupil Progress Meetings, which occur half termly. At the end of each term teachers are expected to update this data onto SIMS.
- Parents are informed of their child's progress three times a year at parent consultation evenings. Science is also reported in a child's Data Report including information as to whether they are working at, above or below age related National Expectations.
- Teacher assessments in science will be sent to the Education Department at the end of Year 2 and Year 6.

Resources

Science topic and investigation resources are located in classrooms and shared. Please advise the science co-ordinator if additional resources are required or need to be replaced. Large Science resources and topic boxes are located in the Science Cupboard.

Working Walls

All classrooms should display prominently the relevant scientific vocabulary being introduced in current units of work, including the investigative language that will be relevant. Sentence stems will also be displayed for reference.

Localised Curriculum

Please consult JLP – The Outdoor Classroom – for an up-to-date list of locations and contacts that can be used to enrich the teaching of science. As a school we have a close link with Durrell, and this is an excellent resource for science. The beach is within walking distance and an excellent resource also. Science provides a 'Natural link' for these visits.
As part of the curriculum at St Luke's School children may enjoy outdoor days at Crabbe, St Aubin's Fort, The Scouts Centre and The Wetlands Centre.

Monitoring and Review

It is the subject co-ordinator's responsibility:

- to support colleagues with the planning and teaching of science
- to monitor and review the teaching and learning of science throughout the school by reviewing teachers' planning, carrying out lesson observations and book looks.
- to track children's levels and progress made
- to attend courses and share updated curriculum developments with colleagues.
- to audit resources