St Peter's Catholic Academy Science Policy 2023

OUR MISSION

"Together One Family, One Community in Christ."

St. Peter's recognises that gospel values and the teachings of the church are central to the life of the school. The school aims to create an environment where children can develop physically, emotionally, socially and morally fostering co-operation and communication between home, school, parish and the local community. Together we hope to lead our children towards understanding, tolerance, justice and sensitivity to the needs of others.

Rationale

As stated in The National Curriculum for Science, 2014:

"A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave and analyse causes".

Intent

At St Peter's, our aim is to fulfil the requirements of the National Curriculum through a high-quality, broad and balanced science curriculum that ensures the progressive development of scientific concepts, knowledge and skills.

Through our science curriculum, our intention is to provide high quality teaching and learning experiences that:

- Encourage pupils to be curious about the world around them.
- Prepares pupils for life in an increasingly scientific and technological world today and in the future.
- Enables pupils to acquire a growing understanding of the nature, processes and methods of scientific ideas.
- Relate scientific knowledge to real world scenarios and careers.
- Encourage scientific discussion and the application of new scientific vocabulary.
- Encourage a scientific approach to problems, with opportunities to develop working scientifically skills, whilst participating in a range of practical investigations.
- Make links between science and other subjects.

Implementation

We implement a science curriculum that is progressive throughout the whole school. We lay strong foundations for future scientific learning within our Early Years Foundation Stage classes. Activities and experiences are carefully planned within the learning area of 'Understanding the World', whereby children develop new vocabulary and make sense of their physical world.

From Key Stage 1, our curriculum is based upon the 2014 Primary National Curriculum in England: science programmes of study, which provides a broad framework and outlines the knowledge and skills that should be taught in each

Key Stage. The units of work for each year group outlined within the science National Curriculum, is taught within a one year rolling programme. This ensures progression between year groups and guarantees that all content is covered. The order of the science content for each year group has been carefully considered to allow pupils to apply and build upon their previous knowledge and experiences appropriately. Science is taught consistently, once a week for up to two hours, through discrete units and lessons. To ensure that pupils know and remember more within the science curriculum, each lesson starts with a retrieval question that enables past learning to be revisited and then built upon. Common misconceptions within each unit are planned for and those that arise within lessons are speedily addressed.
We work closely with the Secondary School within our Collegiate to ensure that our pupils are also prepared for the next phase of their science education.

Where possible, science is linked to class topics and is taught in many different contexts throughout all areas of the curriculum. For example, in English, pupils may write a persuasive piece encouraging people to help in matters of conservation or may write a set of instructions explaining how to grow a sunflower. Connections are also made to Catholic Social Teaching. For example, children will explore both positive and negative human impact upon different environments and what we can do to do help.

At St. Peter's, we have high aspirations and plan for all pupils to achieve in science. Teachers use high quality resources and equipment to create lessons that suit the needs of their pupils. The level of challenge within a task is matched to the individual needs and abilities of each pupil and additional scaffolding is provided to achieve lesson outcomes. When planning practical lessons, teachers have access to CLEAPSS Health and Safety guidance and set clear expectations so that pupils know how to work safely. Pupils have opportunities to work scientifically and investigate scientific questions using the five enquiry types. The use of symbols support pupils to recognise the enquiry type and skills that are being used within the lesson.

Our science curriculum is planned to develop the science capital of pupils. Pupils have opportunities to explore their outdoor environment and locality, thus providing real experiences linked to their learning. All year groups have access to high quality outdoor learning sessions, delivered by trained Forest School Leaders throughout the year and our Forest School provision has been carefully utilised to enhance the science curriculum where possible. Regular opportunities for external visitors, trips, workshops and after school clubs are also planned to enrich the science curriculum. Pupils learn about a diverse range of scientists and links are made to a STEM related career within each unit, encouraging high aspirations and informing pupils of the future career paths available to them in the future.

Impact

The impact and measure of our curriculum is to ensure that pupils not only acquire the appropriate age-related knowledge linked to the statutory science curriculum, but also a range of skills that they can apply to their everyday lives.

As a result of the science curriculum, pupils will have:

- A wider variety of skills linked to both scientific knowledge and scientific enquiry skills.
- A richer vocabulary, which will enable them to articulate their understanding of taught concepts.
- An understanding that science has relevance to our everyday lives and can lead to a wide range of career paths for all.

We measure the impact of our curriculum through the following methods:

- Formative and summative assessments of children's concept knowledge within each unit.

- The implementation of TAPS Working Scientifically assessments, as outlined within a progressive whole school plan.
- Live marking of work recorded in books; enabling misconceptions to be instantly identified and addressed.
- Pupil voice interviews led by the subject leader, where pupils can share their thoughts about their learning in science throughout the year.
- Moderation staff meetings where pupil's books are analysed and there is the opportunity for open dialogue between teachers about the work within each key stage.
- Annual reporting of standards across the curriculum.

Policy written by: Miss A. Bridges

Role: Science Subject Leader

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