Science

Intent

The curriculum intent for science is firmly rooted in our school desire to give all children strong foundations from which they may become successful, independent learners for life and is centred around our school values of independence, co-operation, respect, responsibility, resilience and ambition.

At Parklands, we want children above all to enjoy Science and have a desire to learn more.

We aim to provide imaginative, practical and relevant experiences to stimulate a sense of curiosity in the world around them and to instil a desire to question. We appreciate the need to build up a bank of knowledge, but value scientific enquiry above this. We seek to encourage children to work both independently and collaboratively, and to express themselves using English and mathematical skills. Children are to be introduced to at least two scientists per year which reflects our diverse and inclusive society, British Values and equality.

The scientific knowledge end points are defined in the National Curriculum for each year group with enquiry defined by KS1, lower KS2 and upper KS2. At Parklands, we have defined the end points for each year group with some restructuring to the teaching of knowledge to aid the assessment process and ensure knowledge and skills develop well, in sequence within units of work and over time across different themes. This ensures the revisiting of science concepts to support pupil's retention of knowledge. Coverage and the progression of knowledge, skills and vocabulary documents will support the teaching and learning of science to ensure pupils are able to achieve the defined end points.

We aim 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.

Implementation

- Science topics and individual lessons start from what the children know and build upon it.
- Children are encouraged to think about what they already know and to question what they don't know.
- Learning is regularly linked to familiar contexts.
- Cross-curricular links to other subjects are made where appropriate.
- A variety of plentiful resources are provided to stimulate interest and to allow for effective hands-on activities.
- Links with outside agencies and educational visits are utilised e.g. Urenco, The College of Ellesmere Port.
- Scientific enquiry is included in most lessons.
- Key vocabulary and 'anchor sheets' are displayed and each classroom has a working wall dedicated to the subject.

- Opportunities to work in a variety of ways: independently, in pairs & as part of a Science team are given to all pupils
- Children are given support and direction to create their own investigations and follow a line of enquiry.
- Time is given within lessons to share ideas, findings and questions.
- English and mathematical skills are reinforced as appropriate.
- In EYFS, teachers provide the opportunity for children to 'understand the world' around them through exploration, questioning and making observations during discrete activities and continuous provision, both indoors and outdoors.

Impact

By the time our pupils leave Parklands, they:

- Have enthusiasm for the subject and understand the relevance and important of what they have learnt in relation to real, wider-world concepts.
- Talk confidently and enthusiastically about science, their learning experiences and the links between scientific concepts.
- Have mastered the elements of scientific enquiry and investigation and have become increasingly independent in this.
- Ask questions and embrace challenges.
- Work collaboratively and practically to investigate scientific lines of enquiry.
- Retain knowledge and vocabulary that is pertinent to science concepts taught.
- Make rich connections across scientific ideas and have gained transferrable skills which are applied across all areas of the curriculum.
- Are aware of the possibilities of careers in science.
- Achieve age-related expectations in science.
- Are equipped with the skills and confidence necessary to progress to their learning in key stage 3.