



Rationale

Holley Park Academy acknowledges that science is a way of making the world, both biological and physical, progressively more understandable. Being Scientific - implies that a particular process of enquiry is being used to solve a problem in order to understand more of the physical or living world or universe. 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.

Aims

The national curriculum for science aims 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.

School curriculum

The programmes of study for science are set out year-by-year for key stages 1 and 2. Within each key stage, teachers therefore have the flexibility to introduce content earlier or later than set out in the programme of study. In addition, teachers can introduce key stage content during an earlier key stage if appropriate. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Key Stage 1

The principal focus of science teaching in key stage 1 is to:

- Enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them.
- Encourage them to be curious and ask questions about what they notice.
- Help them to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding things out using secondary sources of information
- Allow pupils to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos.

Key Stage 2

The principal focus of science teaching in lower key stage 2 is to:

- Enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions.
- Allow opportunities for pupils to ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information.
- Encourage pupils to draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

The principal focus of science teaching in upper key stage 2 is to:

- Enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically.
- Provide pupils with opportunities to encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates.
- Enable pupils to begin to recognise that scientific ideas change and develop over time.
- Allow pupils to select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information.
- Ensure pupils draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

'Working scientifically' is described separately in the programme of study, but must **always** be taught through and clearly related to the teaching of substantive science content in the programme of study.

Cross Curricular

Science interacts with and supports other curriculum areas. Science helps children to make sense of the world around them. Scientific activities, such as investigating and problemsolving, help children develop their learning by encouraging their natural curiosity and stimulating their imagination. Communication skills are developed through science.

Assessment

Science is regularly assessed against the key skills and programmes of study for the New Curriculum 2014. Individual children's achievements are assessed and dated.

Review and Monitoring

The subject leader will be responsible for the review and monitoring of the subject through looking at children's work, planning, talking to staff and through science curriculum week.

Special Needs

Children who are deemed to have a special need in science will be given the appropriate support as agreed by the class teacher and the teacher in charge of special needs. Appropriate support will be given to all children to enable them to access the broad scientific curriculum.

Staffing and Resources

There is a teacher who has responsibility for overseeing the teaching and resourcing of science.

Management

All staff have a responsibility in maintaining a positive approach to science teaching maintaining high moral, clear purpose, effective interaction and collaboration calls for active participation from all.

Review and Monitoring

The subject leader will be responsible for the review and monitoring of the subject through looking at children's work, planning, talking to staff and through Art curriculum week.

Subject Leader - Vicki Kelters