

Castle School



Science Policy

Philosophy

At Castle School Science endeavours to support pupils with opportunities to explore and experiment, develop curiosity and an interest in the environment and the world. Science involves pupils learning about themselves and their world through exploratory and investigative experiences and activities. Science is a practical, accessible and enjoyable subject where all pupils can be set suitable learning challenges and achieve success. Science develops enquiry skills and builds on pupils' questioning, and reasoning capabilities.

Aims

Our aims for Teaching and Learning in Science:

- Develop powers of observation and enquiry in order to increase pupils' knowledge their immediate and wider environment and how they and others function within these environments. This will be achieved by allowing our pupils to make full use of their senses in the understanding and development of basic scientific principles.
- Develop skills of communication, enabling the sharing of ideas and access to learning about Science through the use of signs, symbols, spoken language, charts, tables and graphs.
- Develop the pupils' enjoyment of Science through making it fun and practical in a way that engages all our pupils.
- Develop skills and understanding in cause and effect and of the use of experimentation and investigation.
- Encourage our pupils to transfer their scientific skills to other areas of their lives.
- To develop scientific working skills through investigations that provides the pupils with freedom of choice.

Teaching and Learning

Primary Planning

In Foundation Stage and KS1 students cover Science under the heading of Knowledge and Understanding of the World. They cover a Science focus one afternoon a week. Science topics are changed termly on a 3 year cycle.

In Key Stage 2 teachers follow medium term plans which link to the National Curriculum programmes of study and follow a two year topic cycle. A medium term plan consists of a scheme of work which highlights activities ranging from P4 to National Curriculum level 2. Short term planning is then differentiated by class teachers to suit the learning styles and abilities of pupils in individual classes.

Key Stage 3, 4 and Sixth Form Planning

Key stage 3 pupils follow a three year programme based on the National Curriculum, broken down into termly units. Key stage 4 pupils at level p8 - NC3 currently study Edexcel Entry level Science. At levels P1 to P7, students are studying the 'Moving On' programme. For pupils who have more complex learning needs, there is the opportunity to work on the acquisition of prerequisite skills across the curriculum, utilising and developing the use of their senses.

The Science lab gives the opportunity to develop scientific skills further and be immersed in a scientific environment. These sessions will also be used to challenge the more able students.

Homework is set as either a topic based project or as a set of challenges to generalise school based learning to a range of familiar contexts.

Use of Computing

Computing is an important tool in teaching Science. PowerPoints, animations and videos are used as teaching aids and pupils have opportunities to use computers to present their work or research topics. The use of computer microscopes and data loggers support experimental work. Computing is an effective tool that is used in Science for Teaching, Learning and Assessment.

Communication and Science

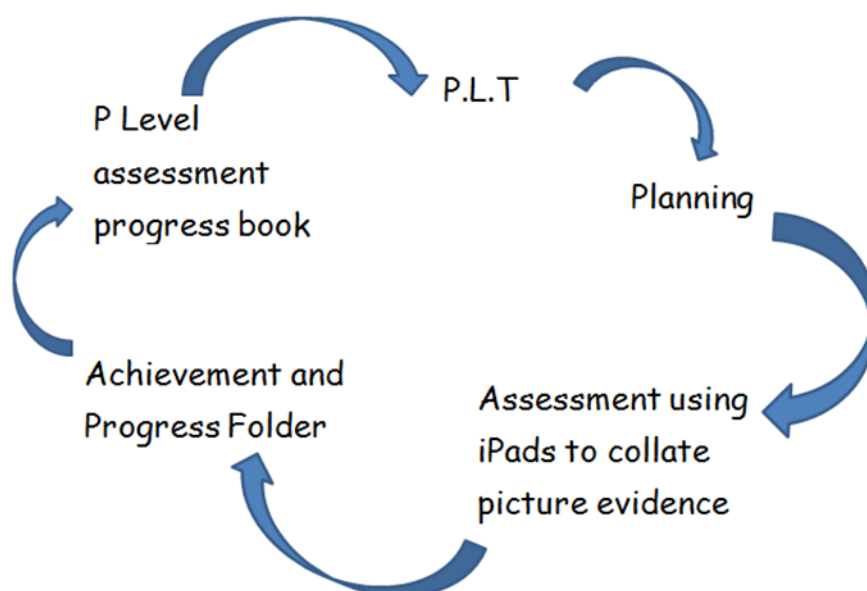
Due to the varying nature of communication needs in Castle school it is vital that the pupils are given the correct tools to be able to communicate their understanding of scientific concepts. The strategies we use to support this are:

- PECS
- Makaton
- Switches
- Identiplay
- AAC Hardware - IPad, super talker
- Use of symbols and visual prompts

Assessment and Target Setting

P level descriptors and the Assessing Pupil Progress statements are used to assess which level a pupil is working at. We assess progress through termly Personalised Learning Targets (PLT) which are individualised for each pupil as their next steps. Targets are closely matched to the learning outcomes and success criteria in lessons. Daily formative assessment is made to analyse small steps of progress, misconceptions and next steps in planning. Pupils' work is annotated and dated to record the amount of help they have had. Teachers make a summative assessment annually. CASPA is the data tool being used to track pupil progress over time.

Primary



Update Spring 16

Secondary

At the start of each topic, dependent on ability, pupils look at the Learning Targets for the concepts to be covered in the topic. They 'traffic light' each objective by assessing their prior understanding for that topic. As we cover each objective in a lesson, pupils revisit the learning objective and assess how confident they now feel in their understanding.

In KS3/4 Assessing Pupil Progress grids are used for key assessed tasks to help pupils know the level they are working at and what they need to do to move on to the next level. Pupils are encouraged to self-assess their work using the grids and make targets to improve their work.

Learning walls are used to display key vocabulary and examples of pupils' work. This is built up throughout the topic as a learning aid.

Community Links/Whole School Events

National Science Week is celebrated across the school; a topic is chosen and suitable activities are organised for all key stages. We use the pond at Milton Road Primary School and other community resources regularly.

Resources

All Science resources are kept in the Science room and Primary Resource cupboard. There is a wide range of books, videos, practical equipment, models and digital microscopes to help our pupils receive a wide range of experiences. We constantly aim to update our resources. All cupboards are clearly labelled and there is an up-to-date detailed list of resources that are accessible.

Role of the Coordinator

The Science coordinators plan for resources and curriculum development through the Annual Development Plan which allocates a budget and key areas to be addressed. This is monitored by the Deputy Head and through the Performance Review Process. Subject delivery is monitored through Learning Walks and the delivery of schemes of work, moderation meetings within school and across the county. The coordinators will ensure that health and safety is paramount in Science lessons, providing risk assessments when needed.

This policy will be reviewed and updated by the co-ordinator every two years. It will be monitored by the Deputy Head teacher and approved by the Governing body in October 16.

The Next review is spring 18 for approval in Autumn 18.