PALM BAY PRIMARY SCHOOL

Providing the keys to success for every child

Whole School Policy on:

Science

Headteacher: Mr M Cowell **Kent County Council**

Document Title:	**Policy – Science**
Document Number:	**PBS-P-2014-06**
Prepared by:	**Mrs N Page**
Governing Body Acceptance Date:	**10 July 2014**
Date for Next Review:	**Summer Term 6, 2016**

Contents

The member of staff responsible for this policy is: Mrs N Page

1 Aims of Science at Palm Bay Primary School

- To develop pupil's enjoyment and interest in science.
- To develop pupil's scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- To enable pupils to effectively communicate scientific ideas by using scientific vocabulary.
- To develop positive attitudes which encourage collaborative learning and perseverance.
- To ensure pupils are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.
- To develop understanding of the nature, processes and methods of science through different types of science enquiries that help pupils to answer scientific questions about the world around them.

2 The Science Curriculum

Foundation Stage

Science is taught in the Reception class according to the Curriculum guidance for the Foundation Stage. It is incorporated in the Early Learning Goal 'Understanding of the World' in which pupils develop the crucial knowledge, skills and understanding that helps them make sense of their world.

Key Stages 1 and 2

The knowledge and skills within The National Curriculum Programme of Study are met using The Kent Primary Science Scheme of Work 2014 and appropriate cross curricular opportunities. In Key stages 1 and 2, a unit of work for science is covered each term (see Appendix 2).

3 Approaches to Teaching and Learning

Scientific Enquiry

Science is taught with an emphasis on the pupils engaging in practical enquiry to support/develop their understanding of scientific concepts and skills. Teachers use a range of strategies including: exploration, investigative enquiry and illustrative enquiry. Teachers try to ensure that some of the children's ideas are used as a basis for enquiry.

ICT

Pupils are taught to use a range of ICT equipment to enhance their scientific learning, e.g. cameras to record investigations and observations, data loggers for accurate measurements of temperature and digital microscopes for close observation.

Programmes such as Excel are used to create graphs and charts to record results.

Recording Pupils' Work

Pupils are taught and encouraged to use a range of recording strategies to communicate their ideas and scientific findings.

4 The Monitoring of Standards

Responsibility of the Class teacher

Teachers assess pupils according to the Key Scientific Skills (see Appendix 1). This information is used to inform Teaching & Learning.

Summative assessments are made by class teachers at the end of each unit of work. These assessments are used to track children's progress.

Marking is used to acknowledge achievements and to show the pupils what they need to do in order to improve. Scientific spellings are modelled and corrected. A written report in respect of pupil's progress in science is provided annually to parents/carers.

Responsibility of the Science Leader

To develop and undertake, in conjunction with the Headteacher, a monitoring schedule for each academic year including: work scrutiny, planning scrutiny, pupil interviews and lesson observations.

Information from monitoring is shared with staff and, if necessary, a report made to the Governing Body.

5 Resources

Class teachers are responsible for informing the Science Leader and Headteacher of resources which are required in order to deliver their planned curriculum.

Shared Science resources are stored (in the labelled drawers or boxes) in the Science Cupboard.
Information books on science topics are available in the school library and a range of non fiction texts relating to science topics are available in classrooms and as part of the guided reading resources within the school.

Science based workshops and organisations are regular features of the school year.

The whole school environment is used to maximum potential in order to support delivery of the Science Curriculum.

School visits are regularly planned to enhance learning and help the pupils to relate scientific enquiry to the real world.

6 Health and Safety

The safe use of equipment and materials is promoted at all times. The Association for Science Education document 'Be safe' has been adopted by the school as a realistic guide to primary school health and safety. A copy is available from the Science Co-ordinator. Teachers must take into account any health and safety and child protection issues; particular attention must be given to avoiding the use of anything which aggravates individual pupils' allergies. Risk assessments are carried out to ensure safety issues have been identified and that specific attention is made when activities are unusual and beyond the scope of normal safety practice, including any educational visits and off-site activities. (See the school's *Educational Visits and Off-Site Activities Policy*).

All accidents and incidents are reported to the Headteacher who makes a decision as to appropriate action.

7 Additional Educational Needs

The study of science is planned and differentiated to provide pupils with a suitable range of activities and support appropriate to their abilities and needs.

Curriculum planning ensures that all pupils have an equal opportunity to take part in every aspect of the Science Curriculum.

Gender, disability and cultural differences are reflected positively in the school.

8 Promoting Science

The Subject Leader is responsible for providing whole school activities to raise the profile of the subject with parents/carers and children. During the course of the school year the pupils at Palm Bay Primary School have the chance to experience science beyond the confines of their classrooms. These may change from year to year depending on opportunities that are made available to them. In the 2013/14 academic year these included: Visiting theatre groups; Switch-off week; Discovery Park Science Jamboree; St Lawrence College Science and Engineering challenge day; Chatham and Clarendon Grammar schools Science and Technology in-reach; Bloodhound SSC workshops; and The Charles Dickens School after school science club.

9 The Role of the Subject Leader

- To undertake monitoring of standards in science and use this to inform the science action plan.
- Provide leadership and management of their subject to secure high quality teaching and learning.
- Play a key role in motivating, supporting and modelling good practice for all staff, including the organisation and presentation of School INSET when necessary.
- Take a lead in policy development and review
- To liaise with outside agencies and attend subject specific courses.
- To report to the Head teacher and Governing Body on science related issues.
- To plan and organise the allocation and purchase of resources in accordance with available budget.

10 Policy Review

This policy will be reviewed bi-annually (every even year) during Term6.

The next review of this policy is due: Summer Term 6, 2016.

11 Appendices

Appendix 1: Working Scientifically Progression

Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

Key Stage 1 (Years 1 and 2)

- Ask simple questions and recognise they can be answered in different ways
- Observe closely using simple equipment
- Perform simple tests
- Identify and classify
- Use observations and ideas to suggest answers to questions
- Gather and record data to help in answering questions

Lower Key Stage 2 (Years 3 and 4)

- Ask relevant questions and use different types of scientific enquiries to answer them
- Set up simple practical enquiries, comparative and fair tests
- Make systematic and careful observations and where appropriate take accurate measurements using standard units, using a range of equipment including thermometers and data loggers.
- Gather, record, classify and present data in a variety of ways to help in answering questions
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- Identify differences, similarities or changes related to simple scientific ideas and processes
- Use straightforward scientific evidence to answer questions or to support their findings

Upper Key Stage 2 (Years 5 and 6)

- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables, where necessary
- Take measurements using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- Use test results to make predictions to set up further comparative and fair tests
- Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- Identify scientific evidence that has been used to support or refute ideas or arguments

Appendix 2: Palm Bay Primary School Long Term Plans

Year Group	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1	Seasonal Change	Everyday materials	Plants		Investigations unit	Animals including humans
Year 2	All living things and their habitats		Uses of everyday materials	Animals including humans	Investigations unit	Plants
Year 3	Forces and magnets	Rocks	Light	Animals including humans	Investigations unit	Plants
Year 4	Sound	Electricity	States of matter	Animals including humans	Investigations unit	All Living things
Year 5	Animals including humans	Earth in Space	Forces		Properties and changes of materials	All Living things
Year 6	All Living things	Evolution and inheritance	Electricity	Light	Animals including humans	

Teachers can choose where to cover these units throughout the year.

There will be elements of some units that will need to be studied not just in one term but in several terms throughout the year. For example, learning about seasonal change.