Burdett-Coutts & Townshend CE Primary School

Science Overview

How is Science Taught at Burdett-Coutts School?

Science is thematically taught throughout Burdett-Coutts and planning for this subject is arranged within our comprehensive curriculum. In the Early Years, all Science is taught through cross curricular exploration and observation while across the school, it is taught throughout the year in topics or within special curriculum weeks/days as well as discrete lessons.

The biggest change to the old curriculum concerns scientific enquiry. Renamed 'Working Scientifically', it is now integrated with developing children's ideas, and should not be taught in isolation. It also puts a strong emphasis on students asking their own questions and making decisions.

Working Scientifically emphasises minds-on as well as hands-on activity, so some science enquiries might be based on investigation using secondary sources of information and not involving any practical work. Working Scientifically is described at three age ranges (KS1, Lower KS2 and Upper KS2), giving a clear indication of progression. Good continuity is evident in our planning of Science as each topic is planned to show progression throughout the school.

The Framework

Working Scientifically is more than just fair testing. The framework in the new National Curriculum is made up of five possible approaches:

- **Observing changes over time** eg: What happens to my bean seeds after I plant them?
- **Looking for naturally-occurring patterns and relationships** eg: Do beans curl clockwise or anti-clockwise as they grow?
- **Identifying and classifying things** eg: There were 12 different types of beans in the market in France. What were they?
- **Researching using secondary sources** eg: Gardeners say that growing beans is good for the soil. I wonder why they say that?
- **Comparative and fair testing** eg: Does it make any difference if I put fertiliser on the beans when they are growing?

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Cross-curricular Learning

Cross-curricular Learning is taking place through the use of scientific language; mathematical recording and reading of graphs; and thematic subjects such as Design and Technology (Healthy Living and Forces); Geography (Weather and Water); Physical Education (Exercise/Metabolism) etc.

Scientific Language

Scientific Language is an integral part of the discussions that pupils are now required to participate in to aid their learning. The National Curriculum and the Early Years Foundation Stage Framework for Science reflects the importance of spoken language in children's development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that pupils hear and speak are key factors in developing their scientific vocabulary and articulating scientific concepts clearly and precisely.

Special Educational Needs

In order to enhance the teaching of Science for students with special educational needs, the use of teaching assistants to support as well as effective planning is vital to ensure work is differentiated to develop scientific skills at their level of learning. Beneficial use is made of visits to museums, where practical workshops are undertaken; and with visiting speakers and exhibitions, which will enhance the learning and enjoyment of Science for the children.

Early Years Foundation Stage Framework (EYFS) – Understanding the World and Topics

Through playing and exploring, children are able to be active learners within the EYFS. The children are encouraged to think critically and make links in their learning through enabling environments. The teaching of Science falls under the area of learning 'Understanding the World'. This involves children learning about other people, the place where they live and about all aspects of the environment.

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'Understanding the World' is broken down into three aspects:

- People and Communities
- The World
- Technology

Children learn through exploring and investigating how and why things work. They also test out their ideas through hands-on experiences. There are two specific challenges set by the new curriculum.

Termly Topics in Early Years:

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Ourselves	**Food**	**Space**	**Farms**	**People Who Help Us**	**Traditional Stories**

Topics Taught Across The School

We ensure students at Burdett-Coutts enjoy their work by providing practical lessons as well as placing an emphasis on developing an enquiry approach. From this, children learn through raising and investigating their own questions.

There is more emphasis on using the outdoor environment to collect data, such as observing plants growing in the local environment or making a guide to local living things. There is also great emphasis on identifying and naming things in the environment, especially in KS1 and in the Early Years.

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Topics Taught in Key Stage One and Key Stage Two:

Unit	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
1	Plants (Growing plants)	Living things and their habitats (Plants and animals in the local environment)	Plants (Helping plants grow well)	Living things and their habitats (Habitats)	Living things and their habitats (Life cycles)	Living things and their habitats (Habitats)
2	Animals, including humans (Ourselves)	Plants (Plants and animals in the local environment)	Animals, including humans	Animals, including humans	Forces	Animals, including humans
3	Everyday materials (Sorting & using materials)	Animals, including humans (Health and growth)	Rocks (Rocks and soils)	States of matter (Solids and liquids)	Properties and changes of materials (Gases around us, changing state)	Evolution and inheritance
4	Seasonal Changes	Uses of everyday materials (Grouping and changing)	Light (Light and shadows)	Sound	Animals, including humans	Light (How we see things)
5			Forces and magnets (Magnets and springs)	Electricity (Circuits and conductors)	Earth and space (Earth, sun and moon)	Electricity (Changing circuits)