



Kilburn Junior School: Science Policy 2017

1. RATIONALE.

1.1 At Kilburn Junior School, Science is viewed as a means of finding out about the real world through methodical investigation, systematic observation, questioning and experimentation. We provide appropriate learning opportunities so that they develop the skills needed to be active citizens within an increasingly scientific world. Science is a powerful and useful tool through which children's understanding of the world around them is carefully developed. It is our aim to create a challenging environment that raises standards of achievement in Science through high quality teaching and learning. Pupils build up their scientific skills and knowledge, developing the necessary ability to investigate, question and understand scientific concepts.

1.2 This policy describes our values and philosophy in relation to meeting the needs of all scientific learners at Kilburn Junior School. It outlines the framework within which all staff work and provides guidance on planning, teaching and assessment. It describes how the school intends to meet the needs of scientific learners of all ages and abilities.

1.3 This policy follows the guidance of the national curriculum for science (2014) which outlines the coverage of scientific teaching across Key Stage 2.

2. AIMS AND OBJECTIVES

2.1 The national curriculum for science (2014) 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.

2.2 It is essential that within each scientific topic taught at Kilburn Junior School children are given the opportunity to develop each of the above aspects of the science curriculum. It is our belief that this will equip them with the motivation and preparedness to negotiate life in an increasingly scientific world.

3. SPOKEN LANGUAGE.

3.1. The national curriculum for science reflects the importance of spoken language in pupils' 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. They must be assisted in making their thinking clear, both to themselves and others, and teachers should ensure that pupils build secure foundations by using discussion to probe and remedy their misconceptions.

3.2. The vocabulary that children will be learning for each topic will be displayed on the whiteboard in the classroom and other appropriate locations for the children to access and to use to support their spoken interactions with the teachers and their peers. The teaching staff will endeavour to make this vocabulary as specific and accurate as possible. There will be an expectation that children use scientific vocabulary accurately in their written work.

4. PLANNING AND TEACHING

4.1 At Kilburn Junior School, it is essential that we teach scientific units of work that develop the children's scientific understanding through the specific areas of biology, chemistry and physics. We also aim to develop children's understanding of the process of scientific enquiry. Units of work should be planned to allocate sufficient time for children to develop and apply these skills. It is recommended that teachers should include at least one hour of science lessons when completing their weekly planning. Details of the specific units to be taught in the Upper and Lower School are available on our scientific **long term plan**.

4.2 In planning a series of lessons, teachers should take into consideration the following elements of scientific enquiry: **observing changes over time; fair testing; looking for patterns and relationships; identifying and classifying things; researching using secondary sources.**

4.3 At Kilburn Junior School, we believe in providing children with a rich and varied curriculum. Good quality and well prepared planning should identify opportunities for links to be made with other subjects through the teaching of science. Indeed, it can be far more beneficial to the children's learning if certain mathematical and English concepts are contextualised in a cross-curricular manner. In addition to the core curriculum of English and Maths, opportunities should be made to make cross-curricular links across all areas of our curriculum.

4.4 Science is a practical subject and the use of practical equipment to demonstrate scientific phenomena is an expectation of teaching at Kilburn Junior School. It is the responsibility of the school's science co-ordinator to ensure that these materials are up to date and are of a high enough quality to support the lessons.

4.5 In addition to good quality scientific resources, staff should plan to make sure that scientific lessons are enriched by use of the extensive school grounds that are available to the children.

4.6 Staff should also aim to plan for opportunities to enrich the science curriculum in the local area. This can take the form of well-planned school trips with clear aims and objectives.

4.7 When planning lessons, staff should aim to extend the children's learning through the use of **Bloom's Taxonomy** in order to develop their scientific understanding through good quality differentiated questioning.

4.8 **Accelerated learning** should also be used in the teaching of science at Kilburn Junior School in order to ensure that the subject is taught in an engaging, well-paced and stimulating manner.

5. ASSESSMENT

5.1 Assessment should be used not only to track pupils' learning but also to provide teachers at Kilburn Junior School with information about what pupils do and do not know. This information allows teachers to adapt their teaching so it builds on pupils' existing knowledge, addresses their weaknesses, and focuses on the next steps that they need in order to make progress.

5.2 Teachers knowledge of pupils' strengths and weaknesses is used to inform their planning of future lessons and the focus of targeted support. In order to achieve this, teachers should aim to elicit the scientific understanding of their children through formative assessment at the beginning of a scientific topic.

5.3 A variety of assessment methods are used to build a picture of the children's learning. Formal tests are a useful way to do this and should be conducted at the end of each scientific topic. Assessment can also take the form of informal observations of pupils or discussions with them about their scientific learning. A schedule of the different tests that will be undertaken are available in the document ***Assessment at Kilburn Junior School.***

5.4 Pupils' work will be marked in line with the ***Marking Policy*** and will model how corrections will be made, giving pupils a chance to learn from their misconceptions. Guidance detailing how to give useful feedback can be found on the ***Marking Prompts in Science*** card.

5.5 Summative assessments will be made upon the completion of each scientific topic that has been taught and logged in iTRACK. These teacher assessments are based on the evidence from formative and summative assessments made by the class teacher. The science subject co-ordinator will organise moderation and standardisation activities to ensure the accuracy of the assessments made by class teachers.