



# Science Policy

Policy Creation and Review	
Author(s)	<b>Clare Barber, Sam Dutch and Felecia Rose Kane</b>
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## SCIENCE POLICY

At Odessa, Science is viewed as one of the key subjects within the Early Years and Primary Curriculum, along with Literacy and Numeracy. The following policy outlines the purpose, nature and management of science as taught in Tollgate Primary School.

### Overview

Science is all around us in everyday life and is, therefore, used to excite pupils' curiosity about the phenomena and events that occur in the world around them. One of the major factors within Science teaching at Odessa is the explicit focus on the Working Scientifically, aspect of the new 2014 National Curriculum. This focal point of Science within Odessa has been developed to increase children's ability to make predictions about scientific concepts and, evaluate and amend them through analysing and interpreting data collected independently, with adult modelling as a guide. This enables our pupils to question and discuss science-based issues that may affect their own lives and the future of the world too!

The policy has been developed for 3 main principles:

1. To achieve consistency, continuity and progression from Early Years to KS1 .
2. To ensure statutory requirements are met;
3. To ensure all Odessa staff are aware of the vision for Science within the school.

### Science Objectives

At Odessa children should:

- Develop knowledge and understanding of important scientific ideas, processes and skills and relate these to everyday experiences;
- Learn about ways of thinking, finding out about and communicating ideas;
- Explore values and attitudes through science;
- Acquire and refine practical skills needed to investigate questions safely;
- Develop skills of predicting, asking questions, making inferences, concluding and evaluating, based on evidence collected and known scientific facts.
- Practise mathematical skills, including counting, ordering numbers, measuring to appropriate decimal places, using appropriate units of measure and drawing and interpreting graphs and bar charts within specific scientific and real-life contexts;
- Learn why mathematical and numerical skills are useful and helpful to scientific understanding.

This policy and the objectives are the responsibility of all teachers within the school. Implementation of the above will be monitored termly by the science coordinator.

## Entitlement

Throughout the EYFS and KS1 children within Odessa are entitled to scientific teaching in the following areas;

- Working Scientifically: This section should be present throughout all other sections.
- Processes and Living things
- Materials and their Properties
- Physical Processes

The above areas are covered within the school through the use of QCA Schemes of Work from Year 1-Year 2. Each unit covers one half term of study. These schemes are used and adapted by teachers to cover the new 2014 National Curriculum requirements of the Science Curriculum. They are designed to revisit and extend children's knowledge in the 4 key areas identified above. Our Working Scientifically focus also allows children to develop their problem solving skills within science lessons.

Early Years children are given opportunities to encounter real life science through their Knowledge and Understanding Modules, undertaken in Nursery and Reception.

## ASD Provision

We are committed to providing our ASD children with access to the science curriculum with their peers. Each class teacher plans opportunities for their ASD children on our science planning sheets, according to the topic they are studying. Plans are then shared with 1:1 supporting adults, so that they can resource equipment to assist the children in accessing the lessons.

## Assessment

Pupils from Nursery to Year 1 are assessed within their unit of study by teachers (**HALF TERMLY**). At the end of each full term, Science levels are placed in the school tracking system for each child in Nursery to year 1.

Early Years children are assessed within science using Pupil Profile folders, in line with their assessments for other subject areas.

Teachers should also refer to the School's AfL policy when assessing and amending planning during Science Units.

## Progression

As children move from Early Years to KS1, Science teaching and effective assessment should allow opportunities for them to progress:

- From using everyday language to increasingly precise use of technical, scientific vocabulary, notation and symbols;
- From personal scientific knowledge in a few areas to understanding in a wider range of areas and knowing how these link together;
- From **describing** events and phenomena to **explaining** events and phenomena;
- From explaining phenomena in terms of their own ideas, to explaining phenomena in terms of scientifically accepted ideas or models;
- From participating in adult lead practical, scientific investigations to developing and undertaking their own scientific investigations, independently;
- From unstructured exploration to more systematic investigation of a question or questions developed independently;
- From using simple drawings, diagrams and charts to represent and communicate scientific information, to using more conventional diagrams and graphs.

### **Health Education**

This is taught within several of the science units in the school and is linked to our PSHCE framework of teaching, with regular visits from outside agencies a primary part of covering this vital area.

### **Equal Opportunities**

Science teaching at Odessa aims to provide opportunities for ALL children to reach their potential. This is provided through use of a variety of approaches, contexts and groupings, enabling children to practise their developing science skills in a safe, non-threatening environment. Both boys and girls are given equal recognition for their contributions. Stereotypical views on gender, race and ethnicity relating to adult roles are avoided and compensatory experiences are given to develop equal opportunity of children who are learning English as an Additional Language, through opportunities to develop their language, during collaborative and practical activities. Partnership teaching may be used to provide support and promote good practise by demonstrating a variety of approaches giving access to all children.

### **S.E.N**

Odessa Infant School is involved with the education of local children, including those with particular needs, including learning, behavioural or physical needs. Teachers plan and deliver the Science Curriculum for all children and, where necessary, Teaching Assistants are made aware of the aims of Science lessons in advance, so resources can be prepared to allow all children to access the subject. Advice is also available from the Special Educational and Learning Support teams. Teachers also use regular meetings with these teams to set targets for children to achieve in Science and other subject areas. Within science three principles are fundamental to developing and maintaining our inclusive curriculum:

1. Setting suitable learning challenges;
2. Responding to pupils' diverse learning needs;
3. Overcoming potential barriers to learning and assessment for individuals and groups of pupils.

### **Health and Safety**

All children will be made explicitly aware of the relevance of health and safety issues when undertaking scientific work. This will be specifically highlighted when they are asked to undertake scientific investigations, with additional adults being used effectively to assist with the safe running of ALL science lessons.

### **Resources**

Each topic covered within the school science curriculum has its own resource box in the science stock cupboard. There is also generic science equipment within this storage area. Equipment will be updated as required, within the allocated science budget.

### **Computing**

Pupils will be given opportunities to apply and develop their Computing capability throughout their science lessons, through the use of science/ICT software, allowing them to utilise equipment such as Data Loggers and Interactive Microscopes, as well as Graph and Chart software, and the Internet. Children will use these opportunities to record evidence once a week in books.