

# **Science Policy 2015**

## **Introduction**

This policy outlines the teaching, organisation and management of science taught and learnt at Sacks Morasha JPS. The school's policy for science is based on the 2014 Curriculum for Key Stages 1 and 2. The policy has been drawn up to reflect the whole school approach to science.

Science teaches an understanding of natural phenomena. It aims to stimulate a child's curiosity in finding out why things happen in the way they do. It teaches methods of enquiry and investigation to stimulate creative thought. Children learn to ask scientific questions and begin to appreciate the way science will affect their future on a personal, national, and global level.

The aims of science are to enable children to:

- Ask and answer scientific questions;
- Plan and carry out scientific investigations, using equipment, including computers, correctly;
- Know and understand the life processes of living things;
- Know and understand the physical processes of materials, electricity, light, sound and natural forces;
- Know about the nature of the solar system, including the earth;
- Evaluate evidence and present their conclusions clearly and accurately.

## **Teaching and learning style**

We use a variety of teaching and learning styles in science lessons. Our principal aim is to develop children's knowledge, skills and understanding. Sometimes we do this through whole- class teaching, while at other times we engage the children in an enquiry-based research activity. We encourage the children to ask, as well as answer, scientific questions. They have the opportunity to use a variety of data, such as statistics, graphs, pictures, and photographs. They also use ICT in science lessons where appropriate. Wherever possible, we involve the pupils in 'real' scientific activities, for example, carrying out a practical experiment and analysing and presenting results.

We recognise that there are children of widely different scientific abilities in all classes and we ensure that we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways by:

- Setting common tasks which are open-ended and can have a variety of responses;

- Setting tasks of increasing difficulty to extend children;
- Providing resources of different complexity, matched to the ability of the child;
- Using LSA's to support the work of individual children or groups of children.

## **Science Curriculum Planning**

The school follows the programme of study outlined in the Curriculum 2014. We carry out our curriculum planning in science in three phases (long-term, medium-term and weekly). The long-term plan maps the scientific topics studied in each term during the key stage. In some cases we combine the scientific study with work in other subject areas, especially at Key Stage 1; at other times the children study science as a discrete subject. Our medium-term plans give details of each unit of work for each term. The weekly plans include specific learning objectives, activities and outcomes for each lesson. We have planned the topics in science so that they build upon prior learning. The topics are based on Rising Stars. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we also build progression into the science scheme of work, so that the children are increasingly challenged as they move up through the school.

### **Rising stars topics**

#### **KS1 Topics covered**

<b>Year 1</b>	<b>Year 2</b>
Who am I?	Healthy me
Celebrations	Material monster
Polar adventure	Mini worlds
Treasure island	Move it
On safari	Young gardeners
Holiday	Little masterchefs

#### **KS2 Topics covered**

#### **Lower Ks2**

<b>Year 3</b>	<b>Year 4</b>
Earth rocks	What's that sound?
Food and our bodies	Living things
Mirror, mirror	Looking at states
How does your garden grow?	Teeth and eating
Opposites attract	Power it up
We are astronauts	Brilliant bubbles

## Upper Ks2

<i>Year 5</i>	<i>Year 6</i>
Out of this world	Classifying critters
Material world	Staying alive
Circle of life	We're evolving
Let's get moving	Let it shine
Growing up and growing up	Electrifying
Super scientists	We are dinosaur hunters

## **Science integration in the Curriculum**

### **English**

- Reading texts of a scientific nature and discussing what they have learnt.
- Recounting their observations of scientific experiments.
- Writing reports and recording information.

### **Mathematics**

- using weights and measures and applying number.
- estimating and predicting in investigations.
- Recording, presenting and interpreting data.

### **Computing**

- Finding, selecting, and analysing information.
- Recording, presenting and interpreting data.
- Reviewing, modifying and evaluating their work
- Taking measurements

### **History**

- Developments in inventions, medicine and other discoveries.
- Important scientist from the past.

### **Personal, social and health education (PSHE) and citizenship**

- Raising matters of citizenship and social welfare.
- Taking part in debates and discussions.
- Organising campaigns on matters of concern to them
- Promoting the concept of positive citizenship.

- Understanding their bodies and how to keep them healthy. Year 5 and 6 have sessions led by Streetwise, in the Summer term, about puberty.

We teach science to all children, whatever their ability. Science forms part of the school's curriculum policy to provide a broad and balanced education to all children. We provide learning opportunities matched to the needs of children with learning difficulties and we take into account the targets set for individual children in their Support Plans. Appropriate extension activities and challenges will be provided for those children who are considered to be gifted in this area of the curriculum.

### **Assessment and recording**

We assess children's work in science by making informal judgments as we observe them during each science lesson. At the end of a unit of work, the teacher makes a summary judgment about the work of each pupil in relation to the expectations stated in the medium term planning. The children complete a written test from Rising Stars to assist in this judgment. Teachers are assessing scientific enquiry throughout each topic. Teachers record their judgments on Target Tracker at the end of each topic for scientific enquiry and the topic objectives. If a child has met the objectives it is filled in blue, if the child has begun to meet the objective it is filled in red. The assessment is used to inform future planning and passed on to the next teacher.

### **Resources**

We constantly review that there are sufficient resources for all science teaching units in the school. We keep these resources in a central store in the Year 5 classroom. Teachers must sign resources in and out in order to keep a record of who is using specific resources at any given time.

### **Monitoring and review**

Monitoring of the standards of children's work and of the quality of teaching in science is the responsibility of the science subject leader. The work of the science subject leader also involves supporting colleagues in the teaching of science, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.