

Science Policy



Adswood Primary School

Ratified by Governing Body on:	July 2023
<i>M. Smart</i> Head Teacher	<i>J. Dancy</i> Chair of Governors
Governing Body Review Date:	July 2025

Introduction

This policy outlines, teaching, organisation and management of the Science taught and learnt at Adswood Primary School. The school's policy for Science follows the National curriculum 2014 for Science Guidelines and the Early Years Foundation Stage Framework and aims to ensure that all pupils:

- Develop scientific knowledge and conceptual understanding through the specific disciplines of Biology, Chemistry, and Physics;
- Develop an understanding of the nature, processes and methods of Science through a variety of different scientific enquiries that help them to answer 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;
- Are encouraged to understand how Science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Aims

A high-quality Science education provides foundations for understanding the world. Through building key knowledge and understanding of concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of curiosity about natural phenomena.

- For staff to work cooperatively to deliver a broad and balanced science education which incorporates a range of teaching styles to suit individual needs;
- For pupils to have the right to equal opportunities in our school regardless of their background, religion, race, gender, physical or intellectual ability;
- For pupils to become curious about the world around them and the things that they observe, experience and explore;
- For pupils to use their experiences to develop an understanding of the key scientific areas;
- For pupils to develop skills of sorting, classifying, planning, predicting, questioning and drawing conclusions from data;
- For pupils to acquire and refine practical skills necessary to investigate ideas and questions safely;
- For pupils to practise mathematical skills and enhance literacy skills (where possible) within real contexts;
- For pupils to develop language skills through talking about their work and presenting their findings;
- For pupils to use progressively technical scientific and mathematical vocabulary and draw diagrams and charts to communicate scientific ideas;
- For pupils to use a range of media including ICT to extract scientific information;

- For pupils to work collaboratively with others, listening to their ideas and treating these with respect;
- For pupils to develop respect for the environment and living things, including themselves and each other;
- For pupils to develop responsibility for their own health and safety and that of others when undertaking scientific activities.

Teaching Science

To provide adequate time for developing scientific knowledge, skills and understanding, each teacher will provide weekly science lessons. Although cross curricular links will be made to other subjects, in order for pupils to develop and apply their scientific skills, Science will be taught as a stand-alone lesson to ensure coverage of all aspects of the science curriculum.

In EYFS, the 'Understanding the World' area of learning will be incorporated into focussed structured activities and also evident throughout other learning tasks

It is important that the teacher identifies the most appropriate teaching strategy to suit the purpose of the particular learning situation and should use their flair, enthusiasm and professional judgement to identify the most sensible, enjoyable and safe methods for the work being conducted. There are a variety of ways that teaching may be effective and our school aims to encourage learning through investigation, with an emphasis on first-hand experience whenever possible. Science lessons have no imposed formal structure but should typically contain some of the following elements;

- **Discussion:** bridging back to what they already know from experience, what they have learnt so far and bridging forward to what they will be finding out next;
- **Scientific Vocabulary:** an emphasis should be made to ensure that the pupils use and understand the correct scientific vocabulary in activities, discussions and reasoning in Science lessons and through word aware activities.
- **Teaching:** directly to the whole class or through group or individual work, giving them opportunities to also work outside the classroom.
- **Practical tasks or investigative work:** working within groups or individually, practicing scientific skills, using the five types of enquiry (Pattern seeking, observation over time, sorting, classifying and grouping, comparative and fair testing and research using secondary sources). Where groups are required, the teacher should consider which type of grouping will best suit the needs of the pupils and the activity.

- **Recording:** writing about what they have found out, drawing charts and tables and diagrams, using the computer and other media to record what they have done or found out about.
- **Communicating:** working collaboratively in sharing ideas, predictions, knowledge and what they have found out with each other, the teacher, other classes and adults as appropriate.

School Overview of Science

The Programmes of study for Science are set out year by year for Key Stages 1 and 2. Schools are, however, only required to teach the relevant programme of study by the end of the key stage. Within each key stage, schools therefore have the flexibility to introduce content earlier or later than set out in the programme of study. 'Working scientifically' specifies the understanding of the nature, processes and methods of Science for each year group and should not be taught as a separate strand. This element should be embedded throughout the delivery of the Science curriculum.

Each unit of learning is taught and developed during the pupils' time at the school through a variety of Science topics which have been adapted from the National Curriculum 2014. Adswood's adoption of The Learning Challenge Curriculum puts Science at the heart of the curriculum as it is a main driver in many of the topics, ensuring cross-curricular links are made to enhance the learning of Science.

Each classroom in school has a designated area or 'Science Station' .This is a working area where pupils can refer to the different types of enquiry and where pupils can access additional resources, activities and challenges to enhance and consolidate their current learning.

Science in EYFS

In EYFS, appropriate activities which develop young pupils' understanding of the world around them are to be planned weekly in line with the Early Years Foundation Stage Profile 2014 using the necessary strands. Pupils should be encouraged to:

- Show curiosity and interest by exploring surroundings.
- Observe, select and manipulate objects and materials over time. Identify simple features and significant personal events.
- Identify obvious similarities and differences when exploring and observing. Construct in a purposeful way, using simple tools and techniques.
- Investigate places, objects, materials and living things by using all the senses as appropriate.
- Ask questions about why things happen and how things work.
- Research using secondary sources.
- Build and construct with a wide range of objects, selecting appropriate resources, tools and techniques and adapting his/her work where necessary.
- Communicate simple planning for investigations and constructions and make simple records and evaluations of his/her own work.
- Use a variety of approaches to answer relevant scientific questions.
- Understand comparative and fair testing (controlled investigations).

Play underpins the delivery of all the Early Learning goals in EYFS. In playing, pupils behave in different ways: sometimes within their play, they may describe and discuss what they are doing and sometimes they may be more reflective and quiet as they

play. Within a secure and challenging environment with effective support, pupils can explore, develop and experiment as they play to help them make sense of the world.

The EYFS strand 'Understanding the World' leads directly to scientific elements of the curriculum and leads to more formalised Science learning in KS1 and then KS2.

Planning

It is the responsibility of the class teacher/ year group teachers to undertake the Science planning for their class, or oversee it where a pupil may be taking the class.

- **Long term plans:** Long term plans are shown on the curriculum overview for each year group on google drive.
- **Medium term plans:** Medium term plans should be evidenced and in the relevant area of the year group on google drive. These should include types of enquiries used for each lesson, curriculum links and opportunities for outdoor learning (where appropriate).
- **Short term plans:** Short term plans (or weekly plans) will be evidenced in the teacher's individual planning on google drive. These will include adaptive teaching to ensure Science lessons are accessible to all.

Assessment and Record Keeping

It is the responsibility of the class teacher to maintain an overview of each pupil's progress in Science.

At Adswood we mainly use Teacher assessment in Science. Science objectives for each unit of learning can be accessed from the 'Sticky Knowledge' statements for each year group and are used for planning and assessment to ensure that coverage of the curriculum is achieved. Informal assessment can be done through observations of the pupils, marking their work and questioning pupils to identify what they have understood. Recordings of significant progress or events can also be evidenced through post it notes or written comments/ annotations. Progress is recorded through regular updates on Insight tracker for each individual pupil.

At Adswood Primary we assess working scientific targets on a half termly basis through the use of TAPS assessments (Teacher Assessments in Primary Science). These are evidenced and recorded in pupils' books (a representative sample will also be stored digitally in the science assessment shared area of the school system).

Individual progress is also reported back to parents through parents' evenings and the end of year written report.

Resources:

Each class is responsible for ordering the science equipment they may need from their class budget by referring to their year groups LCC programme of study. These resources are ordered for the year group and must stay with that year group for future use regardless of staffing.

Health and Safety

The safe use of equipment and consideration of others is promoted at all times. The Association for Science Education publication, "Be Safe!" should be used by staff as a point of reference for issues regarding health and safety. A copy of this is held by the Science lead and teachers are encouraged to use this as an aid. The school's "Health and Safety Policy" should also be consulted. Pupils should be made aware of safety issues and, where appropriate, the reasons behind them. Activities which take place away from the school's premises (for example science lessons taking place in other settings) will require a risk assessment form to be filled in.

Management of Science

Role of Science coordinator:

- To be enthusiastic about Science and demonstrate good practices.
- To work alongside colleagues in planning where needed (progress and activities).
- To work alongside teachers in the classroom (this will depend on release time and other available help).
- To coordinate and arrange staff in-service training as required.
- To manage the Science budget.
- To "sample" the work of pupils across the age range (curriculum monitoring).
- To review and evaluate the effectiveness of teaching and learning of Science.
- To provide guidance on the implementation of the Science policy.
- To suggest appropriate assessment activities where needed.
- To provide support to those colleagues who request/require it, including help with planning and organisation.
- To monitor the planning and delivery of lessons.