



EVERY CHILD MATTERS ACADEMY TRUST
WELLGATE PRIMARY SCHOOL
Science Policy

The terms Trust and School (and levels within e.g., governors and trustees) are interchangeable and apply to all schools within the Trust

1 Introduction

This policy document sets out our school's aims, principles and strategies for the delivery of Science. It will form the basis for the development of Science and the aims, principles and strategies for the teaching and learning of Science in school.

At Wellgate Primary School, we aim to provide a well - balanced curriculum which covers the statutory requirements of Science within National Curriculum 2014 and the Early Years Foundation Stage (EYFS) Framework 2021.

Science at Wellgate promotes an awareness of the world around us, helping to make sense of it and contributing to our knowledge and understanding of a highly technical and rapidly changing world. Through our science lessons, experiences and challenges our children should be; encouraged to develop scientific knowledge, be equipped with an understanding of how science can be used to explain the world around them and able to use enquiry skills in a variety of contexts to discover, explore and investigate their world further.

2 Intent

At Wellgate Primary School, we aim to provide children with the knowledge and opportunities which will enable them to become independent thinkers who strive to become the best they can be. We aim to do this through the key drivers of LEAP (Language, Experience, Aspiration, Performance).

At Wellgate Primary School, we believe that the teaching of history should ensure that all pupils;

- Are provided with a broad and balanced curriculum
- Enjoy scientific lessons, activities, challenges and investigations
- Foster a positive approach to science by developing lively, enquiring minds and the ability to question
- Increase their scientific enquiry skills, knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- Build on their natural curiosity enabling them to understand and care for the world in which they live and developing children's curiosity in asking questions and exploring scientific reasoning from the Foundation Years onwards.
- Are provided with an environment where they can work in an investigative way and can communicate their findings in a variety of ways
- Develop the potential scientific links with all other areas of the curriculum
- Develop an understanding of the nature, processes and methods of science through different types of science enquiries such as observing, predicting,



questioning, making inferences, concluding and evaluating, that help them to answer scientific questions about the world around them

- Understand the uses and implications of science, today and for the future.

3 Implementation

Science lessons are planned and structured in accordance to the Science Progression Map and Science Granular Detail Plans. These documents outline the key concepts, substantive and disciplinary knowledge, vocabulary, scientific enquiry skills, and understanding that all children must master.

- A cycle of engaging and exciting lessons for each scientific focus and carefully plans for progression and depth.
- Scientific Questioning to support pupils to apply their learning and approach to inquiry.
- Lessons have clear, specific learning objectives and relevant vocabulary.
- Significant focus on the correct teaching and use of technical scientific vocabulary is included in every session.
- Each lesson is adapted to challenge pupils and provide opportunities for children of all abilities to develop scientific knowledge, understanding and enquiry skills
- A range of scientific enquiries, building upon children's first-hand experiences and observations in combination with secondary resources
- Exploration of major scientific events and historical scientific discoveries
- Discussion on the uses and implications of Science, today and for the future.
- Planning scrutinies, work scrutinies and discussion with students take place to ensure delivery of science focuses from the national curriculum, is consistent, and progressive
- Rigorous assessments take place to support further learning and address misconceptions

4. Impact

- Technical scientific vocabulary will be correctly and actively used and referred to throughout the teaching of science units.
- Progression of scientific concepts, vocabulary and skills from the National Curriculum and EYFS Framework focuses are well planned out and taught effectively.
- Children are exposed to a wide breadth of scientific knowledge and enquiry skills throughout each science focus or unit.
- Scientific questioning and assessment supports open ended and investigative questions are included in class discussions.
- Progression map and granular plans support the planning of progression of children's scientific development throughout the school.

5. Planning

The main aspects of science to be studied will be determined by the programmes of study of the National Curriculum 2014 and the Early Years Foundation Stage Statutory Framework 2021.



The National Curriculum document for Science sets out a clear, full and statutory requirement for all children. It determines the content of what will be taught, and sets attainment targets for learning. The programmes of study set out what should be taught in Key Stage 1 and 2 and The Foundation Stage programmes of study for Understanding of the World (The Natural World) are set out in the EYFS 2021.

In addition, the science progression map and granular plans are in place to outline specific age and focus appropriate vocabulary, enquiry skills, knowledge, higher order questions and outcomes for each Science unit of learning.

Foundation Stage pupils investigate science as part of Understanding the World – The Natural World. Children are encouraged to investigate and make observations of the world around them throughout their play, interactions and as focus activities. Adults support and extend children's ideas through questions and interactions.

By careful planning, pupils' scientific skills, knowledge and vocabulary gained at Foundation stage and Key Stage 1 will be consolidated, built upon and developed during Key Stage 2.

Teachers plan for science in year groups and regularly review their planning in light of assessments made about children's understanding and skills as topics develop. Examples of work produced by the children and their opinions are gathered and monitored by the subject leader.

Planning should include opportunities for children to develop scientific enquiry skills through:

- Observations
- Predictions
- Comparisons
- Questioning
- Fair testing
- Observational labelled drawings
- Adult led and child initiated Investigations
- Opportunities to explore first hand and through images, videos etc
- Investigating and measuring using scientific equipment
- Recording findings using diagrams, photographs, tables and charts
- Presenting findings using graphs, diagrams, in written form and in verbal discussions
- Making verbal and written conclusions as a class, group and an individual

Although there are times when it is not appropriate to produce a written outcome, generally, we expect the children to record their work in a suitable manner as is necessary.



6. Inclusion

At Wellgate Primary School, all pupils have equal access to the curriculum, tasks are modified or adapted to individual children's needs and extra support is given as appropriate. The study of science will be planned to ensure high expectations and challenge are provided for all pupils. We should aim to create an environment in which all children learn to respect and value each other and each other's interests. This can be achieved by employing the following strategies:

- Mixing groups in terms of gender and ability.
- Structuring activities so all children are fully involved. For instance, an investigation cannot be carried out until all children have a role and can explain what they are doing
- Giving all the children an opportunity to share their work. For instance, allowing time for group discussion where all children can discuss their findings, predictions, understanding etc.
- Tasks will be set which challenge all pupils and support focus related vocabulary.
- The grouping of pupils for practical activities will take account of their strengths and weaknesses to ensure that all take an active part in the task and gain in confidence.
- Considering the needs of children with SEND the task may be adjusted, differentiated or pupils may be given extra support as appropriate.
- Gender and cultural differences will be reflected positively in the teaching materials used.
- Considering ways in which to support EAL children. For instance, simplifying vocabulary used and drawing on previous year group vocabulary to support, using other children to translate, or using images and videos to support.
- Recognising the need to extend more able pupils, for example they may be further extended and challenged through additional questioning and discussion opportunities to deepen their understanding.

7. Breadth and Balance

Pupils will be involved in a variety of structured activities and in open-ended investigative work including;

- Activities to develop good observational skills
- Practical activities using measuring instruments which develop pupils' ability to read scales accurately
- Structured activities to develop understanding of a scientific concept
- Open ended investigations

8. Roles and Responsibilities

The Science leader(s) is responsible for

- Lead the development of Science throughout the school.
- Monitoring the planning and teaching of Science, ensuring progression and continuity throughout school



- Provide guidance and CPD opportunities to individual members of staff.
- Be responsible for the organisation and maintenance of science resources.
- Coordinate displays of science work.
- Review the Science Policy.

Year group teams are responsible planning learning opportunities in line with the Granular Plans. Class teachers are responsible for ensuring their planning is rigorous, lessons are challenging and that teacher assessments are based on discussions with children. At the end of each unit, teachers will assess whether children have met / not met the age-related expectations for the science unit according to the National Curriculum.

9. Scientific Enquiry

Scientific investigation is a crucial element within the teaching of science and throughout each year all stages of a science investigation should be delivered while linked to the topic. The stages are: Questioning, Planning, Variables, Predicting, Recording, Presenting, Explaining and Evaluating. Teachers will initially make decisions regarding questions and planning while the children provide answers verbally. This will lead to children making more decisions regarding variables and how to record the data.

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| <ul style="list-style-type: none">• Teacher decides questions and plans task• Teacher makes it a fair test• Children verbally predict• Children record observations with pictures, labels and in tables and in writing• Children use simple observations and measurements e.g.: length (non-standard and standard measures)• Orally describe what happens, explain results and suggest improvements | <p><i>leading
to</i>
→</p> | <ul style="list-style-type: none">• Children decide question and plan own task• Children design a fair test to control factors• Use more difficult measurements e.g. temperature, volume• Record as tables, graphs, charts and in written work• Children predict in written format with reasoned arguments for those predictions• Describe what happens, explain results and suggest improvements |
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As practical work is the integral to developing scientific enquiry skills, we believe it to be most effective when:

- The teacher has a clear idea of the intention and structure
- The pupils understand the success criteria
- A clear set of safety rules are in place
- High quality appropriate resources are available
- It is relevant to real life
- Teacher subject knowledge is good



- Children are allowed to make mistakes and are confident to have a go
- Misconceptions are addressed
- Children are given a choice in how to approach an investigation
- Different ways of working are utilised e.g.: individual work, pairs, small group, whole class, mixed ability, ability groupings

10. Cross Curricular Approaches

We recognise that the key cross curricular skills in science are:

- Speaking and listening - through finding out about and communicating facts, ideas and opinions in a variety of contexts
- Maths through the application of numbers, collecting, considering and analyzing first and second hand data
- Computing capability through using a range of ICT tools
- PHSE through working with others, through carrying out scientific investigation
- Improving own learning and performance, through reflecting on what they have done and evaluating what they have achieved
- Problem solving, through finding ways to answer scientific questions with creative solutions
- Literacy through report writing and the recording of their investigations
- Art and DT through observation drawings, planning and making to support investigations

11. Inclusion

We regard the achievement of every group of pupils to be of equal importance. This is reflected in the curriculum we teach. We value and reward the achievements of all pupils equally. We have high expectations of behaviour for every group in school. We aim to involve parents from all backgrounds and believe this is a significant benefit to the school.

12. Resources

A wide range of science resources are currently stored in the shower block as well as a large array on the Shared network.

Access to Science PDM training sessions and CPD modules to support teachers in planning lessons and their own subject knowledge is available through the Reach Out Science CPD online service.

13. Health and Safety

The safe use of equipment is promoted at all times and the school's health and safety policy should be consulted where necessary. It is the teacher's responsibility to make sure that all helpers (teaching assistants, parents etc.) are aware of safety



implications connected with any science activity they are undertaking. The safe use of equipment is promoted at all times and the school's health and safety policy should be consulted where necessary.

When working with tools, equipment and materials in practical activities and different environments, pupils should be taught;

- About hazards, risks and risk control
- To recognise hazards, assess consequent risks and take steps to control the risks to themselves and others
- To use information to assess the immediate and cumulative risks
- To manage their environment to ensure the health and safety of themselves and others
- To explain the steps they take to control the risks

14. Assessment and Reporting

Teachers assess the children's work and responses to the tasks set in planned activities; and lessons and across the school day. Informal formative assessment is ongoing in each science lesson and is used to adapt teaching to meet the needs of all children during the units.

At the start of each unit, teachers will use a 'big question' enquiry style question assessment to determine knowledge children already have, next steps and any misconceptions. At the end of each unit, the 'big question' assessment will be used to assess progress of knowledge and understanding of the unit.

Class teachers record ongoing unit and skills assessment data to support reporting to parents whether children have met / not met the age-related expectations for the science unit according to the National Curriculum.

Progress and attainment is reported to parents through parents/carers consultation evenings and end of year reports to indicate progress in science.

15. Monitoring and Review

The governor and subject Coordinator with responsibility for Science is primarily responsible for monitoring the implementation of this policy. This will be through annual discussion and consideration of the evidence included in the subject leader file and annual presentation. The work of the subject leader will also be subject to review by the head teacher as part of our performance management arrangements.

The Science leader will collect a selection of work from each year group along with other media evidence to ensure activities which are planned have been undertaken and to support monitoring the quality of work being produced throughout the school.



16. Policy Review Dates

This policy was updated by Joanne Binns-Alexander Subject Leader for Science.

Reviewed By	Jo Binns-Alexander	Date	5.6.24
Endorsed By		Date	
Approved By		Date	

Next Review Date – July 2026

17. Other Documents and Appendices

The Science policy should be read in conjunction with our science progression map, granular plans and policies for Curriculum, Teaching and Learning, Assessment and Health and Safety.

June 2024

Joanne Binns-Alexander
Science Curriculum Leader