Rishton Methodist Primary School

Science Policy

School Mission Statement

As a Methodist school, our values lie at the heart of all we are and do. Within our caring Christian community, where all are welcome, everyone is encouraged to be the best that they can possibly be. We promote respect, compassion and resilience to prepare our children for the challenges of an ever-changing world.

Rise up ……..take courage and do it"
Ezra 10:4

This policy outlines the guiding principles by which this school will implement Science in the National Curriculum (2014) in England.

Our rationale for teaching science

Science is a body of knowledge built up through experimental testing of ideas. Science is also methodology, a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as using and applying process skills. We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability. We believe that all pupils of this school must have regular access to science appropriate to their age and stage of development, and that emphasis should be given to this as a core subject.

Our aims in teaching science include the following:

General

- To prepare our children for life in an increasingly scientific and technological world.
- To foster in children the confidence to apply their knowledge, skills and ideas in real life contexts both within and outside the classroom and become aware of the uses of science in the wider world.
- To provide children with scientific experiences that develop their understanding of themselves and the world in which they live.
- To develop the enquiry skills of predicting, asking questions, making inferences, concluding and evaluating based on evidence and understanding and use these skills in investigative work.
- To deliver the new National Curriculum Science objectives in ways that are imaginative, purposeful, well controlled and enjoyable.

Attitudes

- To foster a positive attitude to science as an interesting and exciting part of the curriculum.
- To encourage open-mindedness, self-assessment, perseverance and responsibility.
- To build our children's self-confidence to enable them to work independently.
- To develop our children's social skills to work cooperatively with others.

Skills

- To give our children an understanding of scientific processes.
- To help our children to acquire practical scientific skills.
- To develop the use of scientific language, recording and techniques.
- To enable our children to become effective communicators of scientific ideas, facts and data.
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National Curriculum Coverage

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science.'

(The National Curriculum in England Framework Document, Department for Education September 2014)

Science is a core subject in the National Curriculum. The fundamental skills, knowledge and concepts of the subject are now categorised into two main areas:

1. Working Scientifically (which must always be taught through and clearly related to substantive science content in the programme of study, not as a separate strand)
2. Scientific Knowledge and Conceptual Understanding

How science is structured through the school

Planning

Planning in science ensures that the school delivers full coverage of the current National Curriculum (2014) and Early Years Foundation Stage Framework (2014).

The whole school science planning is based on the National Curriculum programmes of study and these are shared out across the Key Stages and when possible linked to topics they are studying in other areas of the curriculum. This provides a basis for termly and weekly planning. Science is taught as a discrete subject, often as a 'mini' topic within each half-termly programme of study. The topics allow the Science Curriculum to be delivered in a way that ensures full coverage of the programme of study. It also ensures progression between year groups.

As science is a core subject, planning will continue to be separate from cross-curricular topic planning.

Teaching

Science teaching in the school is about excellence and enjoyment. Lessons are delivered in an imaginative, purposeful, well controlled and enjoyable way.

Early Years Foundation Stage:

In the Early Years Foundation Stage, *Understanding the World* involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment.

Key Stage 1:

The principal focus of science teaching in Key Stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them.

Key Stage 2:

The principal focus of science teaching in lower Key Stage 2 is to enable pupils to broaden their scientific view of the world around them.

The principal focus of science teaching in upper Key Stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas.

Differentiation

Due to a requirement to match teaching provision to the ability of each child, lesson delivery and subsequent activities are always differentiated to suit the needs of the children in each class. This will mainly be in the form of differentiation through task, but may occasionally be differentiation by outcome or support/resources.

Our approach to science

The science curriculum is delivered through whole class teaching, co-operative group work and individual work.

Within this structure there will be:

- Whole class and group discussions and presentations.
- Demonstrations, explanations and instruction by teachers to groups, individuals and the whole class. This could be child-led, when possible.
- Practical activities to advance and consolidate knowledge and skills.
- Problem solving and investigation tasks.

Outdoor learning

Science lessons will include opportunities to use the school's outdoor learning area.

Equal opportunities in science

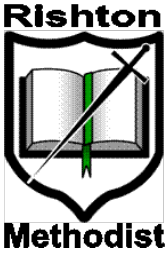
The teaching of science in our school takes consideration of our equal opportunities policy and inclusion.

We recognise children as individuals and base our teaching upon our knowledge of their specific needs. A range of teaching methods and resources allow children with a wide range of abilities to achieve their full potential.

SEN

We recognise the particular importance of first-hand experience for motivating children with learning difficulties. Pupils with special educational needs are provided for through:

- Teachers planning for the pupils' full participation.
- Providing opportunities for all pupils to achieve.
- Creating effective learning environments.
- Providing equality of opportunity through teaching approaches.
- Allowing pupils access to specialist equipment and approaches, where necessary.



More Able

We recognise that science may strongly engage our more able children, and we aim to challenge and extend them. More able pupil's needs are provided for through:

- Planning that is appropriately challenging.
- Allowing pupils access to specialist equipment and approaches, where necessary.

Cross-curricular opportunities

In our teaching, science is closely linked with literacy and mathematics.

Literacy

At Key Stage 1, the pupils are encouraged to use their speaking and listening skills to describe what they see and explain what they are going to do next. At Key Stage 2 the pupils are encouraged to develop their skills of writing to record their planning, what they observe and what they found out. In relation to science, they should be applying their literacy skills at levels similar to those which they are using in their English work.

Maths

At both key stages the pupils are expected to use their knowledge and understanding of measurement and data handling at appropriate levels. In science, they should be applying their maths skills at levels similar to those which they are using in their mathematics lessons.

ICT

The children are given the opportunity to use relevant ICT resources. At both key stages this involves the pupils using ICT to:

- Locate and research information (internet)
- Record findings (using text, data and tables)
- Gain confidence in using calculators, iPads and other devices.

ICT helps to develop independence in the children and can provide an excellent extension and challenge for more able pupils, whilst supporting others where necessary.

Teachers have access to an ICT Suite and iPads for use in science lessons. All teachers work to maximise the use of these resources in their teaching.

Liaison with other schools

Our school has close links with local colleges and High school. The aims of the collaboration include:

- To work together on the implementation of the science curriculum in fun and exciting ways.
- To allow networking opportunities.
- To share ideas and resources.
- To ease transition from Key Stage 2 to Key Stage 3.

Health and Safety

Safe practice will be promoted at all times.

Teachers will always take into account all relevant Health and Safety issues and will refer to the school's health and safety policy and specific risk assessments.

All staff will be aware of and refer to the following documents:

Assessment and recording in science

Assessment

We use assessment to inform and develop our teaching. This assessment includes:

- An assessment of what children already know at the start of a new topic.
- Assessment for learning (AfL) throughout a topic to enable progression.
- Documenting evidence during each topic relating to the assessment focuses from the National Curriculum.
- Assessment at the end of each topic to determine whether each child is below, at or above expectations using Target Tracker.

Key Stage 1:

The Year 2 teacher assesses children's level of attainment at the end of the KS1 programme of study. This teacher assessment is based on assessment records and work samples.

Recording

Teachers keep records of each child's performance relating to the assessment focuses covered in a topic by highlighting statements and objectives on the school's assessment tool – Target Tracker. The science subject leader monitors this assessment for all year groups on a half termly basis.

Reporting

The assessment of each child (whether they are below, at or above expectations) is reported to the science subject leader at the end of each half term for all topics covered within that half term via Target Tracker.

Written reports to parents, sent out at the end of the school year, describe each child's attitude to science, his/her progress in scientific enquiry and understanding of the content of science.

Marking

Marking involves the children in the process of self-improvement by recognising their achievements and acknowledging where they could improve.

Monitoring the delivery of science

The school science subject leader monitors planning, teaching and children's progress through the school. This is done each half term and includes:

- Sampling planning to ensure the assessment focuses for each topic are being covered and that Working Scientifically is being taught throughout each topic and not as a separate strand.
- Sampling children's work to ensure the assessment focusses are being covered effectively.
- Observing lessons to check that they are delivered according to the school science policy.

- Identifying the children that are working either below or above expectations and making sure differentiation in lessons takes their needs into account.
- Identifying the professional development needs of staff and liaising with the senior management team to ensure these needs are met.

Monitoring and review:

All staff are responsible for implementing the Science policy. Changes and developments of the Science curriculum are dealt with during INSET days and staff meetings. Staff keep up to date with the latest ideas by attending courses.

The effectiveness of this policy will be reviewed annually or when the need arises and the necessary recommendations for improvement will be made to the Governors

Date of next review of Curriculum policy: January 2022

Signature from Governors:	Date:
Signature of Head teacher:	Date: