Rodings Primary School

SCIENCE

POLICY

Science Policy

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Written by	Kate Oakley
Chair's Name	Leeann Goddard
Chair's Signature	

Curriculum Intent

At Rodings Primary School we strive to provide an excellence led and enriching experience for our children in a safe and stimulating environment. We have a skilled workforce and a high performing culture, which provides the right support at the right time for all children and staff. We work hard on outside engagement to develop strong relationships with our parents and community.

We do this through:
A COMMITMENT TO ACADEMIC EXCELLENCE
A PASSION FOR CREATIVITY
NURTURING SOCIAL INTELLIGENCE
WORKING WITH AND WITHIN OUR COMMUNITY

Rodings Primary School is committed to providing a place of academic excellence, where children's academic success is developed through a broad and deep curriculum.

We have a passion for the creative arts and aim to provide inspirational opportunities and experiences for our children. Through strong partnerships we show our commitment to developing creative individuals. .

We want all our children to be happy whilst with us. We nurture social intelligence through developing a toolkit to look after our own and each other's wellbeing. We give children responsibilities, freedoms, a voice and an opportunity to lead, whilst celebrating everything that makes us special

Our school sits in the heart of our community, and we are committed to learning about our local area, through our curriculum. We work alongside parents as a partnership. We are committed to developing meaningful links with organisations and individuals in our area.

Science at Rodings

At Rodings Primary School, children are encouraged to develop an enthusiasm and enjoyment of scientific discovery whilst ensuring that they are acquiring knowledge, concepts, skills and positive attitudes.

They are given opportunities for hands on experience with exploratory learning and testing out answers to questions that they may have. Our children become independent learners by exploring possible answers for their scientific based questions.

Our staff want to immerse the children in rich scientific vocabulary. Developing a passion for science and the idea of discovery can be applied to all aspects of life. The desire to discover is what drives us to learn new things whether it be about our world, space or ourselves and we want to instil this confidence in enquiry and curiosity in the children. The staff have a clear understanding of the progression in Science following the National Curriculum 2014 to

ensure that the scientific enquiry skills and scientific knowledge is developed throughout children's time at our school.

At Rodings Primary School, we expose children to high quality teaching and learning experiences to allow them to have the opportunity to explore the world they live in. This is achieved by presenting them with practical tasks and asking/answering questions. An example of this is our annual Science Challenge Day where children experience a wide range of practical activities to enhance their understanding of the curriculum.

We encourage the children at our school to explore their curiosity and to ask questions of their own. Once they have learnt new and exciting things, we then teach them to analyse and explain what they have discovered. Children are encouraged to be inquisitive and curious to build on what they have learnt and to lead their own learning where possible.

Every step and achievement they make allows them to get closer to understanding the world around us. Our children develop a respect for the world around them, which is embedded in the ethos of the school as it is one of our school values.

Scientists are responsible for all we know about our world and beyond. Whilst it is important to educate the children on scientific discoveries that have been made already by a diverse range of scientists, it is of equal importance to ensure that children are aware that there is still so much to discover.

National Curriculum

Purpose of study

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. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Aims

The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific 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

Curriculum Content for Science

EYFS Framework

Personal, Social and Emotional Development

ELG: Speaking

Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate.

ELG: Managing Self

Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.

Understanding the World

ELG: People, Culture and Communities

Describe the immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps

ELG: The Natural World

Explore the natural world around them, making observations and drawing pictures of animals and plants

Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.

Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter

KS1 National Curriculum Strands

KS1 Working Scientifically

- Asking simple questions and recognising that they can be answered in different ways
- Observing closely, using simple equipment
- Performing simple tests
- Identifying and classifying
- Using their observations and ideas to suggest answers to questions
- Gathering and recording data to help in answering questions.

Year 1

Biology		Chemistry	Physics
Animals, including Humans	Plants	Everyday materials	Seasonal Change

Year 2

Biology			Chemistry
Animals, including Humans	All living things and their habitats	Plants	Everyday materials

Lower KS2 National Curriculum Strands

Lower KS2 Working Scientifically

- asking relevant questions and using different types of scientific enquiries to answer them
- Setting up simple practical enquiries, comparative and fair tests
- Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- Identifying differences, similarities or changes related to simple scientific ideas and processes
- Using straightforward scientific evidence to answer questions or to support their findings.

Year 3

Biology		Chemistry	Physics	
Animals, including Humans	Plants	Rocks	Forces	Light

Year 4

Biology		Chemistry	Physics	
Animals, including Humans	All Living things and their habitats	States of Matter	Electricity	Sound

Upper KS2 National Curriculum Strands

Upper KS2 Working Scientifically

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments.

Year 5

Biology		Chemistry	Physics	
Animals, including Humans	All Living things and their habitats	Properties and Changes in Materials	Forces	Earth in Space

Year 6

Biology			Physics	
Animals, including Humans: Circulatory System	All Living things and their habitats	Evolution and Inheritance	Electricity (Circuits)	Light

EYFS

In EYFS, science content is delivered through the 'Understanding of the World' strand of the EYFS curriculum. This 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. They are assessed according to the Development Matters attainment targets.

Feedback

In order for feedback to have the highest impact on learners, we have investigated effective strategies. They can be categorised into:

1. Immediate: The feedback is given within the lesson, during the learning.
2. Summary: The feedback is given at the end of a session or unit, for example in a plenary
3. Review: The feedback is given as a result of a review after the lesson. This will usually be at the beginning of the next lesson.

Our Feedback Policy contains a list of effective feedback strategies that are used at Rodings Primary School. The list consists of best practice from across the UK. Teachers are trusted to

use a range of these strategies and to match the strategy to the needs of the class or individual pupil.

Assessment

An array of assessment techniques are used at Rodings to establish the attainment, achievement and progress of children that attend the school. These assessments are used to clarify the teachers thoughts and observations about the children they teach and to make a judgement on the child's termly and end of year outcomes.

The assessments used in Rodings Primary School are designed to give teachers the most accurate information possible but without adding significant workload onto the school staff.

An assessment cycle is in place and is designed so that information is collected efficiently and to avoid any overlap or repeated recording of the same information.

Assessments should also be used to celebrate success however big or small, furthermore, assessments should not put unfair or undue stress or pressure onto a child.

SEND/Inclusion provision

At Rodings, we believe that all children have an equal right to a full and rounded education which enables them to achieve their full potential. We use our best efforts to secure special educational provision for pupils for whom this is required, that is 'additional to and different from' that provided within the differentiated curriculum to better respond to the four broad areas of need, as identified in the SEND Code of Practice (2015). These are: Cognition and Learning, Communication and Interaction, Social, Emotional and Mental Health and Sensory and/or Physical

High Quality Teaching that is differentiated and personalised will meet the individual needs of the majority of children and young people. Some children and young people need educational provision that is 'additional to or different' from this, *this* is a special educational provision.

Considerations are made depending on the nature of the Science lesson. For example, if there is a written outcome, additional support and scaffolding would be provided as and when appropriate.

More Able provision

At Rodings Primary School we believe in providing the best possible provision for pupils of all abilities. Children deserve an education that challenges and motivates them to achieve their full potential and become independent learners. We plan our teaching and learning so that each child can aspire to the highest level of personal achievement.

Children who are identified as being More Able in Science may be selected to participate in activities across the DEEP partnership and take part in specialist visits. In Year 4, the more able children run a Science Ambassadors club at lunchtime which provides the rest of the children in the school the opportunity to experience a range of practical Science activities.