



**West Park
Church of England
Primary School**

Curriculum Policy for Science

‘Let your light shine’ Matthew 5

Date of approval	November 2023
Date of next review	Autumn term 2024
Approved by	Full Governing Body

West Park CE Primary School – Subject Policy 2023-2024

The Team – 2023-24

Subject leader – D Buckler

Governor -

Line Managers of Subject Leaders- Sophie Gumbrill and Caitriona Bull

The Importance of Science

West Park CE Primary School provides opportunities to encourage and challenge all pupils to 'shine' through our inclusive curriculum, which is inspired by shared Christian beliefs, values and practises in our school family.

Our Aims are:

- ensure our school environment is safe, stimulating and stable;
- provide exciting and inspiring learning experiences that give every child the opportunity to become enthusiastic, resilient, adaptable learners who actively participate in all aspects of school life;
- enable pupils to develop lively and enquiring minds, the ability to question and argue rationally and the skill of becoming independent and creative learners;
- provide a sense of community and citizenship, establishing skills to make and maintain positive relationships with others, working in a team both in and beyond our school;
- assist in the acquisition of knowledge, skills and attitudes that will enable all children irrespective of their ability, to achieve their full potential in subsequent phases of Education and adult life;
- enable everyone to develop a sense of their own identity and have respect and understanding of their own and other cultures, beliefs and religions.

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

National Curriculum Subject aims:

- 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.

Intention - What will pupils learn at West Park CE Primary?

Long-term overview of skills (where National curriculum objectives are planned for in each year group):

During EYFS pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- 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.

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- 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.

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- 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.

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- 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.

Implementation- What teaching activities are planned in Science at West Park CE Primary?

Learning is carefully structured and planned in units of work to enable the children to link their previous and new knowledge and skills and to stick this learning together into rich and robust knowledge so the pupils can apply what they know with increasing fluency and independence. These units of work are evaluated and updated as new texts, resources and inspirational events take place. This ensures our curriculum is relevant and robust as well as inspiring and rich.

Link to unit plans on website: <https://www.westpark.w-sussex.sch.uk/curriculum/>

Curriculum overview- Outlines are written and shared with parents each half-term. These are used to inform parents about what will be taught, what children will be able to do and remember after the unit of work and share key vocabulary and resources to support with learning at home.

Link to these on school website: <https://www.westpark.w-sussex.sch.uk/curriculum/>

Differentiation and Adaptation –to the curriculum and learning environment

Teachers are responsible and accountable for the progress and development of all the pupils in their class. High quality teaching is our first step in responding to all pupils including those pupils who have SEND. All children, regardless of need, learn alongside their peers wherever possible, apart from short focused interventions to meet their particular SEND need/s.

Adaptation is ‘any adjustment in the environment... or materials for learning’ which enables pupils to access and participate in learning. Darrow (2008)

We make the following adaptations to ensure our curriculum is ambitious and meets the needs of all pupils:

1. Adapting learning approaches to provide suitable learning challenges
2. Differentiating and adapting our curriculum to ensure all pupils are able to access it, for example, by grouping, additional adult support, teaching style, content of the lesson, resources etc.
3. Arranging physical spaces for accessibility for all pupils
4. Using recommended aids, such as laptops, coloured overlays, visual timetables, larger font, etc.
5. Differentiating our teaching, for example, giving longer processing times, pre-teaching of key vocabulary, reading instructions aloud, shorter pieces of text
6. Providing resources and equipment that are accessible and usable by all pupils
7. Making reasonable adjustments to practices and policies

Differentiation is defined as ‘tailoring teaching to attend to specific pupil’s needs and the way they learn’ Van Tassel-Baska (2012)

Differentiation at West Park includes:

1. Understanding the needs of the pupils
2. Valuing and planning for diversity
3. Purposeful use of flexible grouping
4. Teaching up- aiming high and then scaffolding that helps all pupils reach this.

Enrichment

By carefully planning trips and specialist visitors, we enhance our curriculum offer, bringing our learning to life. A current overview of this for this year is:

	Autumn	Spring	Summer
EYFS			Washbrooks Farm
Year 1		Space Dome	
Year 2		Goodwood Farm (Food)	

Year 3	Zoolab		
Year 4	Dentist and hygienist		
Year 5	Space Dome Eco-house trip	Tide observation beach trip	
Year 6	Fossil hunting beach trip		

Staff Development

Every subject leader has strategic leadership time each half term to support their monitoring and leadership. They also lead staff training for teaching staff each year. Some subject leaders also lead Maximising Impact of teaching assistants for all support staff to ensure curriculum provision and expertise is consistent across our school.

Community- How do we share our learning with our community?

We share our learning by inviting parents into school throughout the year; examples include

Science Week, performances following drama workshops, music workshops, art exhibitions, sports days, termly parent consultations and open afternoon when parents and families can come into class to see recent work and displays of learning.

Impact- What will the children at West Park remember and be able to do after their learning?

Assessment

Attainment targets

- By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study. (See National Curriculum)
EYFS: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/97490/7/EYFS_framework_-_March_2021.pdf
KS 1 and 2: <https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-of-study/national-curriculum-in-england-science-programmes-of-study>

End of unit assessments

Formative On-going Assessments by class teachers include feedback and discussion with the child (incorporating Rosenshine's principles of learning and assessment). Progress is assessed against the attainment targets and recorded on unit title and assessment sheets. Samples of work are moderated against expectations and are stored and shared as examples and to demonstrate progress.

Data

All teachers are responsible for keeping accurate records of attainment and progress made in line with the school policy on recording data. See assessment policy.

Marking

Work should be marked regularly in line with the school policy for marking. Verbal feedback is the most effective form of feedback for moving learning on but written feedback and modelling can also be effective. 'Green Pen Marking' is to be encouraged at all times so that children are being supported and moving children on during the lesson rather than retrospective marking which has less impact.

Display

See school policy for displays. We aim to inspire and challenge the children, supporting their learning through a working wall combined with celebrating achievement.

Equal Opportunities

Science plays an important part in the life of our school. It must be available and accessible to every pupil. Activities both within and outside the classroom are planned in a way that encourages full and active participation by all pupils, matched to their knowledge, understanding and previous experience.

Pupils should have equal opportunities to develop their understanding and enjoyment of Science.

Pupils should be taught about diverse focus figures (scientists, engineers, etc.,.)

Monitoring of Standards

Monitoring of science across the whole school is completed by the Subject Leader and shared with staff and Governors in the YILO and annual reports. Year Leaders have the responsibility of monitoring their own year group each term and reporting to the Subject Leader.

- 'Year in the life of' monitoring (YILO).
- Lesson observations/drop-ins
- Work scrutiny/book looks
- Pupil voice meetings
- Termly assessment data tracking (progression grids/pupil progress records)
- Assessment data from summative assessments.

Links to other policies:

- Assessment policy
- Curriculum policy
- Display policy
- Homework policy
- Inclusion policy
- Marking and feedback policy
- Equalities Statement

Policy reviewed on 1.3.23 date by Dave Buckler, Subject Lead