

## Science Intent statement

### Intent: Introduction, Vision and Philosophy

We aim for all pupils to: Develop their substantive and disciplinary knowledge, their understanding of the nature, processes and methods of science through different types of scientific enquiries and observations that help them to answer scientific questions about the world around them. Our aim will allow children to become equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. Our curriculum is designed to enable children to ask scientific questions and deepen their scientific knowledge and conceptual understanding. Working scientifically, they will be able to plan and carry out scientific investigations with equipment, including use of the outdoor environment, correctly and effectively.

We believe a high-quality, well sequenced science education provides the foundations for understanding the world. Science has changed our lives and is vital to the world's future prosperity, that 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 use skills to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

### Implementation: What does Science look like at Weston Schools Federation?

We believe our pupils should be equipped with the skills and knowledge to describe their scientific learning, by using technical terminology accurately and precisely. They should build up an extended vocabulary, knowledge and apply this throughout their learning journey. A variety of teaching and learning styles are used in science lessons with the aim of developing children's knowledge, understanding and skills. This could be through whole class teaching, investigation or research based activities. Children are encouraged to ask and answer scientific questions. Science lessons provide the opportunity for data to be collected and technology to be used. Children may also take part in role play activities and discussions. Wherever possible, children are engaged in real scientific problem-solving activities.

Each science topic is divided and organised into a sequenced knowledge progression for every half term with a focus on the progression of working scientifically. Each unit is planned with prior learning and the unit outcomes at the heart of learning process. We are committed to ensure all our children's needs are met and our planning reflects our knowledge of the children and guarantees learning is tailored to meet and respond to the children's individual ability needs. The aim is to provide appropriate adapted support to enable children to achieve success by ensuring their varied needs are met. At the start of a topic, teachers ensure that the prior learning knowledge is secure and that all children have a good understanding before moving on. Key vocabulary is displayed, and teachers are responsible for continually updating their classroom working walls and knowledge organisers.

Whole School Science Curriculum Offer Substantive Knowledge

Year Groups	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	My family my home my school friends	My community	Investigating and questioning	My ideas	My Body	My world
Year 1	What makes me unique?	Machines- transport	Bridges	Toys	How to save my world	Where in the world
	Animals including humans	Classification Animals	Everyday materials		Plants	
	Longitudinal Study - Seasons					
Year 2	Great Fire of London	Hot and cold places.	Florence Nightingale	Plants	Titanic.	Journeys
		Food Chains and habitats	Healthy Humans		Healthy Humans	Local Habitats
Year 3	Journeys	Survival	Bravery		Tolerance/ Moral Dilemmas	
Animal homes unit across the year	Animals and Skeletons	Forces and Magnets	Light		Plants	
	Year 4	Heroes and Freedom	Rights and Responsibilities	Blue Planet	Save our world	Raiders or traders?
	Human including animals	Electricity	Living things and their habitats		Sound	States of Matter
Year 5	The Environment- Climate Change		Natural disasters	Space the Final Frontier	Victorians	Fair Trade for all
	Forces		Properties of Materials and Changing States	Earth and Space	Living things and habitats - Life Cycles	Animals incl. humans
Year 6	Crime and Punishment	Survival	Poverty and Wealth	Fascism	Moving and Migration	Thrill Seekers
	Animals including humans	Evolution	Classification	Light		Electricity

## Impact: Evidence and Assessment

The teaching of science offers children many opportunities to examine some of the fundamental questions in life e.g. the evolution of living things, and how the world was created. Through many of the amazing processes that affect living things, children develop a sense of ‘awe and wonder’ regarding the nature of our world. Science raises many social and moral questions. Through the teaching of science, children can discuss, for example the effects of unhealthy eating and the moral questions involved in the issue. We give them the chance to reflect on the way people care for the planet and how science can contribute to the way we manage the earth’s resources. Science teaches children about the reasons why people are different and through developing the children’s knowledge and understanding of physical and environmental factors, it promotes respect for other people and the wider world around them.

Teachers are required throughout lessons to mark and feedback linked to children’s understanding. At the end of each unit teachers are required to use DC pro to assess and track children’s outcomes and progression. This in turn will inform future planning and progression throughout year groups. Science leaders regularly monitor planning, DC Pro and evidence in books as well as conducting pupil conferencing to evaluate the impact of the science enquiry lead curriculum.