Weston Schools Federation

Weston Shore Infant School

Weston Park Primary School

# 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 looks 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 Animal homes unit across the year | Journeys | Survival | Bravery | | Tolerance/ Moral Dilemmas | |
| | Animals and Skeletons | Forces and Magnets | Light | | Plants | |
| Year 4 | Heroes and Freedom | Rights and Responsibilities | Blue Planet | Save our world | Raiders or traders? | Dreams |
| | 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.