Manor Junior School

Curriculum Statement – Science

<table>
<tr><th colspan="2">Quote – "I am among those who think that science has great beauty."— Marie Curie</th></tr>
<tr><td>The national curriculum 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.</td><td><u>Our Planning Approach</u>
Hook/Key Question
Key Question to inspire, fascinate and ignite curiosity. What questions do we have?
Predict
What do you think will happen?
Investigate and work scientifically
Collect information and investigate using scientific skill and applying key knowledge.
Plan an enquiry and identify the change (independent variable) and measure (dependent variable).
Explain and interpret results
What do we notice? What is the same? What is different? Explain what you know.
Make connections, comparisons and spot patterns. Apply knowledge and use key vocabulary?
Draw conclusions
Using results to draw simple conclusions, developing and refining knowledge.
Apply new skills and knowledge and answer key question. An opportunity to show case how we have been inspired, curious and fascinated and celebrate learning.</td></tr>
<tr><td><u>Intent – Aims</u>
Our aim through our 'Explore, Learn, Achieve' science curriculum is to develop the natural curiosity that children have about the world that we live in by building on their observations and teaching them: how to investigate, relevant discrete scientific knowledge and methodology. We endeavour to provide a high quality science education that provides children with the foundations they need to recognise the importance of science in every aspect of daily life. We want our children to appreciate how science has changed the lives of human beings and know that it is vital to the world's future prosperity.
Our curriculum is based on an enquiry approach – developing an understanding of how science can be used to explain what is occurring, predicting how things will behave, and then analysing causes and changes that they have noticed.</td><td><u>Implementation- How do we achieve our aims?</u>
Our science curriculum allows pupils to build on scientific enquiry skills throughout their time in our school, linking topics through key big questions. There are three types of 'Learning Journey' The building block topic: Ideas build upon each other sequentially making an increasingly sophisticated model. The big model topic: An important model is shared at the beginning, but detail and complexity are added through the topic. The multiple context topic: An important overarching concept or idea is taught at the beginning and then applied in a number of different contexts. Within each topic, we will inspire the children's interest through the discrete teaching of knowledge (using the Hampshire Science Learning Journeys) in short snippets, before the children are asked to apply this through practical activities / problem solving. Along-side these, disciplinary skills, children will be making connections between their prior knowledge and their newly acquired learning. Each lesson starts with revision / teaching of key vocabulary. Experiences such as visitors and visits are encouraged e.g. Year 5 visit Winchester Science Museum</td></tr>
<tr><td><u>Impact - How will we know we have achieved our aims?</u>
The children will be able to answer their key big question at the end of the unit; Our enquiry approach encourages critical thinking which can be applied not only in science but across the curriculum.
Planning is monitored by the subject leader and work is sampled for each project. Year leaders are given feedback.</td><td><u>Curriculum Links with other subjects and enrichment opportunities</u>
Year 3 – magnets linked with DT, Maths- measurement
Plants – DT (Food)
Maths – shape 3D seed holders
Year 4 – Electrical circuits – DT torches
Solids, liquids, gases – geography water cycle
Year 5 – Forces – P.E.
Circulation – P.E. PSHCE
Year 6 – Evolution – PSHCE use of anti-biotics</td></tr>
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Curriculum Overview: Science at Manor Junior School

	Autumn		**Spring**		**Summer**	
Year 3	Living things (longitudinal study) Magnets	Light	Rocks and Soils	Skeletons and movement	How plants make their food	How plants reproduce
Year 4	Living things (longitudinal study)	Making Electrical Circuits Work	Solids Liquids and Gases	Mixtures and Separation	Digestion – How nutrients enter blood stream	
Year 5	Light Space and Gravity		Forces that oppose Motion		Fossils, Geological Time and Classification	Circulation - How nutrients get to where they are needed in the Body
Year 6	Controlling Electrical Circuits	Natural Selection and Evolution	Sound - How sound is made, travels and can be changed		Making New Substances	