



### Jennett's Park Science Curriculum

#### Intent

At our school we want pupils to be actively interested in science with an understanding of the impact of science on our world. We aim to give all children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them to think scientifically, to be inquisitive investigators of 'why' and 'what if', to gain an understanding of scientific processes and also an understanding of the uses and implications of science, today and for the future. Working scientifically, skills are embedded in each topic from EYFS through to the end of Year 6. Topics are revisited and built on to embed further knowledge throughout KS1 and then KS2. This enables children to build on their prior knowledge and increases their enthusiasm for the topics and develops further curiosity. All our pupils are encouraged to develop and use a range of skills including observations, planning and investigations as well as being encouraged to question the world around them. Specific and technical vocabulary for all topics are taught and developed throughout the years across the school. Concepts taught are reinforced by focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

<b>Educating for Wisdom, Knowledge and Skills</b>	To help grow resourceful, resilient and reflective children who are equipped with the skills, knowledge and tenacity empower themselves, their learning throughout their lives.
<b>Educating for Hope and Aspiration</b>	To inspire and enrich lives beyond current opportunities and experiences in order to open minds to the potential their future holds
<b>Educating for Community and Living Well Together</b>	To be a multi-cultural, inclusive community of individuals loved by God who feel valued and involved where we create qualities of character to enable people to flourish.
<b>Educating for Dignity and Respect</b>	That children might know how much that they are loved and valued by so that they might show dignity and respect for themselves and others by carefully and safely thinking through their actions.

#### Implementation

We have created a comprehensive progression document for staff to follow to best cover and embed every element of the science curriculum including a quick recap of previous learning in each topic (including the year taught and the vocabulary). The knowledge/skills statements build year on year to deepen and challenge our learners to increase their ability to question and investigate. We encourage further interest in science through our annual science week which is accessible to all years from nursery through to year 6.

#### How to Implement the progression document and long term plan

We feel that science should be embedded across the wider curriculum and should involve historical knowledge of science (within the primary curriculum), famous scientists of all backgrounds and what possible impact science could have on the future of the wider world community. Science is taught through a mixture of timetabled science lessons and cross curricular lessons which aids the pupils to link to real life situations. At the beginning of each topic pupils are provided with a knowledge organiser and the topic specific technical vocabulary, which could take the form of a whole class working document, working wall or individual organisers in books and there will be a recap of previous knowledge (taught in previous year groups) to identify any gaps and to link the pupils learning. Pupils will be challenged to become independent science learners in an open manner involving discussions, physical investigations and research. There will be trips and visits from experts to enhance the learning experience for all ages.

## Impact

We encourage our children to enjoy and value the curriculum we deliver whilst feeling empowered to ask questions and investigate the possible answers. Our pupils are constantly asked why, what if, explain and build on, as well as being encouraged to challenge and question each other. The oracy skills displayed by our pupils will embed the technical skills and knowledge further, and will increase the level of knowledge displayed in a variety of formats. This display of skills and knowledge can be collated through diagrams, descriptions, discussions, quizzes, formal write-ups and physical investigations developed over time from EYFS through to the end of KS2. We provide a variety of routes, equipment and investigations for learning about science, the technical vocabulary as well as routes to developing scientific thought patterns to prepare our pupils for the next stage of their education within the secondary sector. Our pupils will leave our school with an interest, knowledge and the skills required to enable them to pursue further education with a view to future employment in the science industry. This variety of teaching, learning and reviewing of knowledge and skills enables all our pupils to achieve the best possible outcomes.

<b>Summary of core progression in working scientifically (see progression map for details)</b>				
Stage	EYFS	KS1 - Years 1 and 2	LKS2 – Years 3 and 4	UKS2 – Years 5 and 6
Plan	<ul style="list-style-type: none"> <li>choose the resources they need for their chosen activities and say when they do or don't need help</li> </ul>	<ul style="list-style-type: none"> <li>ask simple questions and recognising that they can be answered in different ways</li> </ul>	<ul style="list-style-type: none"> <li>ask relevant questions and using different types of scientific enquiries to answer them</li> <li>set up simple practical enquiries, comparative and fair tests</li> </ul>	<ul style="list-style-type: none"> <li>plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> </ul>
Do	<ul style="list-style-type: none"> <li>know about similarities and differences in relation to places, objects, materials and living things</li> <li>make observations of animals and plants</li> <li>explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</li> <li>select and use technology for particular purposes</li> </ul>	<ul style="list-style-type: none"> <li>observe closely, using simple equipment</li> <li>perform simple tests</li> <li>identify and classify</li> </ul>	<ul style="list-style-type: none"> <li>make systematic and careful observations and, where appropriate, take accurate measurements using standard units, use a range of equipment, including thermometers and data loggers</li> </ul>	<ul style="list-style-type: none"> <li>take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> </ul>
Record	<ul style="list-style-type: none"> <li>represent their own ideas, thoughts and feelings through design and technology, art, music,</li> </ul>	<ul style="list-style-type: none"> <li>gather and record data to help in answering questions.</li> </ul>	<ul style="list-style-type: none"> <li>gather, record, classify and present data in a variety of ways to help in answering questions</li> <li>record findings using simple</li> </ul>	<ul style="list-style-type: none"> <li>record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter</li> </ul>

	dance, role play and stories		scientific language, drawings, labelled diagrams, keys, bar charts, and tables	graphs, bar and line graphs
Review	<ul style="list-style-type: none"> <li>talk about the features of their own immediate environment and how environments might vary from one another</li> <li>explain why some things occur and talk about changes</li> </ul>	<ul style="list-style-type: none"> <li>use their observations and ideas to suggest answers to questions</li> </ul>	<ul style="list-style-type: none"> <li>report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> <li>use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</li> <li>identify differences, similarities or changes related to simple scientific ideas and processes</li> <li>use straightforward scientific evidence to answer questions or to support their findings</li> </ul>	<ul style="list-style-type: none"> <li>use test results to make predictions to set up further comparative and fair tests</li> <li>report and present 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</li> <li>identify scientific evidence that has been used to support or refute ideas or arguments</li> </ul>

**Summary of core progression in science (see progression map for details)**

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> <li>Understanding the world around them (their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment)</li> </ul>	<ul style="list-style-type: none"> <li>Plants</li> <li>Animals including humans</li> <li>Everyday materials</li> <li>Seasonal changes</li> </ul>	<ul style="list-style-type: none"> <li>Plants</li> <li>Animals including humans</li> <li>Uses of everyday materials</li> <li>Living things and their habitats</li> </ul>	<ul style="list-style-type: none"> <li>Plants</li> <li>Animals including humans</li> <li>Rocks</li> <li>Light</li> <li>Forces and magnets</li> </ul>	<ul style="list-style-type: none"> <li>Animals including humans</li> <li>All living things and their habitats</li> <li>States of matter</li> <li>Sound</li> <li>Electricity</li> </ul>	<ul style="list-style-type: none"> <li>Animals including humans</li> <li>All living things and their habitats</li> <li>Properties and changes of materials</li> <li>Forces</li> <li>Earth and space</li> </ul>	<ul style="list-style-type: none"> <li>Animals including humans</li> <li>All living things and their habitats</li> <li>Light</li> <li>Evolution and inheritance</li> <li>Electricity</li> </ul>