

# Woodlands Park Primary and Nursery School

## Characteristics of a Scientist

### Curriculum Intent:

At Woodlands Park, we value Science. Science changes lives and is vital to the world's future. Science is an interesting and exciting topic which should inspire children's curiosity about the natural world and the human impact on it. We seek to motivate children to ask questions, develop a passion for investigating and exploring. They will build upon a body of key knowledge and concepts to try and solve challenging problems and learn from their mistakes. They will self-reflect in order to improve their understanding. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. Through this, they will develop their teamwork, collaboration and respect for the world. "Science is simply the word we use to describe a method to organise our curiosity" Tim Minchin

### Characteristics of our Science Curriculum:

- The ability to think independently and raise questions about working scientifically and the knowledge and the skills that it brings.
- Confidence and competence in the full range of practical skills, taking the initiative in, for example, planning and carrying out scientific investigations.
- Excellent scientific knowledge and understanding which is demonstrated in written and verbal explanations, solving challenging problems and reporting scientific findings.
- High levels of originality, imagination or innovation in the application of skills.
- The ability to undertake practical work in a variety of contexts, including in the outdoor environment.
- A passion for science and its application in the past, present and future technologies

Learning Opportunities in EYFS	Learning Opportunities in Key Stage One	Learning Opportunities in Key Stage Two
<ul style="list-style-type: none"> <li>• to explore the natural world around them and within the wider world</li> <li>• to talk about the changes that happen within the wider natural world that they learn about</li> <li>• to notice and describe the changes that they witness around them</li> </ul>	<u>Plants:</u> <ul style="list-style-type: none"> <li>• Identify, classify and describe their basic structure</li> <li>• Observe and describe growth and conditions for growth</li> </ul> <u>Habitats:</u> <ul style="list-style-type: none"> <li>• Look at the suitability of environments and at food chains</li> </ul> <u>Animals and Humans:</u>	<u>Rocks and Fossils:</u> <ul style="list-style-type: none"> <li>• Compare and groups rocks and describe the formation of fossils</li> </ul> <u>States of Matter:</u> <ul style="list-style-type: none"> <li>• Look at solids, liquids and gases, changes of stage, evaporation, condensation</li> </ul> <u>Materials:</u>

<ul style="list-style-type: none"> <li>• Use a range of stories and picture books to investigate themes – The Snail and The Whale, Meet The Planets, Meet The Oceans, Penguins: Meet The Family, The Hungry Caterpillar, I Wonder Why Kangaroos have pouches etc.</li> <li>• Talk about day and night, investigate ice, shadows, grow plants,</li> </ul>	<ul style="list-style-type: none"> <li>• Identify, classify and observe</li> <li>• Look at growth, basic needs, exercise, food and hygiene</li> </ul> <p><u>All Living Thing:</u></p> <ul style="list-style-type: none"> <li>• Investigate differences</li> </ul> <p><u>Materials:</u></p> <ul style="list-style-type: none"> <li>• Identify, name, describe, classify, compare properties and changes</li> <li>• Look at the practical uses of everyday materials</li> </ul> <p><u>Light:</u></p> <ul style="list-style-type: none"> <li>• Look at sources and reflections</li> </ul> <p><u>Sound:</u></p> <ul style="list-style-type: none"> <li>• Look at sources</li> </ul> <p><u>Electricity:</u></p> <ul style="list-style-type: none"> <li>• Look at appliances and circuits</li> </ul> <p><u>Forces:</u></p> <ul style="list-style-type: none"> <li>• Describe basic movements</li> </ul> <p><u>Earth and Space:</u></p> <ul style="list-style-type: none"> <li>• Describe seasonal changes</li> </ul>	<ul style="list-style-type: none"> <li>• Examine the properties of materials using various tests</li> <li>• Look at solubility and recovering dissolved substances</li> <li>• Separate mixtures and changes to materials to create new materials</li> </ul> <p><u>Light:</u></p> <ul style="list-style-type: none"> <li>• Look at sources, seeing, reflections and shadows</li> <li>• How light appears to travel in straight lines/how this affects seeing and shadows</li> </ul> <p><u>Sound:</u></p> <ul style="list-style-type: none"> <li>• Look at sources, vibration, volume and pitch</li> </ul> <p><u>Electricity:</u></p> <ul style="list-style-type: none"> <li>• Look at appliances, circuits, lamps, switches, insulators and conductors</li> <li>• Look at circuits, the effect of the voltage in cells and the resistance and conductivity</li> </ul> <p><u>Forces and Magnets:</u></p> <ul style="list-style-type: none"> <li>• Look at contact and distant forces, attraction and repulsion, grouping materials</li> <li>• Look at poles, attraction and repulsion</li> <li>• Look at the effect of gravity and drag forces</li> <li>• Look at transference of forces in gears, pulleys, levers and springs</li> </ul> <p><u>Earth and Space:</u></p> <ul style="list-style-type: none"> <li>• Look at the movement of Earth and the Moon/explain day and night.</li> </ul>
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