



## Science School Overview

At Four Oaks, we recognise the importance of a progressive curriculum which builds over time from EYFS to Year 6. For further details of the Education Programmes at EYFS and KS1 and KS2, please see the Statutory Framework for the Early Years Foundation Stage 2021 and the National Curriculum for Key Stage 1 and 2, 2014.

| Year Group | AUTUMN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | SPRING                                                                                                                                                                                                                                                                                                                                                         | SUMMER                                                                                                                                                                                                                                                                                                                                                                                     |
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| Nursery    | <b>Personal, Social and Emotional Development</b> <ul style="list-style-type: none"> <li>Make healthy choices about food, drink, activity and toothbrushing.</li> </ul> <b>Understanding the World</b> <ul style="list-style-type: none"> <li>Use all their senses in hands-on exploration of natural materials.</li> <li>Explore collections of materials with similar and/or different properties.</li> <li>Talk about what they see, using a wide vocabulary.</li> <li>Begin to make sense of their own life-story and family's history.</li> <li>Explore how things work.</li> <li>Plant seeds and care for growing plants.</li> <li>Understand the key features of the life cycle of a plant and an animal.</li> <li>Begin to understand the need to respect and care for the natural environment and all living things.</li> <li>Explore and talk about different forces they can feel.</li> <li>Talk about the differences between materials and changes they notice.</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                            |
| Reception  | <b>Physical Development</b> <ul style="list-style-type: none"> <li>Know and talk about the different factors that support their overall health and wellbeing: <ul style="list-style-type: none"> <li>regular physical activity, healthy eating, toothbrushing, sensible amounts of 'screen time', having a good sleep routine, being a safe pedestrian.</li> </ul> </li> </ul> <b>Understanding the World</b> <ul style="list-style-type: none"> <li>Explore the natural world around them.</li> <li>Describe what they see, hear and feel while they are outside.</li> <li>Recognise some environments that are different to the one in which they live.</li> <li>Understand the effect of changing seasons on the natural world around them.</li> </ul>                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                            |
| ELG        | <b>Personal, Social and Emotional Development- Managing Self</b> <ul style="list-style-type: none"> <li>Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.</li> </ul> <b>Understanding the World- The Natural World</b> <ul style="list-style-type: none"> <li>Explore the natural world around them, making observations and drawing pictures of animals and plants.</li> <li>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.</li> </ul> <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                            |
| EYFS       | <p align="center">Autumn 1</p> <p><b>Seasonal Changes- Autumn</b><br/>To ask questions about the natural environment.<br/>To respect and care for the natural environments.<br/>To know about and recognise the signs of Autumn.</p> <p><b>Earth and Space</b><br/>To know about features of the world and Earth</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p align="center">Spring 1</p> <p><b>Everyday materials</b><br/>To know common materials and will be able to identify these materials in their local environment and say what we could use the material for. Children will know how to conduct a 'fair test' to test materials and their properties and will know whether materials are waterproof or not.</p> | <p align="center">Summer 1</p> <p><b>Minibeasts</b><br/>To know what is meant by the term 'minibeast' and name some minibeasts. To observe minibeasts in their habitat and create observational drawings.</p> <p><b>Chicks- life cycle</b><br/>To know how to care for chicks and be able to orally talk about the lifecycle of chicks and sequence photographs to show the lifecycle.</p> |

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|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Seasonal Changes- Spring</b><br>To observe and know signs of Spring in their local environment.                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                           |
|        | Autumn 2<br><b>Seasonal changes- Winter</b><br>To know about and recognise the signs of Winter<br><br>To know some important processes and changes in the natural world including states of matter (freezing)<br><br><b>Senses and being healthy</b><br>To know and name some different parts of the body and what they are used for. Children will understand that some foods are healthier than others but it is important we eat a wide range of food to grow. Children understand the importance of exercise and comment on the effects it has on their bodies. | Spring 2<br><br><b>Plants</b><br>To know what a plant is and what it needs to grow. Children will know animals have different habitats and where to find a mini beast. Children will talk about the similarities and differences between minibeasts.<br><br><b>Light and Sound</b><br>To explore light and sound. | Summer 2<br><b>Push and Pull</b><br>To know what is meant by 'push' and 'pull' and will use these to move objects. Children will be able to orally talk about what happens when you change the force of the push and pull.<br><br><b>Seasonal Changes- Summer</b><br>To know that there are four seasons in the year. To be able to talk about the seasonal changes we observe in summer. |
| YEAR 1 | Animals, including humans (human body)<br><b>Shirley Ferber</b><br><b>Equine Nutritionist</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Seasonal changes<br>Evergreen trees<br><u>FaceTime a Farmer - one year...   LEAF (Linking Environment and Farming)</u>                                                                                                                                                                                            | Seasonal changes (identify and name common plants and trees)<br><b>Dr Angie Burnett</b><br><b>Plant Biologist</b>                                                                                                                                                                                                                                                                         |
|        | Seasonal change<br>Deciduous trees & parts of plants and trees<br><b>Dr Helen Mason</b><br><b>Solar scientist</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Everyday materials (names and properties of simple materials)<br><b>Pauline de Bigault de Cazanove</b><br><b>Environmental Chemist</b>                                                                                                                                                                            | Animals, including humans (animals)<br><b>Jemma Dias</b><br><b>Animal Behaviour and Welfare Scientist</b>                                                                                                                                                                                                                                                                                 |
| YEAR 2 | Plants (Bulbs)<br>Living things and their habitats (suitable habitats/simple food chains)<br><u>Wetland Biologist - NUSTEM</u>                                                                                                                                                                                                                                                                                                                                                                                                                                      | Animals, including humans<br><b>Nelly Mak</b><br><b>Virologist</b>                                                                                                                                                                                                                                                | Living things and their habitats (suitable habitats/simple food chains)<br><b>Dr Kelly Blacklock</b><br><b>Veterinary surgeon</b>                                                                                                                                                                                                                                                         |
|        | Uses of everyday materials (suitability and changing shapes of materials)<br><b>Gunay Shamilova</b><br><b>Corrosion Engineer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    | Uses of everyday materials (suitability and changing shapes of materials)<br><b>Dr Raquel Prado</b><br><b>Renewable Materials Engineer</b>                                                                                                                                                                        | Plants (Seeds)<br><b>Dr Ben Woodcock</b><br><b>Ecological entomologist</b>                                                                                                                                                                                                                                                                                                                |
| YEAR 3 | Animals, including humans (Nutrition and how we move)<br><b>Rachael Singleton</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Forces and magnets<br><b>Kathryn Waring</b><br><b>Chartered civil engineer</b>                                                                                                                                                                                                                                    | Light (Shadows)<br><b>James Mortimer</b>                                                                                                                                                                                                                                                                                                                                                  |

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|        | Behavioural scientist                                                                                                                            |                                                                                                                                                                                                               | Photochemist                                                                                                                      |
|        | Plants<br>(seed dispersal)<br><b>Dr Kelsey Byers</b><br>Evolutionary Biologist                                                                   | Rocks & soil<br><br><b>Dr Emma Nicholls</b><br>Palaeontologist                                                                                                                                                | Plants<br>(Parts of flowers and life cycle)<br><b>Dr Susannah Bourne-Worster</b><br>Theoretical Chemist                           |
| YEAR 4 | Living things and their habitats<br>(recognise that living things can be grouped in different ways)<br><b>Dawood Qureshi</b><br>Marine biologist | States of matter<br>(solids, liquids, gases, heating and cooling, water cycle)<br><b>Dr Rabi Chhantyal-Pun</b><br>Atmospheric chemist                                                                         | Living things and their habitats<br>(Changes in habitat)<br><a href="#">Rachel Carson Facts for Kids (kiddle.co)</a>              |
|        | Electricity<br>(Construct simple circuits)<br><b>Erusa Adizie</b><br>Innovation Engineer                                                         | Sound<br><a href="#">Live Sound Engineer - NUSTEM</a><br><a href="#">Emily Lazar - Google Search</a>                                                                                                          | Animals, including humans<br>(Digestive system and food chains)<br><b>Tessa Nash</b><br>Poultry scientist                         |
| YEAR 5 | Forces<br><b>Rafsan Chowdhury</b><br>Mechanical Engineer                                                                                         | Properties and changes of materials<br>(more properties including thermal and electrical conductivity, missing and separating, reversible and irreversible.)<br><b>Dr Pearl Agyakwa</b> Materials scientist   | Living things and their habitats<br>(life cycles, reproduction)<br><br><b>Prem Singh Gill</b><br>Polar scientist                  |
|        | Earth and space<br><b>Dr Emily Rickman</b><br>Astrophysicist                                                                                     | Properties and changes of materials<br>(more properties including thermal and electrical conductivity, missing and separating, reversible and irreversible.)<br><br><b>Gunay Shamilova</b> Corrosion Engineer | Animals including humans<br>(changes in humans as they grow)<br><a href="#">Cynthia Kenyon - Life Extending Science - YouTube</a> |
| YEAR 6 | Living things and their habitats<br>(Classification)<br><b>Letizia Delle Vedove</b><br>Molecular biologist                                       | Animals, including humans<br>(Circulatory system)<br><b>Michelle Williams</b><br>Radiologist                                                                                                                  | Light<br>(How we see and how light travels)<br><b>Ibn al-Haitham (Alhazan)</b>                                                    |
|        | Electricity<br>(Create components and symbols)<br><b>Thomas Edison</b>                                                                           | Evolution and inheritance<br>(more about fossils, adaptation)<br><b>Charles Darwin</b>                                                                                                                        | <i>(For teacher assessment purposes, all topics taught before May half term)</i>                                                  |

**A scientist just like me**

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Orange – Physics

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