

Subject Statement:

Science at Woodfield provides pupils with the foundations to understand the world in which they live and see around them and hopefully decrease some of the unpredictability that they currently fear. Our aim is for pupils to leave Woodfield with an enquiring mind; a real interest in the world around them and a desire to discover things for themselves. We want pupils to slowly extend the size of the world in which they feel comfortable, and to understand how their actions can cause positive effects on themselves, their environment and beyond.

We will deliver this by introducing scientific concepts and ideas whilst investigating the natural world. Pupils will be encouraged to develop a sense of natural curiosity and supported to safely explore and investigate. They will begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. As pupils progress through the school, they will be provided with the relevant knowledge and understanding that promotes an appreciation of the world around them, whilst acquiring the ability to think scientifically, gain an understanding of scientific processes and of the uses and implications of science today and in the future.

Climate education is a key strategy for addressing the climate crisis by fostering awareness and promoting behaviours and changes that reduce wasted energy and associated greenhouse gas emissions. Through developing awareness pupils increase their understanding of how their actions may contribute to energy use, waste and climate change, fostering a sense of shared ownership of the issues whilst helping develop the skills and knowledge needed for future employment opportunities in sustainability and climate action.

Most of the learning about science will be done through first-hand practical experiences, but also with appropriate secondary sources, such as books, photographs and videos to ensure our pupils can fully engage with key ideas and concepts. Our curriculum maps well with White Rose Science and Twinkl. Pupils will be given the time and repetition that they need to learn and understand scientific ideas and concepts as they work through the 3 areas of the science curriculum (biology, chemistry and physics), each year building on what they have previously learnt.

Pupils will be assessed termly, through end of topic tests so that learning can be built up over time and any gaps are identified and further explored. Pupils will sit the BTEC Science qualification at entry level when they reach Olive Class providing a solid foundation for further study at GCSE.

British Science Week is held in March where we aim to celebrate research, innovation and associated scientists to help represent the diversity of scientists and their contributory work to science, and to support the development of a future STEM workforce.



	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Orange Year 1 26-27	Identify parts of the human body Senses - Sight and sound Senses – taste and touch		Exploring materials (wood, plastic, glass, metal) Exploring materials (wood, paper, cardboard) Exploring materials (rock and brick) <i>Research Aristotle</i>		Seasonal changes Lifecycle of a plant/tree <i>**Climate change - weather</i>	
Orange Year 2	Mammal, birds, fish amphibians Carnivores, herbivores and omnivores Deciduous and evergreen trees <i>**Climate change - deforestation</i>		Natural and man-made materials. Classifying materials Materials for construction <i>** climate change - recycling</i>		Healthy bodies – exercise and diet Healthy bodies – hygiene Teeth and hygiene	
Cherry Year 1	Vertebrates and invertebrates. Classification <i>Research Linnaeus</i>	Animal and plant life cycles. Planting seeds/bulbs <i>Research George Carver</i>	Plants need for survival. Plants in spring <i>**Climate change – trees absorb CO2</i>	Balanced and unbalanced forces. Force diagrams	Light and colours inc. shadows <i>Research Maggie Pocock</i>	Appliances and electricity. Electrical circuits <i>** climate change – renewable energy</i>
Cherry Year 2 26-27	Habitats and ecosystems <i>** climate change – polar ice caps</i>	Bones and joints of the body <i>Research Jack Horner</i>	Food groups and balanced diets	Friction . Air resistance. Gravity <i>Research Newton</i>	Investigating sound. Vibrations and sound	Investigating magnetism <i>Research William Gilbert</i>
Conker Year 1 <i>White Rose yr 4 26-27</i>	Data collection A States of matter	Data collection A States of matter	Group and classify living things	Sound Data collection B	Data collection C Habitats Sustainability - Deforestation	The digestive system Food chains
Conker Year 2 <i>White Rose yr 5</i>	Forces Simple pulleys and levers Displacement theory Upthrust	Space Sustainability – Global warming	Properties of materials Animals including humans Life cycles		Reproduction A Reversible and irreversible changes	<i>Sustainability – Plastic pollution</i> <i>Reproduction B</i>
Oak Year 1	Plant and animal reproductive systems. Plant self and cross pollination	Disease and transmission. Ways to prevent transmission <i>** climate change – research WHO</i>	Separation techniques - Dissolving, filtering, evaporating, chromatography, magnetic materials	Rocks - igneous, metamorphic and sedimentary rock. <i>** climate change - Weathering and erosion</i>	Waves – longitudinal and transverse. Xrays <i>Research Roentgen</i>	Power and energy. Conserving energy in the home <i>** climate change – sustainability of resources</i>
Oak	Photosynthesis and word equations.	Inheritance and genes. Biodiversity	Chemical and physical changes .	Pollution and greenhouse gases.	Outer space – the sun, moons and satellites.	Names of organ systems.



Year 2 26-27	Labelling parts of a leaf. Food webs <i>** climate change – loss of species and conservation</i>	<i>Research Darwin</i>	Reversible and irreversible changes	Human cause of pollution. <i>** climate change - Recycling and plastics</i>	Galaxies and constellations. Layers of the earth <i>Research Jocelyn Bell</i>	Functions of organ systems
Maple year 1	Cells to organ systems Unicellular and multicellular organisms The role of specialised cells in organ systems The endocrine system The nervous system	Electricity and circuits Cells as batteries Electricity and safety Breaks in circuits Electrons and energy Magnetism <i>Research Tesla, Franklin and Farady</i>	Puberty and reproduction The role of hormones Male and female reproductive systems Fertilisation	Energy transfers Energy transfer calculations Wasted energy Renewable and non renewable energy Global energy use <i>** climate change – renewable energy</i>	The pH scale Using indicators Making observations and hypothesising Neutralisation Safety and risks <i>****fertiliser run off disrupting ecosystems***</i>	Forces/ work done Using a Newton Meter Calculating power Applying conversion calculations Pulleys and levers <i>Research Archimedes and Gallileo</i>
Maple year 2	The nervous system CNS & PNS Reflex actions Drugs and reflexes	Carbon/water & nitrogen cycles Human activity on ecosystems Carbon movement Nitrogen and water in sustaining life <i>***influences of humans on natural cycles***</i>	The menstrual cycle Hormones as chemical messengers Contraception STIs Impact of drugs in pregnancy	History of the atom Atomic structure Atomic mass and atomic number Electronic configuration <i>Research Neils Bohr, Rutherford & Dalton</i>	Motion and forces Velocity Scalars and vectors Distance time graphs Stopping distances	Human transport systems The role of blood Veins arteries and capillaries Gas exchange Aerobic and anaerobic respiration Research Harvey
Palm Year 1	Animal and plant cells Theory of evolution <i>Research Darwin and Lemarck</i>	Metals and non metals The nervous system DNA structure <i>** climate change – recycling metals</i>	Ionic and covalent bonding DNA and chromosomes <i>Research Watson and Crick</i>	Particle theory Elements, mixtures and Compounds <i>Research Democritus, Dalton and Einstein</i>	Genes and mutation Selective breeding <i>Research Mendel</i>	Physical changes Melting points Separation techniques
Palm Year 2	Electromagnetic waves Electromagnetic spectrum <i>** climate change – mining metals in phones and transportation Research Hedy Lamarr</i>	Antibiotics Disease and lifestyle Genetic engineering <i>Research Hippocrates, Pasteur, Koch & Fleming</i>	Immunity and vaccination Cardiovascular diseases Uses of waves <i>** climate change – plastic pollution</i>	Radiation Cancer Clinical testing <i>Research Marie Curie</i>	Communicable and non communicable disease Drugs and alcohol Development of medicines <i>Research Lister, Hodgkins and Jacoba Felice</i>	Forces and Acceleration Earth and pace <i>Research Hawkins/ Higgs Boson and Jocelyn Burnell</i>