KEW WOODS PRIMARY SCHOOL

Science Policy

OVERVIEW
At Kew Woods Primary School we will help all children to have a high-quality science education which provides the foundations for understanding the world through the specific disciplines of biology, physics and chemistry. Science has changed all our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave and analyse causes.

OBJECTIVES

1. To develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
2. 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.
3. To ensure pupils are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.
4. To underpin the knowledge, we work hard to instil a thorough undertsanding of Working Scientifically. We focus on **Plan**ning an investigation, **Do**ing and investigation and **Review**ing the results/outcomes.

STRATEGIES

1. We will begin the teaching of Science in Foundation Stage. Activities are usually adult directed at the outset and children are then encouraged to practise the skills through continuous provision.
2. Pupils in KS1 will develop understanding of Chemistry, Biology and Physics.
3. As the children move into Key Stage 2 they will broaden their knowledge and deepen their understanding of earlier work in Chemistry, Physics and Biology.
4. Pupils should develop the ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings.
5. Confidence and competence should be developed in pupils using a full range of practical skills, taking the initiative in, for example, planning and carrying out scientific investigations.
6. Pupils should develop originality, imagination or innovation in the application of skills.
7. The ability to undertake practical work in a variety of contexts, including fieldwork will be provided for all pupils.
8. English and DT will be closely linked with Science as children use skills in these subjects to demonstrate and communicate what they have learnt e.g. through the use of spoken language.
9. Financial resources will be used to provide a wide range of equipment and resources to enable quality investigations to be carried out.
10. The school will work collaboratively with other leading schools in the area to promote excellence and good practice. This will include Primary and Secondary providers.
11. Delivery of a Working Scientifically focussed curriculum to develop strong skills ready for High School.

OUTCOMES

Science will be used to promote excellence and enjoyment throughout the school. Excellent scientific knowledge and understanding will be developed in pupils which will be demonstrated in written and verbal explanations, solving challenging problems and reporting scientific findings. Science will be visible as a subject in school through bright, engaging displays and the promotion of National Science week. Pupils will be provided

with a curriculum which develops a passion for science and its application in past, present and future technologies.

Appendix 1

Kew Woods Primary School Curriculum Map – Science

Year Group	Coverage
Nursery	Testing materials Observing changes in materials (melting, heating, freezing), floating / sinking Seasons Seasonal Changes – from Autumn to Winter Polar Animals and their habitats Living things – sea creatures Lifecycles of plants and animals, Animals living in forests Classifying trees Shadows – length, shadow puppets Forces
Reception	Properties of materials Materials- ice melting Observations of seasonal change Materials – eggs Forces – rockets Planting and Growing - vegetables and flowers, observations of plants, labelling plants Differences, similarities, patterns and change Lifecycles of plants and animals Why things happen and how things work Show care and concern for living things
Year 1	Look at appliances and circuits – electricity, washing machines now /then Seasonal change – changes across the four seasons Observe and describe weather associated with the season and how day length varies Materials – Identify, name, describe, classify, compare properties and changes Look at the practical uses of everyday materials Look at growth, basic needs, exercise, food and hygiene Identify, name, describe, classify, compare properties and changes- baking Plants – identify, classify and describe their basic structure Animals and humans – identify, classify and observe Light – sources and reflections
Year 2	Sound sources – look at sources Materials - identify, name, describe, classify, compare properties and changes / practical uses of everyday materials Animals Inc Humans - growth, basic needs, exercise, food, hygiene Forces - describe basic movements Solar System Electricity - appliances and circuits Plants - conditions for growth Living things in their habitat - Investigate differences, Nocturnal Animals, sustainability of food chains and environments Materials- practical uses
Year 3	Rocks and Solids – compare and group rocks Rocks and Solids – describe the formation of fossils Animals inc humans - nutrition, transport of water and nutrients in body, muscle and skeleton Plants - parts of flowering plants, requirements for growth, water transportation, life cycles, seed dispersal Light - look at sources, seeing, reflections and shadows Forces and Magnets - contact and distant forces, attraction and repulsion, comparing and grouping materials, poles
Year 4	States of Matter (water cycle too) Sound – sources, vibration, volume, pitch Electricity (looking at appliances, circuits, lamps, switches, insulators and conductors) Animals including Humans - name and classify Digestive system / teeth

	Plants - name and use classification keys All Living things Identify and name plants and animals / classification keys
Year 5	Animals including humans – circulation Properties and Changes of Materials – solubility, recovering dissolved substances, separate mixtures, creating new materials All Living Things – life cycles of animals and plants / reproduction Changes / puberty Forces – effect of gravity and drag forces / transference of forces in gears, pulleys, levers and springs Earth and Space – movement of Earth and moon / explain day and night
Year 6	Light – travels / shadows Electricity - circuits, voltage in cells, resistance and conductivity of material All Living Things Classification of plants, animals and micro-organisms Effect of diet, exercise and drugs Animals including humans Human circulatory system Evolution and Inheritance – resemblance and difference in offspring, changes in animals over time, adaptation to environments, changes to human skeleton over time