Science Whole School Overview

Biological Science	
Chemical Science	
Physical Science	

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
Year 1	**Seasonal Changes – Autumn and Winter**	**Animals including humans – identifying and classifying common animals**	**Everyday Materials – identifying materials**	**Seasonal Changes – Spring and Summer**	**Plants – identifying common plants**
	• Four seasons and the weather associated. • Day length variance.	• Identify a variety of fish, amphibians, reptiles, birds and mammals. • Identify a variety of carnivores, herbivores and omnivores. • Structure of common animals. • Parts of the human body associated with each sense.	• Distinguish between object and material. • Name a variety of materials including: wood, plastic, glass, metal, water and rock. • Simple physical properties. • Group based on physical properties.	• Four seasons and the weather associated. • Day length variance.	• Identify plants and their basic structure.
Enrichment Activities/ Scientist	George James Symons Autumn walk	George Mottershead	Ole Kirk Christiansen	George James Symons Spring walk	Tim Smit Planting seeds.
Year 2	**Everyday Materials – uses of materials**	**Animals including humans – birth, growth and changes in animals**	**Living things and habitats**	**Plants – how plants grow**	
	• Suitability of everyday materials. • Changing shape by squashing, bending, twisting and stretching.	• Animals with offspring. • Basic needs of animals and humans for survival. • Exercise, healthy eating and hygiene for humans.	• Difference in living, dead and never alive. • Habitats • Name plants and animals in their habitats. • Simple food chains.	• Describe growth from seed. • Describe how they need water, light and suitable temperature to grow.	
Enrichment Activities/ Scientist	John McAdam Charles Dunlop Charles Mcintosh Materials walk around school grounds	Louis Pasteur	Rachel Carson Habitat walk around school grounds and pond	Jane Colden Planting seeds.	

Year 3	Rocks and Soils	Animals including humans – skeletal and muscular systems	Plants – how plants live and change	Forces and magnets	Light – light and shadows
	• Group and compare based on appearance and physical properties. • How fossils are formed. • Soil made from rocks and organic matter	• Nutrition for animals and humans. • Humans and animals' skeletons and muscles.	• Functions of different flowering plants. • Water transportation. • Life cycle of flowering plants (pollination, seed formation, seed dispersal).	• Movement on different surfaces. • Difference between forces and magnetic forces. • Attract or repel. • Magnetic materials. • Poles	• Dark is the absence of light and needed to see. • Reflects from surfaces. • Sunlight can be dangerous and protecting eyes. • Shadows formed when light is blocked.
Enrichment Activities/ Scientist	William Smith Mary Anning	Marie Curie Doctor visitor	Sir Joseph Banks Tom Hart Dyke David Douglas Planting seeds.	Several scientists contributed to the discovery of electromagnetism and developed its use.	Arthur James Wilson
Year 4	**Electricity – simple circuits**	**Animals including humans – digestive system**	**States of Matter**	**Sound**	**Living things and habitats**
	• Common appliances ran on electricity. • Electrical circuit naming: cells, wires, bulbs, switchers and buzzers. • Complete loop circuits. • Switch opens and closes a circuit. • Conductors and insulators.	• Digestive system in humans. • Teeth in humans. • Food chains.	• Solids, liquids or gases. • Changing state (heating or cooling) • Evaporation and condensation.	• Vibration makes some sounds. • Vibrations travel through a medium to the ear. • Links between pitch and features of object that created it. • Links between volume and strength of vibrations. • Sounds get fainter as distance increases.	• Grouping living things. • Classification keys. • Environmental change.
Enrichment Activities/ Scientist	Thomas Edison Maria Telkes	Washington Sheffield Dentist visitor	Joseph Priestly Anders Celsius	Miller Reese Hutchison	Gerald Durrell

Year 5	Everyday Materials – reversible and irreversible changes	Forces – balanced and unbalanced forces	Earth and Space	Evolution and Inheritance	Living things and habitats – plant and animal life cycles
	• Group based on hardness, solubility, transparency, conductivity and response to magnets. • Dissolving and how to separate some solutions. • Filtering, sieving and evaporating. • Reversible and irreversible changes.	• Gravity between Earth and falling object. • Air resistance, water resistance and friction. • Levers, pulleys and gears.	• Movement of Earth and other planets relative to the sun. • Movement of the moon relative to the Earth. • Earth's rotation to explain day and night.	• Fossils • Offspring variance • Adaption of environment leading to evolution.	• Differences in life cycles. • Life processes in plants and animals.
Enrichment Activities/ Scientist	Alexander Parkes	Isaac Newton	Margaret Hamilton Centre for Life trip	Mary Leakey	David Attenborough Newcastle university students visit.
Year 6	**Animals including humans – circulation system**	**Light – shadows, reflection and refraction**	**Electricity – circuits and resistance**	**Animals including humans – human life cycles**	**Living things and habitats – classification of living things**
	• Human circulatory system. • Functions of: heart, blood vessels and blood. • Impact of diet, exercise, drugs and life style on bodily functions. Transportation of nutrients in animals and humans.	• Light travels in straight lines. • How objects are seen. • Shadows have same shape as object that cast them as light travels in straight line.	• Voltage of cells impact. Recognised symbols of a simple circuit.	• Changes in humans in old age. a	• Grouping micro-organisms, plants and animals. • Classifying based on specific characteristics.
Enrichment Activities/ Scientist	William Harvey	Isaac Newton	Nikola Tesla	Patrick Steptoe Robert Edwards	Carl Linnaeus