



Woodside School Science vocabulary progression

Our science curriculum provides pupils with an understanding of both substantive and disciplinary knowledge.

Substantive knowledge- is the subject knowledge and explicit vocabulary used to learn about the content

Disciplinary knowledge– this considers how scientific knowledge originates and is revised. It is through disciplinary knowledge that children gradually become more expert by thinking like a scientist – working scientifically. At Woodside we focus on the following 5 working scientifically skills; **Observation over time, classifying & grouping, Pattern seeking, Use of secondary resources and Comparing & fair testing.**

Year 3	Substantive vocabulary: Subject knowledge	Disciplinary vocabulary: Working scientifically
Animals inc Humans – nutrition & movement	nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, vertebrae, amphibians, reptiles, invertebrates, move, skull, ribs, spine	practical work, fair testing, relationships, accurate, thermometer, data logger, stopwatch, timer, estimate, data, diagram, identification key, chart, bar chart, prediction, similarity, difference, evidence, information, findings, criteria, values, properties, characteristics, conclusion, explanation, reason, evaluate, improve
Rocks	rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorbs water, fossil, bone, flesh, minerals, marble, chalk, granite, sandstone, slate, types of soil (e.g. peaty, sandy, chalky, clay)	
Light – shadows & reflection	light, light source, dark, absence of light, surface, shadow, reflect, mirror, Sun, sunlight, dangerous, dark, reflect, reflective, surface, natural, star, Sun, Moon, translucent, transparent, light protection, opaque	
Forces & magnets	force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole	
Plants	photosynthesis, pollen, insect/wind pollination, male, female, seed formation, seed dispersal (wind dispersal, animal dispersal, water, environment, dispersal), air, nutrients, flowering and non-flowering plants, minerals, soil, absorb, transport	

Year 4	Substantive vocabulary: Subject knowledge	Disciplinary vocabulary: Working scientifically
States of matter	solid, liquid, gas, heating, cooling, state change, melting, freezing, melting point, boiling, boiling point, evaporation, condensation, degrees Celsius temperature, water cycle, vapour, electrical conductor, electrical insulator, metal, non-metal, thermometer	practical work, fair testing, relationships, accurate, thermometer, data logger, stopwatch, timer, estimate, data, diagram, identification key, chart, bar chart, prediction, similarity, difference, evidence, information, findings, criteria, values, properties, characteristics, conclusion, explanation, reason, evaluate, improve, classification, classification keys
Animals inc Humans – digestion & teeth	digestive system, digestion mouth tongue-mixes, moistens, saliva teeth, oesophagus, stomach, small intestine, large intestine, rectum, anus, incisors, cutting, slicing, canines, ripping, tearing molars-chewing, grinding, oesophagus, transports, stomach, acid, enzymes, small intestine, large intestine, carnivore, herbivore, omnivore, brush, floss,	
Living things & their habitats	environment, habitat, human impact, positive, negative, migrate, hibernate, vertebrates, fish, amphibians, reptiles, birds, mammals, warm-blooded, cold-blooded, invertebrates, insects, spiders, snails, worms, flowering plants, nonflowering plants population development litter environment, food chain Sun producers prey predators, herbivore, carnivore, omnivore	
Sound	Sound, source, noise, vibrate, travel, solid, liquid, gas, pitch, tune, high, low, volume, loud, quiet, fainter, muffle, vibrations, insulation, instrument, percussion, strings, brass, woodwind, tuned, instrument	
Electricity	electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol	

Year 5	Substantive vocabulary: Subject knowledge	Disciplinary vocabulary: Working scientifically
Properties and changes of materials	thermal insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/irreversible change, burning, rusting, new material, evaporation, condensation, temperature, electrical conductor, electrical insulator, metal, non-metal solid, liquid, gas	independent variable, dependent variable, control variable, evidence, justify, argument (science), causal relationship, accuracy, precision, bar graphs, line graphs, force meter, data logger, repeat readings, tables, results, predictions, conclusions, scientific evidence, internet,
Earth & Space	Sun, Moon, Earth, planets (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, Solar System, rotate, star, orbit celestial body, Pluto 'dwarf' planet, revolve, geocentric model, heliocentric model, shadow, clocks	
Forces	force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears magnet attract friction moving surfaces	
Living things & their habitats	life cycle, reproduce, sexual, fertilises, asexual, plantlets, runners, tubers, cuttings, foetus, baby, child, adolescent, adult, reproduce, sexual, egg, live young, sperm, fertilises, metamorphosis, asexual, plantlets, runners, cuttings germination pollination stamen stigma, gestation,	
Animals inc Humans	puberty, the vocabulary to describe sexual characteristics in line with the school's RSE policy <i>life cycle, foetus, baby, child, adolescent, adult, reproduce, sexual, sperm, fertilises, egg, live young (Y5 - Living things and their habitats)</i>	

Year 6	Substantive vocabulary: Science knowledge	Disciplinary vocabulary: Working scientifically
Evolution & inheritance	offspring, sexual reproduction, vary, characteristics, adapted, inherited, species, evolve, evolution suited/ suitable adapted/ adaptation, fossils	independent variable, dependent variable, control variable, evidence, justify, argument (science), causal relationship, accuracy, precision, scatter graphs, bar graphs, line graphs, force meter, systematically
Living things & their habitats	flowering, non-flowering, mosses, ferns, conifers, vertebrates, fish, amphibians, reptiles, birds, mammals, warm-blooded, cold-blooded, invertebrates, insects, spiders, snails, worms, flowering, non-flowering, mosses, ferns, conifers, organism, micro-organism, fungus, mushrooms, classification keys, classification,	
Electricity	voltage, insulators, resistance, appliance, wood, rubber, plastic, glass, conductors, metal, water, electrical circuit, cell, battery, wire, bulb, buzzer, switch, open, close, brightness, dim, dull, volume, series circuit, circuit diagram, symbols, motor	
Light	straight lines, light rays travel, straight, light source, object, shadows, filters, reflection, reflect, mirrors, periscope	
Animals inc Humans	heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, cycle, circulatory system, diet, drugs, lifestyle	