



Key Vocabulary for Science

Threshold concept	Substantive concepts in EYFS	Substantive concepts in KS1		Substantive concepts covered in LKS2		Substantive concepts covered in UKS2	
		Built upon from EYFS	New to KS1	Built upon from KS1	New to LKS2	Built upon from LKS2	New to UKS2
To understand animals and humans.	• <u>Human senses</u>: sight, hearing, touch, smell, taste. • <u>Exploring senses</u>: loud, quiet, soft, rough. <u>Common animals and pets</u> <u>Basic body parts</u>	• <u>Names of animal groups</u>: fish, amphibians, reptiles, birds, mammals. • <u>Animal diets</u>: carnivore, herbivore, omnivore. • <u>Human and animal body parts</u>: e.g. body, head, neck, arms, elbows, legs, knees, face, ears, eyes, nose, hair, mouth, teeth, hands, feet, tail, wings, feathers, fur, beak, fins, gills:- function of these body parts.	• <u>Being born and growing</u>: Young, offspring, live young, grow, develop, change, hatch, lay, fly, crawl, talk. • <u>Young and adult names</u>: e.g. lamb and sheep, kitten and cat, duckling and duck. • <u>Life cycle stages</u>: e.g. baby, toddler, child, teenager, adult; frogspawn, tadpole, froglet, frog. • <u>Survival and staying healthy</u>: basic needs, survive, food, air, exercise, diet, nutrition, healthy, balanced diet, hygiene, germs. • <u>Food groups</u>: fruit and vegetables, proteins, dairy and alternatives, carbohydrates, oil and spreads, fat, salt, sugar.	• <u>Food groups and nutrients</u>: fibre, fats (saturated and unsaturated), vitamins, minerals. • <u>Skeletons and muscles</u>: skeleton, muscles, tendons, joints, protection, support, organs, voluntary muscles, involuntary muscles, biceps, triceps, contract, relax, bone, cartilage, shell, vertebrate, invertebrate, endoskeleton, exoskeleton, hydrostatic skeleton. • <u>Names of human bones</u>: e.g. skull, spine, backbone, vertebral column, ribcage, pelvis, clavicle, scapula, humerus, ulna, pelvis, radius, femur, tibia, fibula. • Other: energy.	• <u>Digestive system</u>: digest, digestion, tongue, teeth, saliva, salivary glands, oesophagus, stomach, liver, pancreas, gall bladder, small intestine, large intestine, rectum, anus, faeces, organ. • <u>Types of teeth and dental care</u>: molar, premolar, incisor, canine, wisdom teeth, tooth decay, plaque, enamel, baby (milk) teeth. • <u>Food chains and animal diets</u>: decomposer, food web.	• <u>Process of reproduction</u>: gestation, asexual reproduction, sexual reproduction, sperm, egg, cells, clone. • <u>Changes and life cycle</u>: embryo, foetus, uterus, prenatal, adolescence, puberty, menstruation, adulthood, menopause, life expectancy, old age, hormones, sweat. • <u>Changing body parts</u>: e.g. breasts, penis, larynx, ovaries, genitalia, pubic hair. Previously introduced vocabulary: reproduction, reproduce, types of animals and animal groups, fertilisation	• <u>Circulatory system</u>: circulation, heart, pulse, heartbeat, heart rate, lungs, breathing, blood vessels, blood, pump, transported, oxygenated blood, deoxygenated blood, blood pressure, oxygen, arteries, veins, capillaries, chambers, plasma, platelets, white blood cells, red blood cells. • <u>Lifestyle</u>: drug, alcohol, smoking, disease, calorie, energy input, energy output. • <u>Other</u>: water transportation, nutrient transportation, waste products. Previously introduced vocabulary: carbon dioxide.



Key Vocabulary for Science

To understand evolution and inheritance.	Mum, Dad, parents, brother, sister, same, different.	Parents, children, similarities, difference, resemble, Mum, Dad, stepmum, stepdad,	Offspring,	Inheritance , resemblance, fossils, inhabited, environment, palentology, mineralisation	Conditions, temperature, formation, fossils, climate change, adaptation, trace fossil , cast, mold, impression	classification, offspring , characteristics , habitat , environment , adapt, variations , human, fossil , suited, cells, names of different habitats, names of animals and their body parts, species, sedimentary rock , lava, igneous rock , metamorphic rock , magma , heat, fossilisation .	• Evolution and inheritance: evolve, adaptation, inherit, natural selection, adaptive traits, inherited traits, mutations, theory of evolution, ancestors, biological parent, chromosomes, genes, Charles Darwin. • Other: selective breeding, artificial selection, breed, cross breeding, genetically modified food, cloning, DNA.
To investigate materials.	mix, stir, cook, hot, oven, microwave, change, burn, melt, hard, runny, set, freeze, freezer, cold, blended, hard, soft, bendy, stiff, wobbly, wood, plastic, paper, card, fabric. ice, water, frozen, icicle, snow, melt, wet, cold, slippery, smooth, big, bigger, biggest, smaller, smallest, hard, soft, bendy, rigid, wood, plastic, paper, card, metal, strong, weak, hot, apply heat, waterproof, soggy, not waterproof, best, change, change back	• Names of materials: wood, plastic, glass, metal, water, rock, paper, cardboard, rubber, fabric. • Properties of materials: hard, soft, shiny, dull, stretchy, rough, smooth, bendy, not bendy, transparent, opaque, waterproof, not waterproof, absorbent, not absorbent, sharp, stiff. • Other: object.	• Changing shape: squash, bend, twist, stretch. • Properties of materials: e.g. strong, flexible, light, hard-wearing, elastic. Other: suitability, recycle, pollution	• Types of rock: sedimentary rock, igneous rock, metamorphic rock. • Properties of rocks: permeable, semi-permeable, impermeable, durable. • Names of rocks: e.g. marble, chalk, granite, sandstone, slate. • Formation of rocks and fossils: natural, human-made, magma, lava, molten rock, sediment, erosion, fossilisation, layers, bone, fossil. • Soil: sandy, chalky, clay, peaty, loamy, topsoil, subsoil, bedrock, mineral, organic matter, compost. • Other: palaeontology. Previously introduced vocabulary: soil, water, air.	• States of matter: solids, liquids, gases, particles. • State change: evaporate, condense, melt, freeze, heat, cool, melting point, freezing point, boiling point, water vapour. • Water cycle: precipitation, evaporation, condensation, ground run-off, collection, underground water, bodies of water (sea, river, stream), water droplets, hail. • Other: atmosphere. Previously introduced vocabulary: temperature, rain, cloud, snow, wind, sun, hot, cold, absorb, carbon dioxide.	• Properties of materials: thermal conductor/insulator, magnetism, electrical resistance, transparency.	• Mixtures and solutions: dissolving, substance, soluble, insoluble. • Changes of materials: reversible change, physical change, irreversible change, chemical change, burning, new material, product. • Separating: sieving, filtering, magnetic attraction. Previously introduced vocabulary: electrical conductor/insulator, bulb, translucent.



Key Vocabulary for Science

Light and seeing.	light, torch, bulb, lamp, spotlight, shiny, bright, brighter, brightest, Sun, shine, glow, mirror. Sun, sunny, light, shadow, shady, clouds, torch, see-through, not see-through, source, light source	Names of a variety of light sources – electric lights, sun, travels, bright, eyes.	senses , see, eyes shiny, dull, see-through, not see-through opaque, transparent, translucent, reflective, non-reflective	• Light and seeing: dark, absence of light, light source, illuminate, visible, shadow, translucent, energy, block. • Light sources: e.g. candle, torch, fire, lantern, lightning. • Sun safety: dangerous, glare, damage, UV light, UV rating, sunglasses, direct. Previously introduced vocabulary: opaque, transparent, sunlight, sun.	Visibility, solar system • Reflective light: reflect, reflection, surface, ray, scatter, reverse, beam, angle, mirror, moon. Protect, danger	How light travels – straight lines. Reflective, Diverges Winter, summer, seasons.	• Reflection: periscope. • Seeing light: visible, invisible, spectrum, prism. • How light travels: light waves, wavelength, straight line, refraction. bend Previously introduced vocabulary: names and properties of materials, absorb.
To understand Earth's movement in space.	Sun, moon, <u>4 seasons</u> Winter, spring, summer, autumn, <u>Weather</u> - cold, hot, warm, cloudy, rainy, foggy, snowy. Morning, evening, daytime	• Seasons: spring, summer, autumn, winter, seasonal change. • Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. Morning, day, evening, night time	• Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. • Day length: night, day, daylight. Position of the sun during the day.	• Solar system: star, planet. • Names of planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Neptune, Uranus. Seasons, Sun, moon, shadow, day, night, heat, light, reflect.	Moon phases, waning, waxing, crescent, new Leap year High, low, tides, ocean, seas	• Shape: spherical bodies, sphere. • Movement: rotate, axis, orbit, satellite. • Theories: geocentric model, heliocentric model, astronomer. • Day length: sunrise, sunset, midday, time zone.	Moon phases, leap year, tides, oceans, seas, speherical, gravity, equatorial bulge, phenomenon, sun dial.



Key Vocabulary for Science

To understand movement, forces and magnets	object, float, sink, water, up, down, top, bottom, push, pull, magnet, spring, squash, bend, twist, stretch, turn, spin, smooth, rough, fast, slow.	flexible, rigid, shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching, slower, faster. Further, furthest, wind, air, water, blow, bounce.	Iron, nickel, aluminium, steel, magnet Slower, faster, difference.	• <u>How things move:</u> move, movement, surface, distance, strength. • <u>Types of forces:</u> push, pull, contact force, non-contact force, friction. Magnetic, attract, repel, magnetic poles, north pole, south pole	• <u>Magnets:</u> magnetic, magnetic field, magnetic force, bar magnet, horseshoe magnet, ring magnet, attract, repel, compass. • <u>Magnetic and non-magnetic materials:</u> e.g. iron, nickel, cobalt.	• South, North, poles, attract, repel. • <u>Mechanisms:</u> levers, pulleys, gears/cogs. • <u>Measurements:</u> weight, mass, kilograms (kg), Newtons (N), scales, speed, fast, slow. • <u>Other:</u> streamlined, Earth.	• <u>Types of forces:</u> air resistance, water resistance, buoyancy, upthrust, Earth's gravitational pull, gravity, opposing forces, driving force.
Sound & hearing	sound, noise, loud, quiet, high, low, music, bang, blow, pluck, soft, hard, fast, slow, names of instruments. sound, noise, listen, hear, music, voices, bird song, traffic, sirens, thunder, high, low, loud, quiet, soft, volume, crackle, thunder, hum, buzz, roar	Variety of sources of sound, ears, <u>basic parts of the ear</u> Ear lobe, ear canal, ear drum, inner ear.	senses, hear, protect, loud, quiet,	Sounds from different sources, vibration, medium, wave length.	• <u>Parts of the ear:</u> eardrum – ear canal, ear drum, Ossicles, Cochlea. • <u>Making sound:</u> vibration, vocal cords, particles. • <u>Measuring sound:</u> pitch, volume, amplitude, sound wave, quiet, loud, high, low, travel, distance. • <u>Other:</u> soundproof, absorb sound.	Pitch, sound, volume, strength, vibration, close, far away. Parts of the ear – Pinna, canal, Ossicles, drum, Cochlea, Auditory nerve, Eustachian tube.	Musical instruments, volume of sound, strength of vibrations, distance, loud, faint.



Key Vocabulary for Science

Plants	plant, leaf, stem, branch, root, bark, flower, petal, seed, berry, fruit, vegetable, bulb, plant, hole, dig, water, weed, grow, shoot, die, dead, soil, names of plants they grow, tree, bush, herb, names of plants they see.	• <u>Names of common plants:</u> evergreen tree, deciduous tree, common flowering plants in the local area, weed, grass. • <u>Name some features of plants:</u> e.g. flower, vegetable, fruit, berry, leaf/leaves, blossom, petal, stem, trunk, branch, root, seed, bulb, soil. • <u>Name some common types of plant</u> e.g. sunflower, daffodil.	Light, shade, Sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling <u>Needs of plants</u> Soil, light, space, nutrients, water. Roots, anchor,	Functions of parts of flowering plant – root, stem, leaves, flowers Leaves, photosynthesis, food, growth, water transportation, pollination. Needs of plants.	• <u>Water transportation:</u> transport, evaporation, evaporate, nutrients, absorb, anchor. • <u>Life cycle of flowering plants:</u> pollination (insect/wind), pollen, nectar, pollinator, seed formation, seed dispersal (animal/wind/water), reproduce, fertilisation, fertilise, stamen, anther, filament, carpel (pistil), stigma, style, ovary, ovule, sepal, carbon dioxide. • <u>Photosynthesis.</u> Previously introduced vocabulary: life cycle.	Mrs Gren – characteristics of all living things – movement, respiration, sensitivity, growth, reproduction, excretion, nutrients, Adaptation, environment, Plant groups:- Ferns, mosses, conifers, flowering plants – monocotyledon dicotyledon.	<u>Parts of flower</u> Fossil names of plants Plant groups, evolution, • <u>Life cycle of flowering plants:</u> pollination (insect/wind), pollen, nectar, pollinator, seed formation, seed dispersal (animal/wind/water), reproduce, fertilisation , fertilise, stamen , anther, filament, carpel (pistil) , stigma, style, ovary, ovule, sepal , carbon dioxide.
Electrical circuits.	Battery, plug, socket, electricity.	Mains, battery, solar panel, common appliances which run on electricity.	Power, circuit, complete, broken.	High, low voltage, mains, battery, volt, LED, series circuit, conduct, insulate.	• <u>Electricity:</u> mains-powered, battery-powered, mains electricity, plug, appliances, devices. • <u>Circuits:</u> circuit, simple series circuit, complete circuit, incomplete circuit. • <u>Circuit parts:</u> bulb, cell, wire, buzzer, switch, motor, battery. • <u>Materials:</u> electrical conductor, electrical insulator. • <u>Other:</u> safety. Previously introduced vocabulary: names of materials.	Brightness, charge, voltage, series circuit, cell, symbols for components in a circuit diagram.	• <u>Flow and measure of electricity:</u> voltage, amps, resistance, electrons, volts (V), current. • <u>Circuits:</u> symbol, circuit diagram, component, function, filament. • <u>Variations:</u> dimmer, brighter, louder, quieter. • <u>Types of electricity:</u> natural electricity, human-made electricity, solar panels, power station. • <u>Other:</u> positive, negative.



Key Vocabulary for Science

Living things and their habitats.	Alive, dead, names of mini – beasts they find. Water, food, shelter.	Living, dead, never been alive, names of local habitats, pond, woodland, meadow, name micro habitats, under log, stony path, under bushes, suited, basic needs, depend, food, food chain, shelter Names of mini – beasts found and what their needs are eg:- woodlice – dark and damp habitat.	• <u>Living or dead:</u> living, dead, never living, not living, alive, never been alive, healthy. • <u>Habitats including microhabitats:</u> depend, shelter, safety, survive, suited, space, minibeast, air. • <u>Life processes:</u> movement, sensitivity, growth, reproduction, nutrition, excretion, respiration. • <u>Food chains:</u> food sources, food, producer, consumer, predator, prey. • <u>Names of habitats and microhabitats:</u> e.g. under leaves, woodland, rainforest, sea shore, ocean, urban, local habitat. Previously introduced vocabulary: senses, carnivore, herbivore, omnivore, seed, water, names of materials.	. Classification keys, environment, fish, amphibians, reptiles, birds, mammals, vertebrates, invertebrates, names of them, human impact, positive, negative (impact	• <u>Living things:</u> organisms, specimen, species. • <u>Grouping living things:</u> classification, classification keys, classify, characteristics. • <u>Names of invertebrate animals:</u> snails and slugs, worms, spiders, insects. • <u>Invertebrate body parts:</u> e.g. wing case, abdomen, thorax, antenna, segments, mandible, proboscis, prolegs. • <u>Environmental changes:</u> environment, environmental dangers, adapt, natural changes, climate change, deforestation, pollution, urbanisation, invasive species, endangered species, extinct. Previously introduced vocabulary: carbon dioxide, fish, bird,	Life cycle, reproduction, sexual, asexual, germination, pollination, seed formation, seed dispersal, pollen, stamen, stigma, plantlets, runners, mammal, amphibian, insect, bird, fish, reptile, eggs, live young	Organism, micro-organism, fungus, mushrooms, classification keys, environment, fish, amphibians, reptiles, birds, ,mammals, vertebrates, invertebrates, name some of these, arachnid, mollusc, insect, crustacean. • <u>Classifying:</u> Carl Linnaeus, Linnaean system, flowering and non-flowering plants, variation. • <u>Microorganisms:</u> bacteria, single-celled, microbes, microscopic, virus, fungi, fungus, mould, antibiotic, yeast, ferment, microscope, decompose.
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Key Vocabulary for Science

Working scientifically	look closely, observe, watch, touch, feel, smell, listen, same, different, compare, ask questions, record, sort, group	observe, changes, patterns, grouping, sorting, compare, same, different, identify (name), measure, data, record results, drawing, picture, table, tally chart, present, pictogram, block chart, Venn diagram, ask questions, test, investigate, explore, equipment, resources, magnifying glass, hand lens, ruler, tape measure, metre stick, pipette, syringe, spoon, teaspoon, answer questions, interpret results, scientific enquiry, pattern seeking, comparative testing, observing over time, classifying, researching using secondary sources What will we do? (plan) What do you think will happen? (prediction) What happened? (results) What have we found out? (conclusion)	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	variables, independent variable, dependent variable, control variable, evidence, justify, argument (science), causal relationship, accuracy, precision, scatter graphs, bar graphs, line graphs, force meter
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