



# Curriculum

## Science Knowledge & Skills Progression

By EOYFS children will know: how to make observations, noticing similarities and differences and changes and explains why things occur.

By EOKS1 children will know: how to ask simple questions, perform tests, use simple equipment when making close observations and record data.

By EOKS2 children will know: how to plan scientific enquiries, recognise & control variables, use a range of equipment accurately, record & present data appropriately.

	EYFS Knowledge & Skills	Year 1 Knowledge & Skills	Year 2 Knowledge & Skills	Year 3 Knowledge & Skills	Year 4 Knowledge & Skills	Year 5 Knowledge & Skills	Year 6 Knowledge & Skills
<b>Animals including humans.</b>	<p>Key Vocab Animal, bird, fish, healthy, ill, medicine, mini-beasts, fruit, vegetables, exercise.</p> <p>Children will know the importance of exercise, food and health care for animals and humans.</p>	<p>Key Vocab Backbone, chin, ears, elbow, eye socket, hips, joints, ribs, thigh, tongue, vertebrae, senses, sight, smell, taste, touch, hear, spine, wrist. Amphibian, reptiles, birds, mammals, carnivores, herbivores, omnivores.</p> <p>Children will know the basic parts of the human body and explore their five senses. Identify, name, describe and compare a variety of common animals.</p>	<p>Key Vocab Exercise, fitness, germs, hygiene, muscle, fruit, vegetables, protein, carbohydrate, healthy, fats. Offspring..</p> <p>Children will understand the importance of exercise, diet and good hygiene. Know that all animals need water, food and air to survive. Match animals to their young.</p>	<p>Key Vocab: nutrient, protein, fat, balanced diet, biceps, carbohydrate, contract, relax, exoskeleton, femur, humours, joint, muscles, nutrients, protein, skeleton, triceps, vertebrate, invertebrate, tendon, tissue, parts of skeleton</p> <p>Know where animals get their food from and understand the functions of skeletons, muscles and joints. Explain the importance of nutrition + skeletons and muscles for support, protection and movement.</p>	<p>Key Vocab : Canine, carnivore, decay, enamel, herbivore, incisor, molar, mouth, omnivore, digestion, anus, energy, intestine, large intestine, nutrients, oesophagus, small intestine, stomach, saliva, enzyme</p> <p>Know the parts of digestive system (including names of teeth) and their function within digestive process. Explain how we digest food and the role of our teeth in this process.</p>	<p>Key Vocab: Pregnant, Gestation period, Adolescence, Puberty, Menstruation, Arthritis, Life expectancy</p> <p>Know the key stages of human development from conception to old age and the changes that happen. Describe key changes as humans develop to old age and place on timeline</p>	<p>Key Vocab Heart, lungs, Blood, Oxygen, vein, artery, capillary, addiction, nutrients, nicotine, drug, oxygenated, deoxygenated, carbon dioxide, pulse rate, left / right atrium, left / right ventricle</p> <p>Children will know that the circulatory system moves blood, oxygen and nutrients throughout the body. They will be able to describe the ways in which nutrients and water are transported within animals, including humans.</p>
<b>Plants</b>	<p>Key Vocab Bulb, seed, flower, fruit, grow, leaf, petal, roots, stem, water, sun.</p> <p>Children will know what a plant needs to grow—light, water and soil.</p>	<p>Key Vocab Habitat, plant, stem, tree, bud, leaves, twig, deciduous, evergreen, trunk, petal, roots, bark</p> <p>Name and identify common wild and garden plants including trees.</p>	<p>Key Vocab Germinate, germination, leaf, plant, root, seeds, seedling, bulb, temperature.</p> <p>Know that plants need water, light and a suitable temperature to grow and stay healthy. Describe how seeds and bulbs grow into plants.</p>	<p>Key Vocab: root, stem, flower, leaf, vein, Carpel, flower, germinate, life cycle, nutrient, ovary, ovule, petal, photosynthesis, pollen, pollination, seed dispersal, sepals, stamen, style, stigma,</p> <p>Know the requirements of plants for life and the functions of different parts of flowering plants. Explain what plants need to grow and how they reproduce.</p>	Key Vocab	Key Vocab	Key Vocab
<b>Everyday materials.</b>	<p>Key Vocab Slimy, hard, different, soft, squashy, thick, wet, dry.</p> <p>Children will be able to describe the texture and differences of materials.</p>	<p>Key Vocab Rigid, flexible, hard, transparent, opaque, shadow, shiny, soft, hard, smooth, thick, thin, translucent.</p> <p>Name, identify, describe, compare and group a variety of every day materials including wood, plastic, glass, metal, water and rock.</p>	<p>Key Vocab Rigid, transparent, squashing, bending, twisting, stretching, metal, wood, fabric, metal, plastic, glass, brick, rock, paper, cardboard.</p> <p>Identify and compare the suitability of a variety of every day materials and their suitability for different purposes.</p>	<p>Key Vocab</p> <p>N/A</p>	Key Vocab	Key Vocab	Key Vocab
<b>Light</b>	Key Vocab	Key Vocab	Key Vocab	Key Vocab Shadow, light source, mirror, reflect, translucent, transparent, opaque.	Key Vocab	Key Vocab	Key Vocab: ray, reflection, refraction, transparent, translucent, opaque, light spectrum, cornea, pupil, lens, iris
		N/A	N/A	Know that shadows are formed when a light from a source is blocked by an opaque object. Demonstrate the way that the size of shadows change			Know the way light travels and that light travels from light sources to our eyes or from light sources to objects and then to our eyes. Explain how we see things.
<b>Living things and habitats</b>	Key Vocab	Key Vocab	Key Vocab Habitat, living, dead, alive, food chain, predator, prey, herbivore, carnivore, omnivore, micro-habitat., breathes, move, grow, react, reproduce.	Key Vocab	Key Vocab: vertebrate, invertebrate, insect, bird, mammal, amphibian, reptile, fish, mollusc, warm-blooded, cold-blooded, flowering plant, deforestation, organism, classify, key	Key Vocab bulb, fertilization, pollination, larva, sexual reproduction, asexual reproduction, gestation, metamorphosis, sperm, external / internal fertilisation, propagate. Revise parts of flower (Y3 plants)	Key Vocab: organism, species, genus, flora, fauna, vertebrate, invertebrate, insect, mammal, amphibian, fish, bird, reptile, fungi, mushroom, toadstool, fermentation, microbe, bacteria, protist
		N/A	Know that living things live in habitats that are suited to them and why. Know and describe a simple food chain. Compare differences between things that are living, dead or have never been alive.	N/A	Know: how to use classification keys when grouping and identifying animals Be able to: produce our own classification keys of animals within our locality.	Know the lifecycles of a mammal, an amphibian, an insect and a bird. Be able to explain the similarities and differences in the life cycles of different animals.	Know that there are five kingdoms of living things (animal, plant, fungi, protist and bacteria) which can be classified into groups scientifically. Make branching keys, exploring the differences between fungi, plants and microbes.

	EYFS Knowledge & Skills	Year 1 Knowledge & Skills	Year 2 Knowledge & Skills	Year 3 Knowledge & Skills	Year 4 Knowledge & Skills	Year 5 Knowledge & Skills	Year 6 Knowledge & Skills
<b>Forces and magnets</b>	N/A	N/A	N/A	Key Vocab Attract, compass, contact, force, iron, magnetic, pole, repel, magnet, prediction, iron	N/A	Key Vocab Gravity, weight, newton, non-contact, Galileo, Isaac Newton, friction, air resistance, water resistance, reliable, force meter, lever, spring, gear, pulley:	N/A
		N/A	N/A	Know that magnetic forces attract and repel. and can act at a distance.  Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials..	N/A	Know that air resistance and water resistance are types of friction that slow things down. Demonstrate how air and water resistance act against gravity on falling objects.	N/A
<b>Electricity</b>	N/A	N/A	N/A	N/A	Key Vocab : - circuit, positive/negative, cell, battery, bulbs, buzzers, switches, conductors, insulators, rechargeable, component, terminal, series	N/A	Key Vocab: component, cell, complete, electron, renewable, solar, fuse, blow, filament, cell, battery
		N/A	N/A		Know components that form a circuit and that a circuit must form a complete loop and include a power source in order to work. Construct switches that control the working of a simple circuit and produce drawings that demonstrate this.		Know that the brightness of a lamp or the volume of a buzzer is related to the number and voltage of cells used in the circuit. Give reasons for variations in how components function, including the brightness of bulbs, and the loudness of buzzers.
<b>Seasonal changes</b>	Key Vocab Summer, winter, spring, autumn, sunny, hot, flowers, cold, snow, leaves, grow, animals.  Children will know similarities and differences between each of the seasons.	Key Vocab Summer, winter, spring, autumn, season, cooler, darker, chilly, fog, freezing, ice, frost, stormy, snow, blizzard, warmer, temperature, longer, shorter.  Observe and describe the weather and length of day associated with the seasons.	Key Vocab	Key Vocab	Key Vocab	N/A	Key Vocab
<b>Rocks</b>	Key Vocab	Key Vocab	Key Vocab	Key Vocab Mineral, rock, permeable, impermeable, crystals, magma, sediment, sedimentary, fossil, extinct, palaeontology, granite, igneous, metamorphic, soil, marble, sand, clay, limestone.  Know the properties and uses of rocks, soils and fossils and how they are formed. Name different types of rock and soil, explain how they are formed and explain how they are used.	Key Vocab	Key Vocab	Key Vocab
<b>States of matter</b>	Key Vocab	Key Vocab	Key Vocab	Key Vocab	Key Vocab: solid, liquid, gas, boiling point, evaporation, condensation, freezing point, matter, melting point, temperature, thermometer, water cycle, freeze, melt  Know that some materials change state when they are heated or cooled. Demonstrate an understanding of the water cycle.	Key Vocab	Key Vocab

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<b>Sound</b>	Key Vocab	Key Vocab	Key Vocab	Key Vocab	Key Vocab : vibration, volume, pitch. parts of the ear— Pinna, Stirrup, Ear-drum, Cochlea, auditory nerve, waves, ear canal, ossicles, music	Key Vocab	Key Vocab
		N/A	N/A		Know that there are patterns between the pitch of a sound and features of the object that produced it, and the volume of a sound and the strength of the vibrations that produced it. Demonstrate and explain how sounds are created to make music		
<b>Earth and space</b>	Key Vocab	Key Vocab	Key Vocab	Key Vocab	Key Vocab	Key Vocab solar system, sun, star, planet, geocentric, heliocentric, axis, orbit, day time, night time, time zone, timeline, names of planets, moon, gravity	Key Vocab
		N/A	N/A			Know that day and night is caused by the rotation of the earth in relation to the sun and why durations change throughout the year. Be able to construct a model in order to demonstrate and explain day and night.	
<b>Properties and changes of materials</b>	Key Vocab	Key Vocab	Key Vocab	Key Vocab	Key Vocab	Key Vocab Key Vocab: hard, strong, rigid, flexible, elastic, tough, plastic, conductor, insulator, thermal, material, properties, substance, mixture, solution, solute, dissolve, soluble, insoluble, filter, revisable, irreversible, burning, magnetic	Key Vocab
		N/A	N/A			Know that some changes in materials are reversible (physical changes) and some changes are not reversible (chemical changes). Identify which changes can be reversed and which can not.	
<b>Evolution and inheritance</b>	Key Vocab	Key Vocab	Key Vocab	Key Vocab	Key Vocab		Key Vocab: variety, inherited, gene, DNA, adaption, natural selection, evolution, fossil, dinosaur, prehistoric, extinct
		N/A	N/A				Know that animals best suited to their environment survive to breed and pass on their characteristics to their offspring. Be able to recognise that if living things don't adapt, change and evolve, they could die out (become extinct)