



Progression Map - Science

Strand	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Units / Topics Studied	Understanding the World; plants, animals, materials, seasons and the immediate environment	Animals including humans; Plants; Materials; Seasonal Change	Animals including humans; Living things and their habitats; Plants; Materials	Animals including humans; Plants; Rocks; Light; Forces and Magnets	Animals including humans; Living things and their habitats; States of Matter; Sound; Electricity	Animals including humans; Living things and their habitats; Materials; Earth and Space; Forces	Animals including humans; Living things and their habitats; Electricity; Light; Evolution and Inheritance
Substantive Knowledge (What pupils know)	Know about the natural world around them. Know that plants, animals, people and materials can be observed and described. Know that weather and seasons change.	Know common animals, animal groups, body parts and senses. Know common plants and trees. Know everyday materials and their simple properties. Know that weather changes across seasons.	Know that animals have offspring and basic needs. Know how exercise, food and hygiene support health. Know that living things live in habitats. Know that plants grow from seeds and bulbs. Know that materials are	Know that animals need nutrition and that skeletons and muscles support movement. Know how flowering plants function and reproduce. Know how rocks and fossils are formed. Know that light is needed to see and that forces and magnets affect movement.	Know the basic parts and functions of the digestive system. Know about teeth and food chains. Know how living things can be grouped. Know that materials can be solids, liquids or gases. Know how sound is made. Know how simple	Know how humans change as they develop to old age. Know life cycles and reproduction in plants and animals. Know how materials can be grouped, changed and separated. Know how Earth, the Sun and Moon move. Know how gravity, friction, air resistance, water resistance,	Know the circulatory system and how diet, exercise, drugs and lifestyle affect the body. Know how living things are classified. Know how electrical components vary in function. Know that light travels in straight lines. Know how evolution, inheritance and adaptation explain change over time.





			suitable for different uses.		electrical circuits work.	levers, pulleys and gears work.	
Disciplinary / Procedural Knowledge (What pupils do as scientists)	Observe, notice, talk about changes and ask simple questions about the world.	Ask simple questions. Observe closely. Carry out simple tests using non-standard measures where appropriate. Gather and record simple data. Explain findings to an adult or partner.	Ask simple questions and recognise they can be answered in different ways. Observe closely using simple equipment. Perform simple tests. Gather and record data to help answer questions. Use observations and ideas to suggest answers.	Ask questions and understand that different enquiry types can answer them. Make predictions. Set up simple practical enquiries with support. Make careful observations. Record using drawings, labelled diagrams, bar charts and tables. Make simple conclusions.	Ask relevant questions and use different types of scientific enquiry. Make predictions based on scientific knowledge. Set up simple practical enquiries, comparative and fair tests. Take accurate measurements using equipment. Record using keys, tables, bar charts and line graphs. Use evidence to answer questions.	Ask scientific questions and match them to enquiry types. Plan different enquiries with support. Identify variables where appropriate. Use a range of equipment. Take repeat readings where useful. Present findings and begin to identify causal relationships. Draw conclusions from evidence.	Ask relevant scientific questions and choose suitable enquiry types. Plan enquiries, recognising and controlling variables. Take increasingly accurate and precise measurements. Record complex data using scientific diagrams, classification keys, tables, scatter graphs, bar and line graphs. Evaluate evidence and trust in results.
Ask Questions	Ask simple questions	Ask simple questions.	Ask simple questions and	Ask questions and understand	Ask relevant questions and	Ask scientific questions and	Ask relevant scientific questions



	about what they notice.		recognise that they can be answered in different ways.	there are different enquiry types they could use.	use different types of scientific enquiry.	begin to understand which enquiry type is best suited.	and choose which enquiry type would be best suited.
Plan Investigations	Talk about what they want to find out.	Verbally state what they will investigate where appropriate.	Verbally state what they will change and what they will keep the same where appropriate.	Make relevant predictions. Identify what they will change, observe and keep the same. With support, set up simple practical enquiries.	Make predictions based on simple scientific knowledge. Identify what they will change, observe or measure and keep the same. Set up simple practical enquiries, comparative and fair tests.	Make predictions based on scientific knowledge. With support, plan different enquiry types. Where appropriate, identify dependent, independent and controlled variables.	Make predictions based on scientific knowledge. Plan different types of scientific enquiries, recognising and controlling variables where necessary.
Make Observations	Observe the natural world and immediate environment.	Observe closely.	Observe closely using simple equipment.	Make careful observations using scientific equipment.	Make systematic and careful observations using scientific equipment.	Use a range of scientific equipment to make systematic and careful observations.	Use a range of scientific equipment to make systematic and careful observations with increased complexity.
Take Measurements	Explore size, amount and	Carry out simple tests	Perform simple tests	Perform tests and simple	Take accurate measurements	Take accurate measurements	Take measurements with



	change informally.	using non-standard measurements where appropriate.	using standard units where appropriate.	experiments and take measurements using standard units.	using standard units and equipment including thermometers and data loggers.	using a range of scientific equipment and begin to take repeat readings where appropriate.	increasing accuracy and precision using a range of scientific equipment and repeat readings where appropriate.
Gather, Record and Classify Data	Sort, group and talk about what they notice.	Gather and record simple data. Sort objects and living things into groups based on simple properties.	Gather and record data to help answer questions. Identify and classify.	Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.	Gather, record and classify data in a variety of ways. Record using labelled diagrams, keys, bar charts and tables.	Record data using scientific diagrams and labels, classification keys, tables, bar graphs and line graphs.	Record data and results of increasing complexity using scientific diagrams, classification keys, tables, scatter graphs, bar graphs and line graphs.
Present Findings	Talk about what they found out.	Explain what they found out to an adult or partner.	Talk about what they found out and how they found it out.	Report on findings from enquiries, including oral and written explanations.	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	Report and present findings, including conclusions and causal relationships, in oral and written forms.	Report and present findings, including conclusions, causal relationships, explanations and degree of trust in results.
Answer Questions and Make Conclusions	Say what they think happened.	Answer simple questions.	Use observations and ideas to suggest	Make simple conclusions. Use results, findings or observations	Use straightforward scientific evidence to	Make conclusions based on scientific evidence and from their own testing	Make conclusions based on evidence from testing and findings. Identify



			answers to questions.	to answer questions.	answer questions or support findings. Use results to draw simple conclusions and identify differences, similarities or changes.	and findings. Identify scientific evidence and use it to answer questions.	scientific evidence used to support or refute ideas or arguments.
Evaluate	Begin to say what worked or what changed.	Evaluation is not explicitly required but pupils may talk about what worked.	Evaluation is not explicitly required but pupils may talk about what they would try again.	Suggest questions for further investigation.	Use results to draw conclusions, make predictions for new values, suggest improvements and raise further questions.	Continue to use results to draw conclusions, suggest improvements and raise further questions for possible testing.	Use test results to make predictions to set up further comparative and fair tests. Provide examples of how to extend investigations.
Animals, Including Humans	Know about people, animals and basic body parts.	Identify and name common animals including fish, amphibians, reptiles, birds and	Know that animals, including humans, have offspring which grow into adults. Know the	Know that animals, including humans, need the right types and amounts of nutrition. Know that humans and	Know the simple functions of the digestive system. Know the different types of teeth and their	Know the changes as humans develop to old age.	Know the main parts of the circulatory system. Know the functions of the heart, blood vessels and blood. Know the impact of diet, exercise,



		mammals. Identify carnivores, herbivores and omnivores. Describe and compare animal structure. Name and label basic human body parts and senses.	basic needs of animals and humans for survival. Know the importance of exercise, food and hygiene.	some animals have skeletons and muscles for support, protection and movement.	functions. Construct and interpret food chains.		drugs and lifestyle. Know how nutrients and water are transported.
Living Things and Their Habitats	Know that living things can be found in the environment.	Begin to recognise plants and animals in the local environment.	Explore and compare things that are living, dead and never alive. Know that habitats provide for the needs of living things. Identify plants and animals in habitats and microhabitats.	Use habitat knowledge when studying plants, rocks and local environments.	Group living things in a variety of ways. Use classification keys. Recognise that environments can change and may pose dangers to living things.	Know differences in life cycles of mammals, amphibians, insects and birds. Know reproduction in some plants and animals.	Classify living things into broad groups including microorganisms, plants and animals. Give reasons for classification based on specific characteristics.



			Understand simple food chains.				
Plants	Know that plants grow and change.	Identify and name common wild and garden plants, including deciduous and evergreen trees. Describe the basic structure of flowering plants and trees.	Observe and describe how seeds and bulbs grow into mature plants. Know that plants need water, light and a suitable temperature to grow and stay healthy.	Know the functions of roots, stem/trunk, leaves and flowers. Know requirements for plant life and growth. Know how water is transported in plants. Know the role of flowers in pollination, seed formation and seed dispersal.	Apply plant knowledge through habitats, food chains and environmental change.	Apply plant knowledge through life cycles and reproduction.	Apply plant knowledge through classification, adaptation and evolution.
Materials / Rocks / States of Matter	Explore and describe everyday materials.	Distinguish between objects and materials. Identify everyday materials including wood, plastic, glass, metal, water and	Identify and compare suitability of materials for particular uses. Know that some solid objects can be changed by squashing,	Compare and group rocks by appearance and properties. Know how fossils are formed. Know that soils are made from rocks and organic matter.	Compare and group materials as solids, liquids or gases. Know that materials change state when heated or cooled. Know evaporation and	Compare and group materials by properties including hardness, solubility, transparency, conductivity and magnetism. Know dissolving, separating	Apply materials knowledge through electricity, light and evolution contexts.



		rock. Describe and compare simple physical properties.	bending, twisting and stretching.		condensation in the water cycle.	mixtures and reversible/irreversible changes.	
Electricity	Explore cause and effect through switches and simple technology.	Experience everyday electrical objects in the environment.	Recognise that some objects need power to work.	Build foundation knowledge through materials and magnets.	Identify common appliances that run on electricity. Construct simple series circuits. Identify cells, wires, bulbs, switches and buzzers. Know how switches open and close circuits. Know conductors and insulators.	Apply electricity understanding where relevant to materials and technology.	Know how brightness of lamps or volume of buzzers changes with number and voltage of cells. Compare and explain variations in component function. Use recognised circuit symbols.
Seasonal Change / Earth and Space	Observe weather, seasons and the natural environment.	Observe changes across the four seasons. Observe and describe weather associated	Revisit seasonal change through habitats and plant growth.	Link shadows and light to the apparent movement of the Sun.	Link states of matter to the water cycle.	Know the movement of Earth and other planets relative to the Sun. Know the movement of the Moon relative to Earth. Know that	Apply Earth and space understanding when explaining light and scientific evidence.



		with seasons and how day length varies.				the Sun, Earth and Moon are approximately spherical. Use Earth's rotation to explain day and night.	
Sound and Light	Notice light, dark and sounds in the environment.	Explore senses including sight and hearing.	Use senses to observe and describe.	Know that light is needed to see and that dark is the absence of light. Know that light is reflected from surfaces. Know that shadows form when light is blocked. Investigate patterns in shadow size.	Know how sounds are made through vibrations. Know that vibrations travel through a medium to the ear. Find patterns between pitch, volume and vibrations. Know sounds get fainter with distance.	Apply sound and light knowledge where relevant to forces and Earth and space.	Know that light travels in straight lines. Explain how objects are seen. Explain why shadows have the same shape as objects casting them.
Forces and Magnets	Explore pushing, pulling and movement.	Explore movement through everyday play and materials.	Notice how objects move and change shape.	Compare how things move on different surfaces. Know that some forces need contact but magnetic forces	Apply force ideas when studying sound and electricity equipment.	Know that unsupported objects fall due to gravity. Know effects of air resistance, water resistance and	Apply force knowledge when explaining mechanisms, movement and scientific evidence.



				act at a distance. Observe attraction and repulsion. Know magnets have two poles. Predict attraction and repulsion.		friction. Know that levers, pulleys and gears allow a smaller force to have greater effect.	
Evolution and Inheritance	Notice similarities and differences between living things.	Compare animals and plants.	Understand offspring grow into adults.	Use fossils as evidence of living things from the past.	Recognise environmental change and dangers to living things.	Compare life cycles and reproduction.	Know that living things have changed over time and fossils provide evidence. Know offspring vary and are not identical to parents. Know adaptation may lead to evolution.
Vocabulary Progression	plant, animal, weather, season, material, grow, change	carnivore, herbivore, omnivore, mammal, reptile, amphibian, deciduous, evergreen, material, property, season	offspring, adult, survival, habitat, microhabitat, food chain, seed, bulb, suitability, stretch	nutrition, skeleton, muscle, root, stem, pollination, fossil, soil, reflection, shadow, magnet, pole	digestion, teeth, producer, predator, prey, classification, solid, liquid, gas, evaporation, condensation, vibration, circuit,	life cycle, reproduction, soluble, solution, filtering, sieving, reversible, irreversible, orbit, gravity, friction, air resistance, water resistance, lever, pulley, gear	circulatory, blood vessel, lifestyle, classification, microorganism, voltage, circuit symbol, refraction, adaptation, evolution, inheritance



					conductor, insulator		
Local / Real-World Science Links	School grounds, weather, plants and familiar animals	School grounds seasonal observations; local plants and animals; everyday materials in school and home	Local habitats and microhabitats; healthy lifestyles; materials used in everyday products	Rocks, soils and plants in Kent; shadows and light in the school grounds; magnets and forces in everyday objects	Local electrical appliances; environmental change in school/local habitats; sound in the local environment	Materials in local buildings/products ; Earth and space observations; forces in playground and transport contexts	Health and lifestyle choices; local biodiversity and classification; light and electricity in everyday technology; adaptation in local and global environments
Expected End Point	Begin to observe, describe and ask questions about the natural world.	Identify and describe common animals, plants, materials and seasonal changes using simple observations.	Use simple tests and observations to explain animals, habitats, plants and material suitability.	Use evidence from observations, tests and simple enquiries to explain plants, rocks, light, forces and the human body.	Use systematic enquiry, measurement and classification to explain living things, states of matter, sound and electricity.	Use scientific evidence, variables and increasingly accurate measurements to explain materials, Earth and space, forces, life cycles and human development.	Think and work as a scientist: plan enquiries, control variables, evaluate evidence and explain complex biological, physical and chemical concepts using precise scientific vocabulary.