

Science LTP (Topic covered by the end of the year. Taught in order to suit teachers)

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| <p>Nursery</p>   | <p><b>Working scientifically</b></p> <p>Observe, talk, answer</p>   | <p><b>living things and their habitats</b></p> <ul style="list-style-type: none"> <li>I can explore the surrounding natural environment.</li> <li>I can explore natural objects from the surrounding environment.</li> <li>I can plant seed and care for growing plants.</li> <li>I can understand the key features of the life cycle of a plant and an animal.</li> <li>I can begin to understand the need to respect and care for the natural environment and all living things.</li> <li>I can understand that there are different countries in the world and talk about the differences they have experienced or seen in photos.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Colours Growing Garden, soil Animal and bird names<br/>Flowers, trees, grass Water</p>   | <p><b>Animals including humans.</b></p> <ul style="list-style-type: none"> <li>I can learn about the life cycles of animals.</li> <li>I can compare adult animals to their babies.</li> <li>I can observe how baby animals change over time. I can learn about the life cycles of humans.</li> <li>I can learn how to take care of themselves.</li> <li>I can learn about their senses.</li> <li>I can begin to make sense of their own life story and family's history.</li> <li>I can show an interest in different occupations.</li> <li>I can continue to develop positive attitudes about the differences between people.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Body Hands Feet, head hair, legs</p> | <p><b>Forces</b></p> <ul style="list-style-type: none"> <li>I can feel Forces.</li> <li>I can explore how things work.</li> <li>I can explore how objects/ materials are affected by forces.</li> <li>I can explore and talk about different forces and how they feel. I can explore how things work.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Pull push</p>   | <p><b>Materials and their properties</b></p> <ul style="list-style-type: none"> <li>I can explore a range of materials. I can shape and join materials.</li> <li>I can combine and mix ingredients.</li> <li>I can change materials by heating and cooling, including cooking.</li> <li>I can explore collections of materials with similar and/or different properties. Talk about what they see, using a wide vocabulary.</li> <li>I can use all my senses in hands on exploration of natural materials. I can explore collections of materials with similar and or different properties.</li> <li>I can talk about what I see using a wide vocabulary. I can talk about the differences between materials and changes I notice.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Soft, hard, cold, warm,</p> | <p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>I can Identify electrical devises.</li> <li>I can use battery – powered devices.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Body Hands Feet, head hair, legs<br/>Wires, plug, safety</p>   | <p><b>Light</b></p> <ul style="list-style-type: none"> <li>I can explore light sources.</li> <li>I can shine light on or through different materials.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Body Hands Feet, head hair, legs<br/>Sun, light, dark, day night, shine</p> | <p><b>Sound</b></p> <ul style="list-style-type: none"> <li>I can make and listen to sounds.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Body Hands Feet, head hair, legs<br/>loud, soft, quiet, bang,</p>   |
| <p>Reception</p> |   | <p><b>living things and their habitats</b></p> <ul style="list-style-type: none"> <li>I can explore plants and animals in the surrounding natural environment.</li> <li>I can explore the animals in the surrounding natural environment.</li> <li>I can explore the plants and animals in a contrasting natural environment.</li> <li>I can describe what I can see, hear and feel whilst outside.</li> <li>I can recognize some environments are different to the one in which I live.</li> <li>I can recognize some similarities and differences between life in this country and life in other countries.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Colours Growing Garden, soil Animal and bird names<br/>Flowers, trees, grass Water</p>  | <p><b>Animals including humans.</b></p> <ul style="list-style-type: none"> <li>I can name and describe animals that live in different habitats.</li> <li>I can describe different habitats.</li> <li>I can describe people who are familiar to them.</li> <li>I can learn about how to take care of themselves.</li> <li>I can talk about members of my immediate family and community.</li> <li>I can name a describe people who are familiar to me.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Body Hands Feet, head hair, legs</p>  | <p><b>Forces</b></p> <ul style="list-style-type: none"> <li>I can feel forces.</li> <li>I can explore how things work.</li> <li>I can explore how objects/ materials are affected by forces.</li> <li>I can explore and talk about different forces and how they feel.</li> <li>I can explore how things work.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Pull push</p>  | <p><b>Materials and their properties</b></p> <ul style="list-style-type: none"> <li>I can explore a range of materials, including natural materials.</li> <li>I can make objects from different materials, including natural materials.</li> <li>I can observe, measure and record how materials change when heated and cooled.</li> <li>I can compare how materials change over time and in different conditions.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Soft, hard, cold, warm,</p>   | <p><b>Earth and space</b></p> <ul style="list-style-type: none"> <li>I can play and explore outside in all seasons and in different weather.</li> <li>I can observe living things throughout the year.</li> <li>I can understand the effect of changing seasons on the natural world around me.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Body Hands Feet, head hair, legs<br/>Earth, Planets, Sky space</p> | <p><b>Light</b></p> <ul style="list-style-type: none"> <li>I can explore shadows.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Body Hands Feet, head hair, legs<br/>Sun, light, dark, day night, shine</p>   | <p><b>Sound</b></p> <ul style="list-style-type: none"> <li>I can listen to sounds outside, identify a range of sounds, and identify the source.</li> <li>I can make sounds.</li> </ul> <p><i>Key Vocabulary progression</i><br/>Body Hands Feet, head hair, legs<br/>loud, soft, quiet, bang,</p> |
| <p>Year 1</p>    | <p><b>Working scientifically</b><br/>question, answer, observe, observing, equipment, identify, sort, group, compare, differences, similarities, describe, measurements, test, results, secondary sources</p> <p><b>research</b> – relevant question<br/><b>record</b> – diagram, chart<br/><b>record</b> – drawings, labelled diagrams, bar charts, tables</p> | <p><b>Seasonal Changes</b></p> <ul style="list-style-type: none"> <li>I can observe changes across the four seasons.</li> <li>I can observe and describe weather associated with the seasons and how day length varies.</li> </ul> <p><i>Key Vocabulary progression</i><br/>season, spring, summer, autumn, winter, month, year, day, night, sun, moon, light, dark</p>   | <p><b>Plants</b></p> <ul style="list-style-type: none"> <li>I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</li> <li>I can identify and describe the basic structure of a variety of common flowering plants, including trees.</li> </ul> <p><i>Key Vocabulary progression</i><br/>deciduous, evergreen, tree, leaf, flower (blossom), petals, fruit, bulb, seed, roots, stem, trunk, branches</p>   | <p><b>Animals including humans.</b></p> <ul style="list-style-type: none"> <li>I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</li> <li>I can identify and name a variety of common animals that are carnivores, herbivores, and omnivores.</li> <li>I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets</li> <li>I can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> </ul> <p><i>Key Vocabulary progression</i><br/>amphibians, fish, reptiles, mammals, birds (+ 1 example of each) herbivore, omnivore, carnivore head, nose, ear, neck, shoulder, arm, elbow, wrist, hand, back, chest, hip, leg, knee, ankle, foot wing, beak, tail, fin sight, smell, touch, taste, hearing</p> | <p><b>Everyday Materials</b></p> <ul style="list-style-type: none"> <li>I can distinguish between an object and the material from which it is made.</li> <li>I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</li> <li>I can describe the simple physical properties of a variety of everyday materials.</li> <li>I can compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul> <p><i>Key Vocabulary progression</i><br/>wood, plastic, glass, paper, metal, rock, hard, soft, rough, smooth, shiny, dull, bendy, stiff</p>  |  |   |   |
| <p>Year 2</p>    |   | <p><b>All living things and their habitats</b></p> <ul style="list-style-type: none"> <li>I can explore and compare the differences between things that are living, dead, and things that have never been alive.</li> <li>I can identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</li> <li>I can identify and name a variety of plants and animals in their habitats, including micro-habitats.</li> </ul> <p>I can describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> <p><i>Key Vocabulary progression</i><br/>living, dead, habitat, microhabitat, woodland, meadow, hedgerow, pond</p> | <p><b>Animals, including humans.</b></p> <p>I can notice that animals, including humans, have offspring which grow into adults.</p> <ul style="list-style-type: none"> <li>I can find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</li> <li>I can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</li> </ul> <p><i>Key Vocabulary progression</i><br/>survival, water, air, food reproduce, adult, baby, offspring, kitten, calf, puppy food chain, prey, predator, camouflage, protection exercise, hygiene, balanced diet</p>  | <p><b>Uses of everyday materials</b></p> <ul style="list-style-type: none"> <li>I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, and cardboard for particular uses.</li> <li>I can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting, and stretching.</li> </ul> <p><i>Key Vocabulary progression</i><br/>brick, fabric, elastic, foil, property, solid, waterproof, absorbent, opaque, transparent, squash, bend, flexible, twist, stretch push, pull, roll, slide, bounce</p>   | <p><b>Plants</b></p> <ul style="list-style-type: none"> <li>I can observe and describe how seeds and bulbs grow into mature plants.</li> <li>I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul> <p><i>Key Vocabulary progression</i><br/>growth, germinate, light, temperature reproduce, lifecycle</p>  |  |   |   |

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| Year 3 | <p><b>Working scientifically</b><br/>oral and written explanations, conclusion, predictions, criteria, classify, changes, data, contrast, evidence, improve, secondary sources, guides, keys, construct, interpret</p> <p><b>research</b> – relevant question<br/><b>data</b> – gather, standard units, record, classify, present<br/><b>record</b> – drawings, labelled diagrams, keys, bar charts, tables</p>   | <p><b>Light</b></p> <ul style="list-style-type: none"> <li>I can recognise that they need light in order to see things and that dark is the absence of light.</li> <li>I can notice that light is reflected from surfaces.</li> <li>I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</li> <li>I can recognise that shadows are formed when the light from a light source is blocked by a solid object.</li> <li>I can find patterns in the way that the size of shadows change.<br/><i>Key Vocabulary progression</i></li> </ul>                      | <p><b>Forces and magnets</b></p> <ul style="list-style-type: none"> <li>I can compare how things move on different surfaces.</li> <li>I can notice that some forces need contact between two objects, but magnetic forces can act at a distance.</li> <li>I can observe how magnets attract or repel each other and attract some materials and not others describe magnets as having two poles</li> <li>I can predict whether two magnets will attract or repel each other, depending on which poles are facing.</li> <li>I can 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.<br/><i>Key Vocabulary progression</i><br/>force, contact, surface, magnetic, attract, repel, pole</li> </ul> | <p><b>Animals, including humans</b></p> <ul style="list-style-type: none"> <li>I can identify that animal, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</li> <li>I can identify that humans and some other animals have skeletons and muscles for support, protection, and movement<br/><i>Key Vocabulary progression</i><br/>skeleton, skull, bones, muscles, movement, support, protection, nutrition</li> </ul>  | <p><b>Plants</b></p> <ul style="list-style-type: none"> <li>I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</li> <li>I can explore the requirements of plants for life growth (air, light, water, nutrients from soil, air, room to grow) and how they vary from plant to plant</li> <li>I can investigate the way in which water is transported within plants</li> <li>I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.<br/><i>Key Vocabulary progression</i><br/>growth, germinate, light, temperature reproduce, lifecycle, woodland, meadow, hedgerow, pond</li> </ul> | <p><b>Rocks</b></p> <ul style="list-style-type: none"> <li>I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</li> <li>I can describe in simple terms how fossils are formed when things that have lived are trapped within rock.</li> <li>I can recognise that soils are made from rocks and organic matter.<br/><i>Key Vocabulary progression</i><br/>soils, organic matter, fossil, and stone, granite, marble, pumice absorbent, crumble sedimentary, layer, sediment igneous, magma, lava, gas bubbles (tiny holes/spaces) metamorphic, change, squeeze, pressure</li> </ul>   |
| Year 4 |   | <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>I can recognise that living things can be grouped in a variety of ways.</li> <li>I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</li> <li>I can recognise that environments can change and that this can sometimes pose dangers to living things.<br/><i>Key Vocabulary progression</i><br/>vertebrates, invertebrates (+ 1 example of each) environment, habitat, classification key</li> </ul>                           | <p><b>Animals, including humans.</b></p> <ul style="list-style-type: none"> <li>I can describe the simple functions of the basic parts of the digestive system in humans.</li> <li>I can identify the different types of teeth in humans and their simple functions.</li> <li>I can construct and interpret a variety of food chains, identifying producers, predators and prey.<br/><i>Key Vocabulary progression</i><br/>mouth, tongue, teeth, oesophagus, stomach, small intestine, large intestine, nutrients, absorb, canine, incisor, molar, producer, consumer, apex predator</li> </ul>  | <p><b>States of matter</b></p> <ul style="list-style-type: none"> <li>I can compare and group materials together, according to whether they are solids, liquids, or gases.</li> <li>I can observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)</li> <li>I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.<br/><i>Key Vocabulary progression</i><br/>solid, liquid, gas, evaporation, condensation, particle, temperature, freezing, heating</li> </ul> | <p><b>Sound</b></p> <p>I can identify how sounds are made, associating some of them with something vibrating.</p> <ul style="list-style-type: none"> <li>I can recognise that vibrations from sounds travel through a medium to the ear.</li> <li>I can find patterns between the pitch of a sound and features of the object that produced it.</li> <li>I can find patterns between the volume of a sound and the strength of the vibrations that produced it</li> <li>I can recognise that sounds get fainter as the distance from the sound source increases.<br/><i>Key Vocabulary progression</i><br/>vibration, wave, volume, pitch, tone, insulation</li> </ul>   | <p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>I can identify common appliances that run on electricity.</li> <li>I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</li> <li>I can identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.</li> <li>I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</li> <li>I can recognise some common conductors and insulators, and associate metals with being good conductors.<br/><i>Key Vocabulary progression</i><br/>appliance, battery power, main power, circuit, series, cell, battery, wire, bulb, switch, break in circuit conductor, insulator</li> </ul>  |
| Year 5 | <p><b>Working scientifically</b><br/>variables, measurements, accuracy, precision, repeat readings, predictions, further comparative and fair test, identify, classify and describe, patterns</p> <p><b>report data</b> – scientific diagrams, labels, classification keys, tables, scatter graphs, bar graph and line graphs<br/><b>report and present</b> – conclusions, casual relationships, explanations, degree of trust, oral and written display and presentation<br/><b>evidence</b> – support, refute, ideas or arguments</p> | <p><b>Forces</b></p> <ul style="list-style-type: none"> <li>I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</li> <li>I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces</li> <li>I can recognise that some mechanisms, including levers, pulleys, and gears, allow a smaller force to have a greater effect.<br/><i>Key Vocabulary progression</i><br/>air resistance, water resistance, friction, gravity lever, gear, pulley, Newtons</li> </ul> | <p><b>Earth and Space</b></p> <ul style="list-style-type: none"> <li>I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</li> <li>I can describe the movement of the Moon relative to the Earth.</li> <li>I can describe the Sun, Earth and Moon as approximately spherical bodies.</li> <li>I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.<br/><i>Key Vocabulary progression</i><br/>Earth, sun, moon, solar system, axis of rotation, day, night, phases of the moon, star, constellation</li> </ul>   | <p><b>Animals, including humans.</b></p> <ul style="list-style-type: none"> <li>I can describe the changes as humans develop to old age.<br/><i>Key Vocabulary progression</i><br/>womb, foetus, embryo, gestation, baby, toddler, teenager, elderly growth, development, puberty</li> </ul>   | <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</li> <li>I can describe the life process of reproduction in some plants and animals.<br/><i>Key Vocabulary progression</i><br/>life process, reproduction, offspring,</li> </ul>  | <p><b>Properties and changes of materials</b></p> <ul style="list-style-type: none"> <li>I can compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</li> <li>I know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</li> <li>I can use knowledge of solids, liquids, and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</li> <li>I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</li> <li>I can demonstrate that dissolving, mixing and changes of state are reversible changes</li> <li>I can explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.<br/><i>Key Vocabulary progression</i><br/>hardness, transparency, conductivity (electrical, thermal) solubility, solution dissolve, filter, evaporate, sieve, reversible, irreversible</li> </ul> |
| Year 6 |   | <p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>I can describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-</li> </ul>  | <p><b>Evolution and inheritance</b></p> <ul style="list-style-type: none"> <li>I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</li> </ul>   | <p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</li> <li>I can compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</li> </ul>  | <p><b>Animals, including humans.</b></p> <ul style="list-style-type: none"> <li>I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</li> </ul>   | <p><b>Light</b></p> <ul style="list-style-type: none"> <li>I can use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.</li> <li>I can explain that we see things because light travels from light sources to our</li> </ul>   |

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|  |  | <p>organisms, plants and animals.</p> <ul style="list-style-type: none"> <li>I can give reasons for classifying plants and animals based on specific characteristics.</li> </ul> <p><u>Key Vocabulary progression</u><br/>characteristic, classification, organism, micro-organism</p> | <ul style="list-style-type: none"> <li>I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</li> <li>I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</li> </ul> <p><u>Key Vocabulary progression</u><br/>adaptation, evolution, characteristic, reproduction, genetics, survival</p> | <ul style="list-style-type: none"> <li>I can use recognised symbols when representing a simple circuit in a diagram.</li> </ul> <p><u>Key Vocabulary progression</u><br/>circuit - series, parallel voltage, volts, amps</p> | <ul style="list-style-type: none"> <li>I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</li> <li>I can describe the ways in which nutrients and water are transported within animals, including humans.</li> </ul> <p><u>Key Vocabulary progression</u><br/>function, circulatory system, heart, valve, blood vessel, vein, artery transport, oxygenated, deoxygenated lifestyle, drug</p> | <p>eyes or from light sources to objects and then to our eyes.</p> <ul style="list-style-type: none"> <li>I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast.</li> </ul> <p><u>Key Vocabulary progression</u><br/>refraction, reflection, spectrum, rainbow</p> |
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