

Subject -Science		
EYFS	Year 1	Year 2
Key Objectives	Key Objectives	Key Objectives
Skills <ul style="list-style-type: none"> • Observation • Discussion • Prediction • Operation of simple equipment/technology • Enquiry – asking simple questions • Classification - sorting Knowledge <ul style="list-style-type: none"> • Names of animals and plants • How to care for/meet the needs of plants and animals • What is living/not living and man-made/natural • Cause and effect NC expectations <ul style="list-style-type: none"> • ELG: children know about similarities and differences in relation to places, objects, materials and living things. • ELG: They talk about the features of their own immediate environment and how 	Skills <ul style="list-style-type: none"> • Identification/classification • Labelling diagrams • Observing changes • Predictions • Recognising patterns • Measuring • Describing • Planning investigations • Evaluating investigations Knowledge <ul style="list-style-type: none"> • Human body parts • Seasons and what changes • Structure of common animals • Properties of materials • Parts of plants/trees • Know the senses NC expectations Plants – <ul style="list-style-type: none"> • Can identify and name a variety of common wild and garden plants, including deciduous and evergreen. • Can identify and name a variety of common animals 	Skills <ul style="list-style-type: none"> • Identification/classification • Comparing • Simple Research • Observing and comparing • Predictions • Planning investigations • Evaluation investigations • Data Knowledge <ul style="list-style-type: none"> • Reproduction, including humans • Healthy living • Properties of materials/changing properties • Habitats • Different sources of food NC expectations Plants - <ul style="list-style-type: none"> • Can observe and describe how seeds and bulbs grow into mature plants • Can find out and describe how plants need water, light

<p>environments might vary from one to another.</p> <ul style="list-style-type: none"> • ELG: They make observations of animals and plants and explain why some things occur, and talk about changes. 	<p>that are carnivores, herbivores and omnivores</p> <p>Animals including humans –</p> <ul style="list-style-type: none"> • Can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • Can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). • Can identify, name, draw and label the basic parts of the human body and say which part is associated with each sense. <p>Everyday materials –</p> <ul style="list-style-type: none"> • Can distinguish between an object and the material from which it is made • Can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock • Can describe the simple physical properties of a variety of everyday materials 	<p>and a suitable temperature to grow and stay healthy</p> <p>Animals including humans –</p> <ul style="list-style-type: none"> • Notice that animals, including humans, have offspring which grow into adults • Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene <p>Uses of everyday materials –</p> <ul style="list-style-type: none"> • 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 • Can find out how the shapes of solid objects made from some materials can be changed by squashing,
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- **Can compare and group together a variety of everyday materials on the basis of their simple physical properties**

Seasonal Changes

- **Can observe changes across the four seasons**
- **Can observe and describe weather associated with the seasons and how day length varies**

bending, twisting and stretching

Living things and their habitats

- **Can explore and compare the differences between things that are living, dead, and things that have never been alive**
- **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 one another**
- **Can identify and name a variety of plants and animals in their habitats, including micro-habitats**

		<ul style="list-style-type: none"> • Can describe how some 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>Vocabulary – Investigate, similar, difference, observation, materials, living things, pattern, hard, soft, rough, smooth, explain, man-made, natural,</p>	<p>Vocabulary – Identify, draw, label, data, deciduous, evergreen, evaluate, investigate, wild, deciduous, evergreen, leaves, buds, blossom, flowers, petals, fruit, roots, bulb, seeds, trunk, branches, stem, compare, contrast, vegetables, plant, fish, amphibians, reptiles, birds, mammals, carnivores, herbivores, omnivores, head, neck, shoulders, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth, material, hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy, waterproof, absorbent, opaque, transparent, brick, paper, fabric, elastic, foil, seasons, autumn, winter, spring, summer, weather, change, day, temperature, hot, cold, snow, ice, rain, hail, sun, warm, fog, bare trees, colours, leaves, buds, blossoms, hibernate</p>	<p>Vocabulary – Habitat, seed, bulb, food chain, variables, conclusions, reliable, offspring, data, hypothesis, growth, survival, seed, bulb, plant, grow, mature, adapt, water, light, similarities, differences, adapt, temperature, healthy, unhealthy, suitable, stem, leaves, animals, living, not living, dead, alive, seashore, woodland, ocean, rainforest, microhabitat, food chain, prey, predator, source, shelter, human, survive, animals, humans, offspring, exercise, hygiene, food groups, water, food, air, oxygen, wood, plastic, glass, metal, water, rock, brick, paper, fabric, card, rubber; properties, solid, suitable/unsuitable, use/useful, hard/soft, stretchy/stiff, rigid/flexible, waterproof/absorbent, strong/weak, rough/smooth,</p>

		transparent/opaque, shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching.
SMSC ideas – Looking after plants, animals, habitats, death of plants, life cycle	SMSC ideas – Predator/prey relationship, responsibilities for the planet	SMSC ideas – Healthy living, recycling
Enrichment ideas – Hatching butterflies, planting seeds, gardening, wildlife walks	Enrichment ideas – Outdoor learning, garden centre trip	Enrichment ideas – Hatching eggs, visit from/to doctor, nurse or farm
Enquiry Types – Classification, pattern seeking	Enquiry Types – Classification, observation over time, pattern seeking	Enquiry Types – Classification, observation over time, researching

Subject - Science

Year 3	Year 4	Year 5	Year 6
Key Objectives	Key Objectives	Key Objectives	Key Objectives
Skills <ul style="list-style-type: none"> • Ownership of own enquiries • Use different types of enquiry to answer questions • Accurate measurement • Record and present/report data • Use results to make simple conclusions • Make predictions • Identify similarities/differences • Use scientific evidence to answer questions or support arguments Knowledge <ul style="list-style-type: none"> • Identify parts of a plant • Name requirements of plants to keep healthy • Identify that humans and some animals have skeletons/muscles • Compare rocks' similarities/differences • Light and dark, shadows • Forces and magnets 	Skills <ul style="list-style-type: none"> • Ownership of own enquiries • Use different types of enquiry to answer questions • Accurate measurement • Record and present/report data • Use results to make simple conclusions • Make predictions • Identify similarities/differences • Use scientific evidence to answer questions or support arguments Knowledge <ul style="list-style-type: none"> • Electricity • Living things and habitats • Animals including humans • States of matter – the water cycle • Sound – vibrations and pitch • Electricity – safety, simple circuits, insulators and conductors 	Skills <ul style="list-style-type: none"> • Different types: planning, carrying out investigations and measuring • Presenting data in graphs • Reasoning • Labelled diagrams • Classification • Supporting evidence for science • Repeating readings • Considering secondary evidence Knowledge <ul style="list-style-type: none"> • Forces – Earth's gravity, air and water resistance, friction, mechanisms • Life cycles • Evaporation/dissolving, mixing/separation of materials • Earth and space – the planets 	Skills <ul style="list-style-type: none"> • Different types: planning, carrying out investigations and measuring • Presenting data in graphs • Reasoning • Labelled diagrams • Classification • Supporting evidence for science • Repeating readings • Considering secondary evidence Knowledge <ul style="list-style-type: none"> • Electricity – symbols, components, voltage • Light – how we see • Evolution and inheritance, adaption • Circulatory system

<p>NC expectations Plants –</p> <ul style="list-style-type: none"> • Can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • Can explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant • Can investigate the way in which water is transported within plants • Can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal <p>Animals including humans –</p> <ul style="list-style-type: none"> • Can identify that animals, including humans, need the right types and amounts of nutrition, and that they cannot make their own food; they get nutrition from what they eat • Can identify that humans and some other animals have skeletons and muscles for support, protection and movement 	<p>NC expectations Living things and their habitats –</p> <ul style="list-style-type: none"> • Recognise that living things can be grouped in a variety of ways • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • Recognise that environments can change and that this can sometimes pose dangers to living things. <p>Animals including humans –</p> <ul style="list-style-type: none"> • Can describe the simple functions of the basic parts of the digestive system in humans • Can construct and interpret a variety of food chains, identifying producers, predators and prey 	<p>NC expectations Living things and their habitats –</p> <ul style="list-style-type: none"> • Can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • Can describe the life process of reproduction in some plants and animals <p>Animals including humans –</p> <ul style="list-style-type: none"> • Can describe the changes as humans develop to old age 	<p>NC expectations Living things and their habitats –</p> <ul style="list-style-type: none"> • Can describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals • Can give reasons for classifying plants and animals based on specific characteristics <p>Animals including humans –</p> <ul style="list-style-type: none"> • Can identify and name the main part of the human circulatory system, and describe the functions of the heart, blood vessels and blood • Can recognise the importance of diet, exercise, drugs and lifestyle on the ways their bodies function • Can describe the ways in which nutrients and
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<p>Rocks –</p> <ul style="list-style-type: none"> • Can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • Can describe in simple terms how fossils are formed when things that 	<p>States of matter –</p> <ul style="list-style-type: none"> • Can compare and group materials together, according to whether they are solids, liquids or gases • Can observe that some materials change state when they are heated or cooled, and measure or 	<p>Earth and space –</p> <ul style="list-style-type: none"> • Can describe the movement of the Earth, and other planets, relative to the Sun in the solar system • Can describe the movement of the Moon relative to the Earth • Can describe the Sun, Earth and Moon as approximately spherical bodies • Can use the idea of the apparent movement of the sun across the sky <p>Properties and changes of materials –</p> <ul style="list-style-type: none"> • Can compare and group together everyday materials on the basis of the basis of their properties, including their hardness, solubility, transparency, conductivity 	<p>water are transported within animals, including humans</p> <p>Evolution and inheritance –</p> <ul style="list-style-type: none"> • 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 • Can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • Can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
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<p>have lived are trapped within rock</p> <ul style="list-style-type: none"> • Can recognise that soils are made from rocks and organic matter <p>Light –</p>	<p>research the temperature at which this happens in degrees Celsius (°C)</p> <ul style="list-style-type: none"> • Can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature <p>Sound –</p>	<p>(electrical and thermal), and response to magnets</p> <ul style="list-style-type: none"> • Can name some materials that dissolve in liquid to form a solution, and describe how to form a solution, and describe how to recover a substance from a solution • Can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating • Can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic • Can demonstrate that dissolving, mixing and changes of state are reversible changes • 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 	<p>Light –</p>
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- Can recognise that they need light in order to see things and that dark is the absence of light
- Can notice that light is reflected from surfaces
- Can recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- Can recognise that shadows are formed when the light from a light source is blocked by a solid object
- Can find patterns in the way that the size of shadows change

- Can identify how sounds are made, associating some of them with something vibrating
- Can recognise that vibrations from sound travel through a medium to the ear
- Can find patterns between the pitch of a sound and features of the object that produced it
- Can find patterns between the volume of a sound and the strength of the vibrations that produced it
- Can recognise that sounds get fainter as the distance from the sound source increases

- 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
- Can explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes
- Can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them

Forces and magnets -

- Can compare how things move on different surfaces
- Can notice that some forces need contact between two objects but magnetic forces can act at a distance
- Can observe how magnets attract or repel each other and attract some materials and not others describe magnets as having two poles

Forces -

- Can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
- Can identify the effects of air resistance, water resistance and friction, that act between moving surfaces
- Can recognise that some mechanisms, including

- Can predict whether two magnets will attract or repel each other, depending on which poles are facing
- 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

Electricity -

- Can identify common appliances that run on electricity
- Can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- Can identify whether or not a lamp will light in a simple series circuit, based on whether the lamp is part of a complete loop with a battery
- 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
- Can recognise some common conductors and insulators, and associate

levers, pulleys and gears, allow a smaller force to have a greater effect

Electricity -

- Can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
- 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
- Can use recognised symbols when representing a simple circuit in a diagram

	<p style="text-align: center;">metals with being good conductors</p>		
<p>Vocabulary – Enquiry, evaluation, prediction, pollination, skeleton/muscle, (non) contact force, root, stem, trunk, leaves, flowers, growth, air, light, water, nutrients, soil, transported, life cycle, pollination, seed formation, seed dispersal, stay alive, survive, food, protection, shelter, exercise, movement, skeleton, bones, protect, support, move, muscles, joints, ribs, heart, skull, brain, backbone, spine, spinal column, vertebrate, invertebrate, joints, tendons, rock, stone, pebble, sandstone, granite, chalk, limestone, marble, pumice, texture, crystal, granule, properties, rough, smooth, hard, soft, fossil, fossilise, remains, types of fossils such as trilobite, starfish, sea urchin, ammonite, weather, weathering, frost, beach, cliff, particle, rock names, soil types such as soil, clay, sandy, loam, peat, organic material, light, dark, shadow, surface, reflected, mirror, bright, dim, reflect, eye, opaque, blocked, push, pull, twist, force, attract, repel, surface, contact, magnetic, magnetic materials, poles</p>	<p>Vocabulary – Producer, prey, predator, attract, repel, (non-) contact, force, state of matter, water cycle, precipitation, evaporation, condensation, environment, impact, positive, negative, litter, pollution, biodiversity, ecosystem, habitat, derelict, graffiti, traffic, destroy, create, mouth, tongue, teeth, oesophagus, stomach, small and large intestine, digestive system, digestion, solid, liquid, gas, degrees Celsius, heating, cooling, temperature, evaporation, condensation, water cycle, pitch, volume, vibration, sound, source, travel, medium, ear, distance, circuit, cell, buzzers, wires, bulbs, switches, open, closed, motors, electricity, conductor, insulator, current, voltage</p>	<p>Vocabulary – Pulleys/gears, dissolve, solution/solvent/solute, air/water resistance, buoyancy, classification table, life cycle, birth, growth, reproduction, metamorphosis, aging, death, animal, mammal, amphibian, insect, bird, life cycle, birth, growth, reproduction, ageing, death, baby, toddler, teenager, adult, adulthood, childhood, pregnancy, gestation, puberty, sexual, mammal, properties, material, natural, manufactured, man-made, weathering, decay, decompose, break down, brittle, fragile, metal, durable, durability, plastic, wood, ceramic, concrete, insulate, insulation, compare, contrast, separate, mixture, sieve, filter, evaporate, solid, liquid, gas, particle, mixture, evaporate, dissolve, soluble, solution, solute, suspension, saturated, reversible, non-reversible, change, change of state, reaction, dissolve, melt, reversible, irreversible, gravity, falling, surface area, weight, mass, air resistance, friction, fast, slow, start, stop, change, direction, fall, rotate, contact force, non-contact force, reaction force, balanced, pull,</p>	<p>Vocabulary – Linnaean, taxonomy, characteristics, classification, hypothesise, impact, micro-organisms, circulatory, heart, chambers, blood vessels, blood, aorta, red blood cells, oxygenated, de-oxygenated, function, nutrients, water, transported, light, reflection, refraction, retina, shadow, sources, travel, rays, straight lines, opaque, translucent, transparent, components, motor, bulbs, buzzers, voltage, series, parallel, symbol, complete, incomplete, current, variables, positive, negative, conductors, insulators, evolution, living things, fossils, offspring, characteristics, variation, adaptation, inhabited, environment</p>

		lift, force, effort, mechanism, machine, pivot, push, pull, mechanism, machine, force, fulcrum, gears, forces, cogs, wheels, teeth, orbit, axis, sun, moon, earth, planets, names of planets, solar system, day, year, leap year, phases of the moon, orbit, rotate, axis, day, night,	
SMSC ideas –	SMSC ideas –	SMSC ideas – Death, our place in the universe, RSE	SMSC ideas – Impact of diet, exercise, drugs, RSE, genetic relationships/adoption
Enrichment ideas – Making a pinhole camera/kaleidoscope or magnet Enquiry types – Comparative, pattern seeking	Enrichment ideas – Making ‘poo’, music studio, visit by a musician, Enquiry types – Pattern seeking	Enrichment ideas – Operation Ouch Enquiry types – Pattern seeking, research, observations over time	Enrichment ideas – Body World Exhibition, DNA extraction, shadow puppets Enquiry types – Pattern seeking, research, observations over time