Science Curriculum Progression Map

(with knowledge, skills and vocabulary)

Progression Step Key

Biology			Chemistry		Physics				
Animals and Humans	Living Things	Plants	Materials and Changes of State	Rocks and Soils	Earth and Space	Electricity	Light	Forces	Sound

		Autumn		Spring		Summer	
		1	2	1	2	1	2
EYFS (Understanding the World, Development Matters 2021)	Nursery	**All about me** - Talking about family - Comments and asks questions about similarities and differences about how we look and behave. - Make connections between the features of their	**Autumn/ Winter** - Talks about why things happen and how things work - Explore natural materials inside and outside. - Explore materials with different properties - comment and ask questions about	**Our World** - Talk about the differences between materials and changes they notice. - Know that there are different countries in the world and talk about the differences they have experienced or seen in photos.	**Healthy Living** - Use senses for natural exploration. - Talk about what they see using a wide range of vocab.	**Growing** - Can talk about some of the things they have observed such as plants, animals, natural and found objects. - Understand the key features of the life cycle of a plant. - Shows care and concern for living	**Minibeasts** - Can talk about some of the things they have observed such as plants, animals.

Commented [LJ1]: Plant a sunflower

Commented [LJ2]: Willows Farm

Commented [LJ3]: Minibeast hunt

		family and other families.	aspects of their familiar world. - Talk about some of the things that they have observed.			things and the environment.	
		Key Vocabulary *Family, mum, dad, me, girl, boy, likes/dislike, body, head, shoulders, knees, toes, eyes, mouth, nose*	**Key Vocabulary** *Season, cold, misty, freezing, leaves, trees, bark, ground, freezes, darker, lighter, evening, day, changes, crispy, fall, twigs*	**Key Vocabulary** *Live, home, solid, freeze, melt, twist, stretch, soft, hard, same, different, local area, materials, plastic, brick, wood, metal, paper*	**Key Vocabulary** *Senses, nose, smell, mouth, taste, ears, hear, eyes, see, inside, outside, wonder, sweet, sour,*	**Key Vocabulary** *Outdoors, plants, flowers, animals, caterpillar, bulb, seed, grow, water, light, pot*	**Key Vocabulary** *Worms, insects, spiders, ladybirds, legs, body, wings, fly, crawl*
EYFS (Understanding the World, Development Matters 2021)	Reception	**Ourselves** - Explore and talk about different forces they can feel (playdough) - Name parts of face and parts of the body.	**Festivals and Celebrations** - Recognise some similarities and differences between life in this country and life in other countries. - Recognise that people have different beliefs and celebrate special times in different ways. - Understand that some places are special to members of their community.	**Our Planet** - Describe what they see, hear and feel whilst outside. - Recognise some environments that are different from the one in which they live. - Understand the effect of changing seasons on the natural world around them. - Talk about the differences between materials and changes they notice.	**Amazing Animals** - Understand the key features of the life cycle of a plant and an animal. - Begin to understand the need to respect and care for the natural environment and all living things.	**Growing** - Describe what they see, hear and feel whilst outside. - Plant seeds and care for growing plants.	**Transport** - Draw information from a simple map. - Explore and talk about different forces they can feel. - Explore how things work

Commented [LJ5]: Plant a runner bean

Commented [LJ6]: RAF Museum

Commented [LJ4]: Virtual fireworks

		Key Vocabulary *Me, body, eyes, nose, mouth, ears, neck, head, hair, arms, legs, stomach, back, ankles, feet, change, twist, pull, push, stretch, twist, turn, roll, pat*	**Key Vocabulary** *Building, bricks, windows, same, different, England, country, people, bonfire, fireworks, colours, Guy Fawks,, warm, hot, cold, change, reversible, irreversible, light, fire*	**Key Vocabulary** *Materials, plastic, wood, brick, glass, metal, straw, card, paper, tin, recyclable, reusable, sustainable, climate, weather, activist, action, twist, bend, squash, hard, soft, heavy, light, rough, smooth*	**Key Vocabulary** *Animals, artic animals, jungle animals, desert animals, sea creatures, farm animals, shelter, habitat, hot, cold, cool, warm, water, environment*	**Key Vocabulary** *Lifecycle, grown, shoot, root, bean, seed, soil, germinate, stem, runner bean, flower, froglet, egg, chrysalis, water, tadpole, caterpillar, butterfly, pupa, larvae, hatch*	**Key Vocabulary** *Vehicles, cars, bus, ship, boat, motorbike, tractor, aeroplane, lorry, wheels, body, doors, levers, hinges, wind screen, handle, steering wheel, direction, movement, forward, backward*
KS1	Year 1	**Parts of Animals** - describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) - identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	**Changing Seasons** - observe changes across the four seasons - observe and describe weather associated with the seasons and how day length varies.	**Comparing Materials** - describe the simple physical properties of a variety of everyday materials - compare and group together a variety of everyday materials on the basis of their simple physical properties.	**Identifying Materials** - distinguish between an object and the material from which it is made - identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.	**Plants** - identify and name a variety of common wild and garden plants, including deciduous and evergreen trees - identify and describe the basic structure of a variety of common flowering plants, including trees.	**Types of Animals** - identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals -identify and name a variety of common animals that are carnivores, herbivores and omnivores.

Commented [LJ7]: Autumn Walk

Commented [LJ9]: London Zoo

Commented [LJ8]: Plant a wild garden – daisies, poppies, cornflower

		Key Vocabulary *Fish, amphibians, reptiles, birds, mammals, pets, tongue, nose, eyes, ears, skin, taste, smell, sight, touch, hear, head, legs, eyes, neck, knees, hair, arms, face, mouth, elbows, ears, teeth, carnivore, omnivore, herbivore,*	**Key Vocabulary** *Season, month, summer, autumn, winter, spring, day, daytime, sun, day, length, weather, wind, rain, snow, hail, sleet, fog, sun, hot, burn, warm, cold, animals, plants, trees, flowers, leaves, adapting, hibernating, migrating*	**Key Vocabulary** *Material, object, wood, plastic, glass, metal, water, rock, brick, paper, fabrics, elastic, foil, properties, hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy, not bendy, waterproof, not waterproof,*	**Key Vocabulary** *Material, object, wood, plastic, glass, metal, water, rock, brick, paper, fabrics, elastic, foil, properties, hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy, not bendy, waterproof, not waterproof,*	**Key Vocabulary** *Common, wild plants, garden plants, deciduous, evergreen, plant, leaf, root, leaves, bud, flowers, blossom, petals, root, stem, tree, trunk,*	**Key Vocabulary** *Living, dead, never alive, habitats, micro-habitats, food, food chain, sun, grass, cow, human, alive, healthy, carnivore, omnivore, herbivore, Fish, amphibians, reptiles, birds, mammals*

		meat, plants, names of animals		*absorbent, non-absorbent*	*absorbent, non-absorbent*		
	Year 2	**Uses of Materials** - identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	**Changing Shape** - find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	**Living Things** - 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 - find out about and describe the basic needs of animals,	**Plants and Flowers** - observe and describe how seeds and bulbs grow into mature plants - find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	**Feeding and Exercise** - 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 - find out about and describe the basic needs of animals, including humans, for	**Habitats** - 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 -

Commented [LJ10]: Plant a lily

				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.		survival (water, food and air) - describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	they depend on each other identify and name a variety of plants and animals in their habitats, including micro-habitats.
		Key Vocabulary *Material, object, wood, metal, plastic, glass, brick, rock, paper, cardboard, rubber, squash, bend, twist, stretch, waterproof fabric, macadamisation*	**Key Vocabulary** *Material, object, wood, metal, plastic, glass, brick, rock, paper, cardboard, rubber, squash, bend, twist, stretch, waterproof fabric, macadamisation*	**Key Vocabulary** *Living, dead, never alive, habitats, micro-habitats, food, food chain, sun, grass, cow, human, alive, healthy, logs, leaf litter, stony path, under bushes, shelter, seashore, woodland, ocean, rainforest, conditions, hot, warm, cold, dry, damp, wet, bright, shade, dark*	**Key Vocabulary:** *common, wild plants, garden plants, deciduous, evergreen, leaf, root, leaves, bud, flowers, blossom, petals, root, stem, tree, trunk, branches, leaf, root, fruit, vegetables, bulb, seed,* water, *light, suitable, temperature, germination, reproduction, grow, healthy*	**Key Vocabulary** *Internal organs, heart, lungs, liver, kidney, brain, skeletal, skeleton, muscle, muscular, digest, digestion, digestive, circulatory system, heart, blood vessels, blood, impact, diet, exercise, drugs, lifestyle, nutrients, water, damage, drugs, alcohol, substances*	**Key Vocabulary** *living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, water, air, survive, survival, names of local habitats (e.g. pond, woodland etc.), names of micro-habitats (e.g. under logs, in bushes etc.), conditions, light, dark, shady, sunny, wet, damp, dry, hot, cold,*

LKS1	Year 3	**Movement and Feeding** - identify that animals, 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 - identify that humans and some other animals have skeletons and muscles for support, protection and movement.	**Rocks and Soils** - compare and group together different kinds of rocks on the basis of their appearance and simple physical properties - describe in simple terms how fossils are formed when things that have lived are trapped within rock - recognise that soils are made from rocks.	**Magnets and Forces** - compare how things move on different surfaces notice that some forces need contact between two objects, but magnetic forces can act at a distance - observe how magnets attract or repel each other and attract some materials and not others - 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 - describe magnets as having two poles - predict whether two magnets will attract or repel each other, depending on which poles are facing.	**Parts of Plants** - identify and describe the functions of different parts of flowering plants: roots, stem/ trunk, leaves and flowers investigate the way in which water is transported within plants - explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	**What Plants Need** - 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.	**Light and Shadows** - recognise that they need light in order to see things and that dark is the absence of light notice that light is reflected from surfaces recognise that light from the sun can be dangerous and that there are ways to protect their eyes - recognise that shadows are formed when the light from a light source is blocked by a solid object - find patterns in the way that the size of shadows change.

Commented [LJ11]: Kew Gardens

Commented [LJ12]: Plant a dahlia

		Key Vocabulary *Nutrition, nutrients, carbohydrates, protein, fats, fibre, water, vitamins, minerals, skeleton, bones, joints, endoskeleton, exoskeleton, hydrostatic, skeleton, vertebrate, invertebrate, contract, relax, muscles, ball joint, socket joint, hinge joint, gliding joint*	**Key Vocabulary** *Rock, appearance, physical, properties, hard, soft, shiny, dull, rough, smooth, absorbent, non-absorbent, fossils, sedimentary, soils, organic matter, buildings, gravestones, grains, crystals*	**Key Vocabulary** *Force, push, pull, open, surface, magnet, magnetic, attract, repel, magnetic poles, North, South*	**Key Vocabulary** *common, wild plants, garden plants, deciduous, evergreen, leaf, root, leaves, bud, flowers, blossom, petals, root, stem, trunk, branches, leaf, root, fruit,*	**Key Vocabulary** *common, wild plants, garden plants, deciduous, evergreen, leaf, root, leaves, bud, flowers, blossom, petals, root, stem, trunk, branches, leaf, root, fruit, vegetables, bulb, seed, water, light, suitable, temperature, germination, reproduction, grow, healthy, structure, flowering plants, nutrition, support, air, light, water, soil, grow, varying needs, fertiliser, flowers, pollination, seed formation, seed dispersal, life cycle*	**Key Vocabulary** *Light, see, dark, reflect, surface, natural, star, moon, sun, shadow, blocked, solid, artificial, torch, candle, lamp, sunlight, dangerous, protect eyes*

	Year 4	**Changes of State** - compare and group materials together, according to whether they are solids, liquids or gases - 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) - identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	**Grouping Living Things** - 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.	**Electricity** - identify common appliances that run on electricity - construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers - 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 - recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit - recognise some common conductors and insulators, and associate metals with being good conductors.	**Human Nutrition** - describe the simple functions of the basic parts of the digestive system in humans - identify the different types of teeth in humans and their simple functions.	**Dangers to Living Things** - recognise that environments can change and that this can sometimes pose dangers to living things - construct and interpret a variety of food chains, identifying producers, predators and prey.	**Sound** - identify how sounds are made, associating some of them with something vibrating - recognise that vibrations from sounds travel through a medium to the ear find patterns between the pitch of a sound and features of the object that produced it find patterns between the volume of a sound and the strength of the vibrations that produced it - recognise that sounds get fainter as the distance from the sound source increases.

Commented [LJ13]: Science Museum

		Key Vocabulary *Solid, solidify, iron, ice, melt, freeze, liquid, evaporate, condense, gas, container, changing state, heated, heat, cooled, cool, degrees Celsius, thermometer, water cycle, evaporation, condensation, temperature, melting, warm, cool, water, water vapour*	**Key Vocabulary** *Environment, flowering, non-flowering, plants, animals, vertebrate, danger, fish, amphibians, reptiles, birds, mammals, invertebrate, snails, slugs, worms, spiders, insects, grasses, mosses, ferns,*	**Key Vocabulary** *Appliances, electricity, electrical circuits, cell, wire, bulb, buzzer, danger, electrical safety, sign, insulators, conductors, switch, open, closed*	**Key Vocabulary** *Human digestive system, digestion, mouth, tongue, mixes, moistens, saliva, oesophagus, transports, stomach, acid, enzymes, small intestines, colon, absorbs, compacts, teeth, incisors, cutting, slicing, canines, ripping, tearing, molars, chewing, grinding, floss, brush, food chain, sun, producers, prey, predators, carnivore, herbivore, omnivore*	**Key Vocabulary** *Environment, flowering, non-flowering, plants, animals, vertebrate, danger, fish, amphibians, reptiles, birds, mammals, invertebrate, snails, slugs, worms, spiders, insects, grasses, mosses, ferns, human impact, positive, negative, nature reserve, ecologically planned parks, garden ponds, population, development, litter, deforestation*	**Key Vocabulary** *Vibrate, vibration, vibrating, air, medium, ear, hear, sound, volume, pitch, faint, fainter, loud, louder, string, percussion, woodwind, brass, insulate*

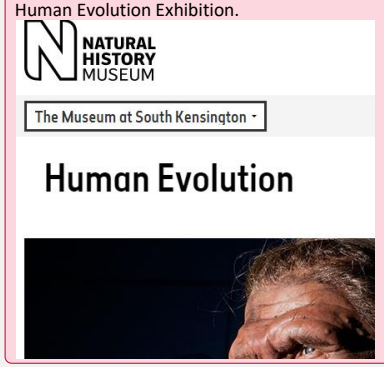
UKS2	Year 5	**Forces** - explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object - identify the effects of air resistance, water resistance and friction, that act between moving surfaces - recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	**Earth and Space** - describe the movement of the Earth, and other planets, relative to the Sun in the solar system - describe the movement of the Moon relative to the Earth - describe the Sun, Earth and Moon as approximately spherical bodies - use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	**Lifecycles** - describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird describe the life process of reproduction in some plants and animals - describe the changes as humans develop to old age.	**Materials** - 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 - give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.	**Types of Change** - demonstrate that dissolving, mixing and changes of state are reversible changes - 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.	**Separating Mixtures** - know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution - use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.

Commented [LJ14]: Trip to Greenwich Observatory

		Key Vocabulary *gravity, air resistance, water, resistance, friction, surface, force, effect, move, accelerate, decelerate, stop, change direction, brake, mechanism, pulley, gear, spring, theory of gravitation, Galileo Galelei, Isaac Newton*	**Key Vocabulary** *Earth, sun, moon, space, planets, stars, solar system, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, rotate, day, night, Aristotle, Ptolemy, Galileo, Copernicus, Brahe, Alhazen, orbit, axis, spherical, heliocentric, geocentric, hemisphere, season, tilt*	**Key Vocabulary** *Puberty, life cycle, gestation, growth, reproduce, foetus, baby, fertilisation, toddler, child, teenager, adult, old age, life expectancy, adolescence, adulthood, early adulthood, middle adulthood, late adulthood, childhood*	**Key Vocabulary** *Properties, hardness, solubility, transparency, electrical conductor, thermal conductor, magnetic, dissolve, solution, separate, separating, solids, liquids, gases, evaporating, reversible changes, dissolving, mixing, evaporation, filtering, sieving, melting, irreversible, new material, burning, rusting, magnetism, electricity, chemists, quantitate, measurements, conductivity, insulation, chemical*	**Key Vocabulary** *Properties, hardness, solubility, transparency, electrical conductor, thermal conductor, magnetic, dissolve, solution, separate, separating, solids, liquids, gases, evaporating, reversible changes, dissolving, mixing, evaporation, filtering, sieving, melting, irreversible, new material, burning, rusting, magnetism, electricity, chemists, quantitate, measurements, conductivity, insulation, chemical*	**Key Vocabulary** *Properties, hardness, solubility, transparency, electrical conductor, thermal conductor, magnetic, dissolve, solution, separate, separating, solids, liquids, gases, evaporating, reversible changes, dissolving, mixing, evaporation, filtering, sieving, melting, irreversible, new material, burning, rusting, magnetism, electricity, chemists, quantitate, measurements, conductivity, insulation, chemical*

	Year 6	**Changing Circuits** - associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit - 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 - use recognised symbols when representing a simple circuit in a diagram.	**Evolution and Inheritance** - recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago - recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents - identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	**Classifying Living Things** - 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 - give reasons for classifying plants and animals based on specific characteristics.	**SATS PREP**	**Light and Sound** - recognise that light appears to travel in straight lines 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 - 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 - use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	**Our Bodies** - identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood - recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function - describe the ways in which nutrients and water are transported within animals, including humans.

Commented [LJ15]: Trip to Natural History Museum for Human Evolution Exhibition.



		Key Vocabulary *voltage, brightness, volume, switches, danger, series circuit, safety, sign, circuit diagram, switch, bulb, buzzer, motor, recognised, symbols*	**Key Vocabulary** *Evolution, inheritance, inherited traits, adapted traits, natural selection, inheritance, Charles Darwin, DNA, genes, variation, parent, offspring, fossil, environment, habitat, fossilisation, plants, animals, living things*	**Key Vocabulary** *Classify, compare, Linnaean, Carl Linneus, classification, domain, kingdom, phylum, class, order, family, genus, species, characteristics, vertebrates, invertebrates, microorganisms, organism, flowering, non-flowering*		**Key Vocabulary** *light, travel, straight, reflect, reflection, light source, object, shadows, mirrors, periscope, rainbow, filters*	**Key Vocabulary** *Internal organs, heart, lungs, liver, kidney, brain, skeletal, skeleton, muscle, muscular, digest, digestion, digestive, circulatory system, heart, blood vessels, blood, impact, diet, exercise, drugs, lifestyle, nutrients, water, damage, drugs, alcohol, substances*