



Science knowledge Progression 2022-2023

Foundation	Overview	Key knowledge	Vocabulary	Enrichment opportunities and links to WGS curriculum
Autumn 1	All About Me	<ul style="list-style-type: none"> Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them. 	Environments – Environment, Woodland, valley, Playground, Recycling, compost.	Year 1 Autumn 1 – Animals Including Humans Year 2 Spring 2 – Being Healthy Year 2 – Summer 1 – Animals Including Humans
Autumn 2	Out of This World	<ul style="list-style-type: none"> Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them. 	Seasons - Spring (growth, baby animals) Summer, Autumn (Harvest) Winter, Weather, Sun, rain, wind, snow, ice, frost, sleet, hail. - Cold/warm/hot, length, day light.	Year 2 – Autumn 2 – Properties of Materials. Year 4 – Spring 2 - Space
Spring 1	Arctic Adventure/Under the Sea	<ul style="list-style-type: none"> Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them. 	Habitat – sea, ocean, mammal, sea creature, polar bear, arctic fox, walrus, shark, dolphin, whale, penguin, octopus, jelly fish	C.K – Year 1 – Looking After Animals - p.261-263 Year 2 – Autumn 1 – Animals and their Habitats Year 4 – Summer 1 – Adaptations Year 5 – Summer 1 – Humans and Animals Over Time.
Spring 2	Enchanted Forest	Explore the natural world around them. <ul style="list-style-type: none"> Describe what they see, hear and feel while they are outside. 	Habitat - Natural, wild, wildlife, native, places, woodland, desert, ocean, jungle, arctic, microhabitats: - Log, stone, tree, dead leaves, soil.	Year 1 – Spring 2 – Animals Including Humans Year 2 – Autumn 1 – Animals and their Habitats Year 3 – Summer 2 – Ecosystems Year 5 – Summer 1 – Humans Over Time
Summer 1	Growing and Changing	<ul style="list-style-type: none"> To know and talk about the different factors that support their overall health and wellbeing: regular physical activity - healthy eating - toothbrushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian. Manage their own basic hygiene and personal needs, including dressing, going 	Lifecycles - Adult/parent, baby, lifecycle, Egg, caterpillar, chrysalis, butterfly, roots, shoots, stem, leaves, buds, flower	Year 1 Autumn 1 – Animals Including Humans Year 2 Spring 2 – Being Healthy Year 2 – Summer 1 – Animals Including Humans Year 5 – Summer 2 – Reproductive Systems Year 6 – Summer 2 – Diet and Lifestyle

		to the toilet and understanding the importance of healthy food choices.		
Summer 2	Traditional Tales	<ul style="list-style-type: none"> To explore a variety of materials and their features. 	Materials - Object, material, properties, suitable, pipette, recycling, properties, waterproof, strong/weak, dense/less dense, hard/soft, bubble wrap, foil, plastic, fabric, paper, straw, sticks, bricks, metal, glass.	C.K – Year 1 – Sorting Objects – p.196-197 Year 2 – Autumn 2 – Properties of Materials. Year 3 – Autumn 2 – Raw and Synthetic Materials. Year 5 – Autumn 1 – Separating Materials Year 5 – Autumn 2 – Physical and Chemical Changes Year 6 – Autumn 1 – Chemical Reactions
Year 1				
Autumn 1	Animals Including Humans	<ul style="list-style-type: none"> Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense 	Senses – taste, see, smell, hear, touch, tongue, eyes, nose, ears, hands, fingers Human Body – head, leg, eyes, neck, knees, hair, arms, face, mouth, elbows, teeth	C.K* – Year 1 – Senses - p.264-265 Year 4 – Summer 1 – Adaptations Year 4 – Summer 2 – Human Anatomy Year 5 – Summer 1 – Humans and Animals Over Time.
Autumn 2	Seasons	<ul style="list-style-type: none"> Observe changes across the four seasons Observe and describe weather associated with the seasons and how day length varies 	Season – spring, summer, autumn, winter Weather – wind, rain, snow, hail, sleet fog, sun, hot, warm, cold	C.K – Year 1- Seasons/Weather p.251-252, 254, 255, 257, 258, 260 Year 4 – Summer 1 – Adaptations
Spring 1	Properties of Materials	<ul style="list-style-type: none"> 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 	Materials - Wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil Properties – hard/soft, stretchy/stiff, shiny/dull, rough/smooth, bendy/ not bendy, waterproof/ not waterproof, absorbent/ non-absorbent, opaque/ transparent	C.K – Year 1 – Sorting Objects – p.196-197 Year 2 – Autumn 2 – Properties of Materials. Year 3 – Autumn 2 – Raw and Synthetic Materials. Year 5 – Autumn 1 – Separating Materials Year 5 – Autumn 2 – Physical and Chemical Changes Year 6 – Autumn 1 – Chemical Reactions
Spring 2	Animals Including Humans	<ul style="list-style-type: none"> 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 	Common Animals – fish, mammal, amphibian, reptile, bird Omnivores – meat, plants, badger, human, bear Carnivores – cat, dog, lion,	C.K – Year 1 – Looking After Animals - p.261-263 Year 4 – Summer 1 – Adaptations Year 5 – Summer 1 – Humans and Animals Over Time.

		<p>carnivores, herbivores and omnivores</p> <ul style="list-style-type: none"> Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) 	<p>tiger, fox, shark</p> <p>Herbivores – plants, cows, horses, mice, elephants, deer</p> <p>Structure – vertebrates, invertebrates, worm, jellyfish, legs, wings, fur, tail, underwater domestic, wild, gills, wings, scales, beaks, claws, feathers,</p>	
Summer 1	Plants	<ul style="list-style-type: none"> 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 	<p>Common Plants – wild, garden, deciduous, evergreen, fruit, vegetable, blub, seed</p> <p>Plant – leaf, root, bud, flower, blossom, petal, root, stem</p> <p>Tree – trunk, branches, root</p>	<p>C.K – Year 1 - Trees - p. 253</p> <p>C.K – Year 1 - Growing Plants - p.242-245, 247</p> <p>Year 3 – Summer 1 – Plants</p> <p>Year 5 – Summer 2 – Reproductive Cycles</p>
Summer 2	Properties of Materials	<ul style="list-style-type: none"> 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 	<p>Materials - Wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil</p> <p>Properties – hard/soft, stretchy/stiff, shiny/dull, rough/smooth, bendy/ not bendy, waterproof/ not waterproof, absorbent/ non-absorbent, opaque/ transparent</p>	<p>C.K – Year 1 – Sorting Objects – p.196-197</p> <p>Year 2 – Autumn 2 – Properties of Materials.</p> <p>Year 3 – Autumn 2 – Raw and Synthetic Materials.</p> <p>Year 5 – Autumn 1 – Separating Materials</p> <p>Year 5 – Autumn 2 – Physical and Chemical Changes</p> <p>Year 6 – Autumn 1 – Chemical Reactions</p>
Year 2	Overview	Key knowledge	Vocabulary	Enrichment opportunities and links to WGS curriculum
Autumn 1	Living Things and their Habitats	<ul style="list-style-type: none"> Explore and compare the differences between things that are living, dead, and things that have never been alive 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 Identify and name a variety of plants and animals in their habitats, including microhabitats 	<p>Living Things: living, dead, never alive,</p> <p>Habitats: micro-habitats, food, food chain, sun-grass-cow human, alive, healthy</p> <p>Environments: logs, leaf litter, stony path, under bushes, shelter, seashore, woodland, ocean, rainforest, conditions hot/ warm/ cold/dry/ damp/ wet /bright/ shade/ dark</p>	<p>C.K – Year 2 – Habitats – p.286-295, 300</p> <p>Progression from – Year 1 – Spring 2 – Animals Including Humans</p> <p>Year 3 – Summer 2 – Ecosystems</p> <p>Year 5 – Summer 1 – Humans Over Time</p>

		<ul style="list-style-type: none"> 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 		
Autumn 2	Properties of Materials	<ul style="list-style-type: none"> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses 	Materials – cardboard, coins, cans, cars, matches, floors Scientists – John Dunlop, Charles Macintosh Properties – squashing, bending, twisting, stretching	Progression from Year 1 Materials ‘Properties of everyday materials.’ Year 2 – Autumn 2 – Properties of Materials. Year 3 – Autumn 2 – Raw and Synthetic Materials. Year 5 – Autumn 1 – Separating Materials Year 5 – Autumn 2 – Physical and Chemical Changes Year 6 – Autumn 1 – Chemical Reactions
Spring 1	Materials	<ul style="list-style-type: none"> Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 	Materials – cardboard, coins, cans, cars, matches, floors Scientists – John Dunlop, Charles Macintosh Properties – squashing, bending, twisting, stretching	Progression from Year 1 Materials ‘Properties of everyday materials.’ Year 2 – Autumn 2 – Properties of Materials. Year 3 – Autumn 2 – Raw and Synthetic Materials. Year 5 – Autumn 1 – Separating Materials Year 5 – Autumn 2 – Physical and Chemical Changes Year 6 – Autumn 1 – Chemical Reactions
Spring 2	Being Healthy	<ul style="list-style-type: none"> Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene 	Healthy Living: healthy, diet, protein, carbohydrates, fats, vitamins, minerals, water, dairy, balance, clean, hygiene, soap, bacteria	C.K – Year 1 – Looking After Animals - p.261-263 Year 4 – Summer 2 – Human Anatomy Year 6 – Summer 2 – Diet and Lifestyle
Summer 1	Animals Including Humans	<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) 	Growth into Adults: Offspring, grow, adults, nutrition, reproduce, survival, water, food, air, exercise, hygiene, egg-chick-chicken, egg caterpillar-pupa-butterfly, spawn-tadpole-frog, lamb-sheep, baby-toddler-child-teenager-adult	Progression from Year 1 Animals ‘common structures.’ C.K – Year 1 – Offspring – p.263 Year 4 – Summer 2 – Human Anatomy Year 5 – Summer 1 – Humans and Animals Over Time Year 5 – Summer 2 – Reproductive Systems Year 6 – Summer 2 – Diet and Lifestyle
Summer 2	Plants	<ul style="list-style-type: none"> Observe and describe how seeds and bulbs grow into mature plants 	Plants: Water, light, suitable temperature, grow, healthy,	C.K – Year 1 - Trees - p. 253 C.K – Year 1 - Growing Plants - p.242-

		<ul style="list-style-type: none"> Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. 	germination, reproduction	245, 247 Year 3 – Summer 1 – Plants Year 5 – Summer 2 – Reproductive Cycles
Year 3	Overview	Key Knowledge	Vocabulary	Enrichment opportunities and links to WGS curriculum
Autumn 1	Practical Skills	<ul style="list-style-type: none"> Define dependent, independent and control variables and be able to identify these in a range of experiments. Know how to plan a fair test. Understand how to follow and write a method. Identify and draw good scientific diagrams Understand how to collect results, draw results tables and know how to present results. Know how to interpret results, write a conclusion and present it. 	Scientific enquiry, comparative and fair test, systematic, careful observation, accurate measurements, thermometer, data logger, gather, record, classify, present, drawings, labelled diagrams, keys, bar charts, tables, oral and written explanations, conclusion, predictions, differences, similarities, change, evidence, secondary sources, guides, construct, interpret	C.K – Year 1 – Sorting Objects – p.196-197 Year 2 – Autumn 2 – Properties of Materials. Year 3 – Autumn 2 – Raw and Synthetic Materials. Year 5 – Autumn 1 – Separating Materials Year 5 – Autumn 2 – Physical and Chemical Changes Year 6 – Autumn 1 – Chemical Reactions
Autumn 2	Raw and Synthetic Materials	<ul style="list-style-type: none"> Understand what Raw materials are and describe and sort these materials. Understand what Synthetic materials are and their uses. Understand that raw materials change properties when they are made into synthetic materials and look into examples of this Explore how a synthetic material is made and its uses Describe the process of recycling and understanding that making synthetic materials uses energy Understand the negative impacts of making raw materials Understand sustainability 	Raw and Synthetic materials – material, raw materials, synthetic materials, fuel, rubber, wood, cotton, wool, leather, silk, collect, destroy, landfill, natural habitats, oil, wood, sand, clay, recycle, fossil fuels,	Progression from Year 1 Materials ‘Properties of everyday materials.’ Progression from Year 2 – Autumn 2 – Properties of Materials. Year 5 – Autumn 1 – Separating Materials Year 5 – Autumn 2 – Physical and Chemical Changes Year 6 – Autumn 1 – Chemical Reactions Year 6 – Autumn 2 - Sustainability

Spring 1	Sound	<ul style="list-style-type: none"> • 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 	<p>Sound – sound source, noise, vibrate, travel, solid, pitch, tune, high, low, volume, loud, quiet, muffled, fainter, vibrations, insulation, instrument, percussion, string, brass, woodwind, tuned, ear</p>	<p>Progression from Year 1 Materials ‘Properties of everyday materials.’ Progression from Year 2 – Autumn 2 – Properties of Materials. Music units throughout the School.</p>
Spring 2	Forces	<ul style="list-style-type: none"> • 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. 	<p>Magnets – force, push, pull, open, surface, magnet, attract, repel, magnetic, poled, north, south, iron, steel Forces – friction, contact</p>	<p>Progression from Year 1 Materials ‘Properties of everyday materials.’ Progression from Year 2 – Autumn 2 – Properties of Materials. Year 4 – Spring 2 – Space Year 5 – Spring 1 – Magnetism Year 6 – Spring 1 – Heat Year 6 – Spring 2 - Energy</p>
Summer 1	Plants	<ul style="list-style-type: none"> • Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • Explore the requirements of plants 	<p>Plants – roots, stem, leaves, flowers, trunk. Requirements – air, light, water, nutrients, soil, room, needs vary, fertiliser</p>	<p>C.K – Year 1 - Trees - p. 253 C.K – Year 1 - Growing Plants - p.242-245, 247 Year 2 – Summer 2 – Plants Year 5 – Summer 2 – Reproductive Cycles</p>

		<p>for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</p> <ul style="list-style-type: none"> 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 		
Summer 2	Ecosystems	<ul style="list-style-type: none"> 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 	<p>Nutrition – vitamins, minerals, fat, protein, carbohydrates, fibre, water</p> <p>Humans – skeletons, support, protection, skulls, brain, ribs, heart, lungs, joint, muscles, movement, pull, contract, relax, diet</p>	<p>C.K – Year 2 – Habitats – p.286-295, 300</p> <p>Progression from – Year 1 – Spring 2 – Animals Including Humans</p> <p>Year 5 – Summer 1 – Humans Over Time</p> <p>Year 5 – Summer 2 – Reproductive Systems</p> <p>Year 5 – Summer 2 – Diet and Lifestyle</p>
Year 4	Overview	Key knowledge	Vocabulary	Enrichment opportunities and links to WGS curriculum
Autumn 1	Phases of Matter	<ul style="list-style-type: none"> 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 	<p>Changing State – solid, liquid, gas, melt, freeze, evaporation, condensation, heat, cool, degrees, Celsius, degrees, Fahrenheit, water, vapour, molten, boil, temperature, solidify, melting point</p>	<p>Progression from Year 1 Materials</p> <p>Properties of everyday materials.</p> <p>Progression from Year 2 – Autumn 2 – Properties of Materials.</p> <p>Progression from Year 3 - Raw and Synthetic Materials</p> <p>Year 5 – Autumn 1 – Separating Materials</p> <p>Year 5 – Autumn 2 – Physical and Chemical Changes</p> <p>Year 6 – Autumn 1 – Chemical Reactions</p> <p>Year 6 – Autumn 2 - Sustainability</p>
Autumn 2	Rock Cycle	<ul style="list-style-type: none"> Describe how igneous, sedimentary and metamorphic rocks are formed Know how to classify different types of rocks 	<p>Rock cycle – mineral, rock, magma, organic matter, hard, density, permeable, erosion, sediment, physical weathering,</p>	<p>Progression from Year 1 – Properties of Materials</p> <p>Year 5 – Summer 1 – Humans and Animals Over Time</p>

		<ul style="list-style-type: none"> • Understand how fossils are formed • Understand what a geologist is and about key geologists in history. • Understand the effect water and chemical weathering has on rocks and how large earth movements can cause change in rocks. • Understand the process of the rock cycle. 	chemical weathering, biological weathering, Igneous rock, sedimentary rock, metamorphic rock, fossilisation process, crystallise,	
Spring 1	Light	<ul style="list-style-type: none"> • 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 an opaque object • Find patterns in the way that the size of shadows change. 	Light – travels, straight, reflections, refraction, light source, rainbow, filters, periscope, mirrors, transparent, translucent, opaque	Progression from Year 1 – Autumn 2 Seasons Year 4 – Spring 2 - Space Year 4 – Summer 1 – Adaptations Year 6 – Spring 2 - Sustainability
Spring 2	Space	<ul style="list-style-type: none"> • 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 	Planets – Mercury, Venus, Earth, Mars, Uranus, Jupiter, Saturn, Neptune, Pluto, dwarf planet, solar system, orbit, revolve, geocentric model, heliocentric model, shadow, clocks, sundials, astronomical clocks Moon – celestial body, sphere/spherical, rotate/rotation, spin, night and day, time zones	Year 2 – Autumn 2 – Properties of Materials. Year 3 – Spring 2 - Forces
Summer 1	Adaptations	<ul style="list-style-type: none"> • To define and describe a range of environments • To define ecosystems, their components and adaptation • Understand common adaptations 	Adaptations – organism, habitat, adaptation, camouflage, nocturnal, echolocation, environments, desert, insulation, diurnal,	C.K – Year 1 – Looking After Animals - p.261-263 Year 2 – Autumn 1 – Animals and their Habitats Year 5 – Summer 1 – Humans and Animals

		<p>and that they are not a choice</p> <ul style="list-style-type: none"> Describe the conditions of different environments and the adaptations that have taken place Describe the conditions of cold environments, night time environments and underwater environments 	underwater, marine	Over Time.
Summer 2	Human Anatomy	<ul style="list-style-type: none"> Label major organs and describe their function in the human body Label the skeleton and understand its function Describe variation in the animal kingdom 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 Construct and interpret a variety of food chains, identifying producers, predators and prey 	Human anatomy – endoskeleton, exoskeleton, organ, peristalsis, red blood cells, white blood cells, platelets, plasma, muscles, skeleton, brain, heart, lungs, liver, kidneys, stomach, small intestine, skin, circulatory system, oxygen, carbon dioxide, blood	<p>EYFS – Autumn 1 – All About Me</p> <p>Year 2 – Spring 2 – Being Healthy</p> <p>Year 5 – Summer 1 – Humans and Animals</p> <p>Over Time</p> <p>Year 5 – Summer 2 – Reproductive Systems</p> <p>Year 6 – Summer 2 – Diet and Lifestyle</p>
Year 5	Overview	Key knowledge	Vocabulary	Enrichment opportunities and links to WGS curriculum
Autumn 1	Separating Mixtures	<ul style="list-style-type: none"> To know what a pure substance is, giving examples and justifying their reasoning To know what a mixture is and understand whether the mixtures are from the same state or different states Describe formulations, explaining why they are useful and provide examples Describe how to separate large solid particles, insoluble substances and soluble substances from a mixture. 	Separating mixtures – pure substance, solid, liquid, gas, laboratory, mixture, formulation, alloy, boil, condense, magnetic/non-magnetic solid, formula, solute, solvent, solution, soluble, insoluble, separate	<p>Progression from Year 1 Materials Properties of everyday materials.</p> <p>Progression from Year 2 – Autumn 2 – Properties of Materials.</p> <p>Progression from Year 3 - Raw and Synthetic Materials</p> <p>Year 5 – Autumn 2 – Physical and Chemical Changes</p> <p>Year 6 – Autumn 1 – Chemical Reactions</p> <p>Year 6 – Autumn 2 - Sustainability</p>

Autumn 2	Physical and Chemical Changes	<ul style="list-style-type: none"> Describe how particles are arranged in solids, liquids and gases and understand what happens to these particles when substances change state Know what a physical change is and describe signs and examples of physical changes Know what a chemical change is and describe signs and examples of chemical changes Understand the similarities and differences between the two reactions and complete investigations into this 	<p>Physical and chemical changes – melting, cooling, freezing, heating, boiling, condensing, particles, vibrate, chemical changes, liquids, irregular, gases, physical changes, changing state, substance, similarities, differences, independent variables, control variables, dependent variables, repeatable, reproducible,</p>	<p>Progression from Year 1 Materials Properties of everyday materials. Progression from Year 2 – Autumn 2 – Properties of Materials. Progression from Year 3 - Raw and Synthetic Materials Year 5 – Autumn 1 – Separating Mixtures Year 6 – Autumn 1 – Chemical Reactions Year 6 – Autumn 2 - Sustainability</p>
Spring 1	Magnetism	<ul style="list-style-type: none"> To know what forces are including contact and non-contact forces To know what magnets are and how they attract and repel and be able to test the strength of this To know what a compass is, its uses and how they are made To understand field lines and how they help us to understand invisible forces Understand how in to investigate whether materials are magnetic and give examples of these Understand what electromagnets are and how they are made 	<p>Magnetism – forces, contact forces, non-contact forces, electromagnet, magnetic fields, gravitational force, attract, repel, compass</p>	<p>Year 3 – Spring 2 – Forces Year 6 – Spring 2 - Energy</p>
Spring 2	Electrical Circuits	<ul style="list-style-type: none"> 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 	<p>Electricity – electrical circuit, complete circuit, circuit diagram, circuit symbol, components, cell battery, positive/negative terminal, connection, loose connection, short circuit, wire, crocodile clip, bulb, brightness, switch, buzzer, volume, motor,</p>	<p>Year 6 – Spring 2 - Energy</p>

		<ul style="list-style-type: none"> • Use recognised symbols when representing a simple circuit in a diagram • Understand static charge, what electrical insulators and conductors are with examples 	conductor, insulator, voltage, current, resistance, danger, series circuit, amps, volts	
Summer 1	Humans and Animals Over Time	<ul style="list-style-type: none"> • Understand Charles Darwin's theory of evolution and how changes in characteristics lead to an advantage for microorganisms • Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution • Name the main periods of time and which groups of organisms existed in these periods and why they became extinct • To understand the development of homo sapiens and the impact this had on plants and animals 	Evolution – evolution, Charles Darwin, suited/suitable, adapted/adaptation, offspring, characteristics, vary/variation, inherit/inheritance, fossils, homo sapiens, organisms	EYFS – Summer 1 - Changing and Growing Year 1 Autumn 1 – Animals Including Humans Year 2 Spring 2 – Being Healthy Year 2 – Summer 1 – Animals Including Humans Year 5 – Summer 2 – Reproductive Systems Year 6 – Summer 2 – Diet and Lifestyle
Summer 2	Reproductive Cycles	<ul style="list-style-type: none"> • Describe the stages of the life cycle of a plant and label its parts and methods of pollination and dispersal • Understand that new plants can grow from cuttings and bulbs and compare sexual and asexual reproduction in plants • Explain metamorphosis and understand the main stages of a life cycle of amphibians and insects • Describe and compare the life cycles of different mammals 	Reproductive cycles – Pollination, fertilisation, sexual reproduction, asexual reproduction, larva, gestation, metamorphosis, embryo-Young/ adolescence-adult, eggs - Caterpillar - pupa/chrysalis-adult butterfly, germination-flowering – pollination-fertilisation - seed dispersal	Year 1 Autumn 1 – Animals Including Humans Year 1 – Summer 1 – Plants Year 2 – Summer 2 - Plants Year 2 Spring 2 – Being Healthy Year 2 – Summer 1 – Animals Including Humans Year 3 – Summer 1 - Plants Year 6 – Summer 2 – Diet and Lifestyle

Year 6	Overview	Key knowledge	Vocabulary	Enrichment opportunities and links to WGS curriculum
Autumn 1	Chemical Reactions	<ul style="list-style-type: none"> • Understand the physical changes that convert substances between states of matter • Describe the physical properties of solids, liquids and gases • Define pure, impure and mixtures and draw particle diagrams to represent each • Define solvent, solute and solutions and draw particle diagrams to represent these • State methods of separating mixtures and explain its appropriateness • Define chemical reactions and state their indicators • Understand combustion, fuels, reactant and products and write word equations for the combustion of common fuels 	<p>Chemical reactions – particles, particle arrangement, solids, liquids, gases, pure substances, impure substances, physical changes, chemical changes, depositing, subliming, melting, freezing, boiling, condensing, solute, solvent, soluble, insoluble</p>	<p>Progression from Year 1 Materials Properties of everyday materials. Progression from Year 2 – Autumn 2 – Properties of Materials. Progression from Year 3 - Raw and Synthetic Materials Progression from Year 5 – Autumn 1 – Separating Mixtures Year 6 – Autumn 2 - Sustainability</p>
Autumn 2	Sustainability	<ul style="list-style-type: none"> • Describe the properties of materials and how they end up in landfill • To know the definition of recycling and identify materials that can and can't be recycled • Define a life cycle assessment know how to use data for this • Describe gas emissions caused by humans and the impact each type has on Earth • Describe global warming, understand the evidence for it and its causes • Describe climate change, understand the effects of it and give case study examples of the effects 	<p>Sustainability – reduce, reuse, recycle, natural resources, combustion, chemical reaction, fuel, carbon dioxide, global warming, climate change, greenhouse effect, malleable, brittle, conductor, transparent, opaque, translucent</p>	<p>Progression from Year 1 Materials Properties of everyday materials. Progression from Year 2 – Autumn 2 – Properties of Materials. Progression from Year 3 - Raw and Synthetic Materials Progression from Year 5 – Autumn 1 – Separating Mixtures Progression from Year 6 – Autumn 1 – Chemical Reactions</p>

Spring 1	Heat	<ul style="list-style-type: none"> Describe how particles behave in solids, liquids and gases and explain how they would change if they were heated Describe and predict what would happen to substances when they are heated Define thermal equilibrium and how it can be reached Describe how heat is transferred through conduction and demonstrate this through metals Plan , create and evaluate their own designs for investigations 	Heat – particles, states of matter, heat transfer, heat conduction, insulator, solids, liquids, gases, substances, thermal equilibrium	Progression from Year 1 Materials Properties of everyday materials. Progression from Year 2 – Autumn 2 – Properties of Materials. Progression from Year 3 - Raw and Synthetic Materials Progression from Year 5 – Autumn 1 – Separating Mixtures Progression from Year 6 – Autumn 2 - Sustainability
Spring 2	Energy	<ul style="list-style-type: none"> Describe an energy store and give the names of different energy stores Describe and identify the initial and final energy stores in a range of scenarios Define power and give the equation for power Describe speed and the method for calculating an objects speed Describe how kinetic energy may be found and how the kinetic energy of an object may be changed Calculate the kinetic energy of a number of objects 	Energy – energy transfer, energy transformation, kinetic energy, high efficiency, low efficiency, gravitational potential energy, plastic potential energy,	Progression from Year 1 Materials Properties of everyday materials. Progression from Year 2 – Autumn 2 – Properties of Materials. Progression from Year 3 - Raw and Synthetic Materials Progression from Year 5 – Autumn 1 – Separating Mixtures Progression from Year 6 – Autumn 2 – Sustainability Progression from Year 6 – Spring 1- Heat
Summer 1	Cells	<ul style="list-style-type: none"> Describe the similarities and differences between plants and animal and understand the difference in living conditions for both Describe an organ system and give examples in plants and animals Understand that organs are made from tissues which are made from cells Name, label and describe parts of a 	Cells - Organism, MRS GREN (acronym for Move, respire, sense, grow, reproduce, excrete, nutrients) Organ system, organ, tissue, cell Mitochondria, photosynthesis	Year 1 Autumn 1 – Animals Including Humans Year 1 – Summer 1 – Plants Year 2 – Summer 2 - Plants Year 2 Spring 2 – Being Healthy Year 2 – Summer 1 – Animals Including Humans Year 3 – Summer 1 - Plants

		<p>plant and animal cell</p> <ul style="list-style-type: none"> • Describe a specialised cell and give examples of these • Explain how sperm cells and root cells are specially adapted 		
Summer 2	Diet and Lifestyle	<ul style="list-style-type: none"> • Describe a healthy diet and the effect of each food group • Explain different lifestyles • Describe how muscles enable movement and what happens to them during exercise • Describe the changes that occur during exercise • Describe the parts of the circulatory system and the change that will happen during exercise • Describe what is meant by medicinal drugs and how they can affect the body • Describe nicotine and alcohol, its effect on the body and how it became used by humans 	<p>Circulatory System – heart, blood, blood vessels, pumps, oxygen, carbon dioxide, lungs, nutrients, water, diet, exercise, drugs, lifestyle, atrium, aorta, ventricle, pulmonary veins, arteries, bronchioles, alveoli</p> <p>Nicotine, alcohol, addictive, symptoms, nutritional deficiency, healthy diet, Carbohydrates, protein, fat, minerals, vitamins, fibre, water</p>	<p>EYFS –Autumn 1 - All About Me EYFS – Summer 1 - Changing and Growing Year 1 Autumn 1 – Animals Including Humans Year 2 Spring 2 – Being Healthy Year 2 – Summer 1 – Animals Including Humans Year 5 – Summer 2 – Reproductive Systems</p>

*C.K – Core Knowledge Curriculum Books