Curriculum Overview

Subject; Science

	Year 1	Year 2	Year 3`	Year 4	Year 5	Year 6
Autumn 1	**Knowledge** Weather .**Seasonal Changes•** observe changes across the four seasons• and describe weather associated with the seasons and how day length varies. **Skills** Name range of diff types of weather, describe + &- effects, observe and record , describe how day length changes over a year **Vocab** Spring, summer, autumn, winter, hot, cold, rain, snow, cloud, weather, fog, ice, extremes, sun, mist,	**Knowledge** Seasons observe changes across the four seasons• and describe weather associated with the seasons and how day length varies. **Skills** Identify less familiar weather conditions, explain how and why weather influence our clothing choice, identify patterns and similarities and differences Explain how plants and animals are affected by the seasons. Compare weather and length of day to other parts of the world **Vocab** Spring, summer, autumn, winter, hot, cold, rain, snow, cloud, weather, fog, ice, extremes, sun, mist,	**Knowledge** Animals/ nutrition/skeleton **Animals (including humans)•** 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. matter. **Skills** Identify some important bones, classify and group, know humans cannot make their own foods, describe how the main food groups benefit the human body,, identify the different food groups, describe how the skeleton and muscles work together compare diets of a herbivore and a carnivore. **Vocab** Healthy, nutrients, energy, carbohydrate, saturated fats unsaturated fats, fibre, protein, vitamins, minerals, vertebrate	**Knowledge** **States of Matter•** 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. increases. **Skills** Identify wide range or reversible and irreversible changes, classify and group mixtures, provide evidence and reasons why a material has been chosen describe what happens when a solute dissolve, describe comprehensively some familiar and unfamiliar materials physical properties, compare reversible change with irreversible change		**Knowledge** **Evolution & 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. **Skills** Identify features which are inherited, match offspring to parents, describe how variation in living things leads to evolution, identify how animals and plants adapt, explain how fossils are formed, suggest ways in which future changes in world climate impact on ourselves and other living species. **Vocab** Living things, change, fossils off spring, vary, identical, characteristics, variation evolution adaption, inherit inheritance, environment, adapt, condition extreme

			invertebrate, muscles, tendons, joints	**Vocab** Process, state, liquid, solid, gas, capacity, evaporate, freeze, melt, mixture, viscosity		
Autumn 2	**Knowledge** Weather/Seasons observe changes across the four seasons• and describe weather associated with the seasons and how day length varies. **Skills** Observation/measure Name range of diff types of weather, describe + &- effects, observe and record , describe how day length changes over a year **Vocab** Spring, summer, autumn, winter, hot, cold, rain, snow, cloud, weather, deciduous	Knowledge Sound/ electricity **Skills** Create a working circuit (Linked to d&t) Identify dangerous scenarios **Vocab** Ear, sound waves, volume, light, switches, bulb,	**Knowledge** **Light•** 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. **Skills** Identify light is reflected from surfaces recognise dark is the absence of light, explain how shadow is formed, classify a range of objects, compare how size and shape of shadows can change, recognise that light from the sun is damaging for vision **Vocab** See, dark, reflect, surface, natural light, star, moon, shadow, blocked, artificial, torch candle , lamp	Knowledge **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 **Skills** Identify familiar sounds and what is vibrating, describe how sounds travel describe and demonstrate how volume and pitch of sound can be changed, investigate and classify materials measure and compare the volume of sounds, recognise certain sounds can be damaging for hearing. **Vocab**	Knowledge **Earth & 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. **Skills** Name eight planets, describe what a moon is, how maintain orbit, describe key force responsible, explain day and night, explain how earths position affects day length, compare times in other parts of the world, explain how day length changes. **Vocab** Earth sum moon, solar system, planets, star, mercury, venus, mars, Jupiter, Saturn, Uranus Neptune, pluto, dwarf planet, rotate, orbit, axis,	Knowledge **Electricity•** 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. **Skills** Identify and name components of a circuit define terms, work scientifically to construct a series circuit, draw a series circuit, describe relationship , predict materials that could be good conductors, demonstrate how to work safely Vocab Voltage, brightness, volume, switches, danger, series circuit, circuit, diagram, bulb, buzzer, motor, recognized, symbols, danger

				Acoustic, cochlea, ear canal, ear drum Faint, vibration, vibrating, vibrate, volume, pitch	celestial body, spherical, sphere, day, night, light	
Spring 1	**Knowledge** **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• 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.. **Skills** Name materials, group and sort materials/classify, identify material an object s made from Identify some materials that help process , describe properties of material, compare materials **Vocab** Experiment materials water, rock glass metal iron copper hard, soft, bendy, absorbent, water proof, shiny, dull,	**Knowledge** . **Uses of Everyday 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• find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. **Skills** Identify use of everyday materials in familiar locations, sort and grade a range of materials, identify and describe , describe how shape of some materials can be changed, relate a materials physical properties to it's uses. Compare significant individuals who have developed materials **Vocab** Experiment materials water, rock glass metal iron copper hard, soft, bendy, absorbent, water proof, shiny, dull, rough, smooth, aluminium, waterproof,			Knowledge **Properties & Changes of 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• 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• give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic• 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	Knowledge **Living Things & their Habitats•** 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. **Skills** Identify plants which have survived on earth for millions of years, devise own classification keys, research and describe similarities and differences, describe how plants have adapted and evolved, suggest why some plants have survived, describe plant terms- biannual, perennial, annual, identify relationship between seasons and life cycle, compare native and non native plants **Vocab** Micro organisms, plants, animal, classification, classify, invertebrates, insects, spiders, snails, worms, vertebrates, reptiles, fish, amphibians, mammals

	rough, smooth, aluminium	squash, bend, twist, stretch, fabric, rubber,			associated with burning and the action of acid on bicarbonate of soda. **Skills** Identify wide range or reversible and irreversible changes, classify and group mixtures, provide evidence and reasons why a material has been chosen describe what happens when a solute dissolve, describe comprehensively some familiar and unfamiliar materials physical properties, compare reversible change with irreversible change **Vocab** Properties, hardness, solubility, transparency, insulation conductive, liquid, solid, gas, dissolve, separate, filtering, sieving, evaporating, irreversible	
Spring 2	**Knowledge** Animals and life cycles .**Animals (including humans)**• 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• describe and compare		Knowledge **Rocks**• 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 and organic **Skills**	Knowledge **Living Things & Their Habitats**• 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	**Knowledge** As above this continues over 2 terms Skills Vocab	

	the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) **Skills** Identify a range of common animals, classify and sort familiar animals, name animals , explain how to take care of an animal form local habitat, identify whetehr an animal is a carnivore, herbivore, omnivore **Vocab** Carnivore, herbivore, mammal, reptile, bird, omnivore		Identify and names, classify groups of rocks according to appearance or physical properties, suggest reasons why certain rocks are used for specific purposes, explain term weathering and erosion, compare detail a rang of rock or soil samples Identify a range of fossilised animals and plants, define what a fossil is and how formed Suggest what the fossils of the future might be **Vocab** Appearance, rocks, physical, fossils, hard, sort, shiny, dull, sedimentary, soils, organic matter, absorbent, non absorbent	sometimes pose dangers to living things.. **Skills** Identify and name a variety of plant in contrasting habitats, classify these, identify uncommon parts of plants, tendrils, suckers, describe how a plants habitats may naturally change, explain how human changes can impact on a plants environment, label diagram to show life cycle, describe in detail the changes that occur, compare plants growing in local habitat and contrasting habitat **Vocab** Environment flowering non flowering, plants, grasses, vertebrate, invertebrate, amphibians, fish,		
Summer 1	**Knowledge** 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 **Skills** Identify and name. Sort trees into groups,	**Knowledge** Plants/habitats **Plants**• 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. **Skills** Identify what eats plants as a food source, sort seeds and bulbs, describe different parts of plants,	Knowledge Forces/magnets **Forces & Magnets**• 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	Knowledge **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	Knowledge Forces **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	Knowledge **Light**• 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

	identify basic structures of plants, identify locality as a habitat for living things, care for plants identify seeds, describe how plants change, name, compare and contrast **Vocab** Plant, grow, seed Root, stem, leaf, branch, trunk, flower, light, water, soil, food, crops, weed	explain how plants are suited to their habitats, describe how plants grow, identify what a plant needs, recognise plants produce seeds, make comparisons between seeds or bulbs grown in different conditions **Vocab** Plant, grow, seed Root, stem, leaf, branch, trunk, flower, light, water, soil, food, crops, weed, deciduous, evergreen, germination , reproduction	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. **Skills** Name a range of familiar activities which rely upon or are caused by forces, describe force in action-pull push, explain term magnetic, make predictions , compare how an object moves over surfaces, sort and group materials **Vocab** Forces friction surface push pull magnet, magnetic, magnetic field poles repel attract	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. **Skills** Identify and name devices which need electricity for power. Construct simple series circuits, predict if a circuit will work, recognise that a cell is a power source, sort and classify materials into conductors, insulators, recognise the dangers of working with electricity **Vocab** Circuit, electrons insulator conductor renewable appliances, battery , batteries, generate	and gears, allow a smaller force to have a greater effect. **Skills** Identify and define opposing forces, that act on objects, describe the force of gravity, demonstrate using a model how lever gears and pulleys assist movement, make predictions compare the spe3edm classify and group sources. **Vocab** Gravity, gravitational pull weight, mass, stream line, friction air resistance water resistance buoyancy mechanism	shadows have the same shape as the objects that cast them **Skills** Identify parts of eye and show how light enters it, describe how white light can be split, explain how light travels in straight lines, classify a range of objects surfaces for their reflective qualities, compare how a beam of light changes direction , recognise dangers of using lasers. **Vocab** Light, travels, straight, reflect, reflection, light source, rainbow, objects, filters, mirrors, periscope, refraction
Summer 2	**Knowledge** Human body/senses identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. **Skills**	**Knowledge** Habitats/life cycles **Living Things & Their Habitats**• 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	**Knowledge** **Plants** identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.• explore the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) and	**Knowledge** **Animals (including humans)**• 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	**Knowledge** Living things **Living Things & their Habitats**• 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. .**Animals (including**	Knowledge Human reproduction/ animals **Animals (including humans)**• 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

	Draw and label basic parts of human body, describe in simple terms the life cycle of a frog, butterfly , **Vocab** Sight, hearing, smell, taste, touch Eyes, ears , nose mouth fingertips skin head tongue loud quiet sweet sour salty bitter arms legs human body exercise sleep healthy washing baths teeth brushing	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 micro-habitats• 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 **Animals, Including Humans**• 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 **Skills** Name and match animals to offspring, sort and classify to whether dead or alive, define term habitat, identify basic need, construct a simple food chain, explain how animals/humans change as they grow, recognise	how they vary from plant to plant• 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 **Skills** Identify and describe functions of common plant, explain structure, sort and classify a range of seeds. Draw a simple diagram to show how water is transported through a plant, compare and describe how components for growth vary from plants, recognise plants make their won food to grow, life cycle of a plant, compare and explain the effect different factors on plant growth. **Vocab** Structure, flowering plants, roots, stem, trunk, nutrition, support, reproduction, pollination seed formation seed dispersal, air, light, soil	variety of food chains, identifying producers, predators and prey **Skills** Identify producers , predators prey in a food chain, develop own classification construct a variety of food chains, identify different foods which can affect health of teeth, identify the different types of teeth, identify body parts associated with digestive system, compare and contrast digestive system of herbivore and carnivore. **Vocab** Digest, oesophagus stomach, small intestine, large intestine, rectum, incisor, pre molar, canine, molar, herbivore, carnivore, omnivore, predator, prey, producer	**humans)**• describe the changes as humans develop to old age **Skills** Identify the key structures involved in plant sexual reproduction, classify according to ow they reproduce, explain why plants have flowers, describe features of flowers, describe different ways plants can be grown, describe process of plant reproduction, grow a range of plants form sees, and note conditions for successful growth make comparison between sexual and asexual reproduction **Vocab** *Fertilisation prenatal gestation reproduce asexual sexual life cycle life expectancy adolescence puberty menstruation adult hood*	the ways in which nutrients and water are transported within animals, including humans **Skills** Identify major parts of human circulatory system, recognise importance of classification system , explain how nutrients and water are transported within humans, describe how lifestyle is important for the health of the humans, compare heart rates and exercise **Vocab** Villi, nutrients, kidney, liver, drug, alcohol, circulatory system, heart, pulmonary artery, alveoli, gas exchange *Fertilisation prenatal gestation reproduce asexual sexual life cycle life expectancy adolescence puberty menstruation adult hood*

		the need for animals and humans to grow and reproduce, describe life cycles **Vocab** Habitat, micro habitat, crustacean, algae, beach, rock pool, coast Egg chick chicken butterfly pups caterpillar frog spawn tadpole frog baby toddler child teen adult off spring grow adult nutrition reproduce survival				