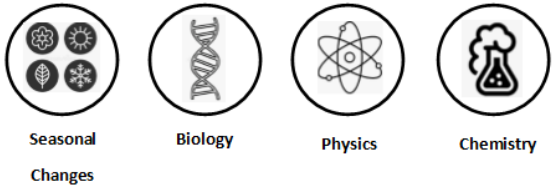
Griffin Park Curriculum

Golden Threads



Nursery			
Thread	**Knowledge**	**Skills**	**Vocabulary**
	To know seasonal changes	Throughout the year go on walks and observe the natural world and discuss the changes in the leaves on the trees and weather Can describe what they see, hear and feel whilst outside (Link to phonics) Can draw around a puddle Can share texts about the changing weather in different seasons	Sun, cloud, rain, snow, puddle, wet, dry, cold, warm, hot, Spring, Summer, Autumn, Winter, see, feel, hear, smell,
	To know features of the life cycle of a plant and an animal. To know and understand the need to respect and care for the natural environment and all living things.	Can observe plants and mini-beats through a magnifying glass Can draw a picture of a plant/animal Can name a simple flower (Daffodil, daisy, dandelion) Can explore different types of leaves or seeds Can plant seeds and bulbs so children observe growth and decay over time Can observe an apple core going brown and mouldy over time Can observe a caterpillar change, a chick hatch from an egg and support children in taking care of them Can match animals and their young	Plant, leaf, flower, stem, seeds, bulb, daffodil, daisy, dandelion, trees, egg, caterpillar, chrysalis, butterfly, hatch, chick, hen, duck,
	To know the life cycle of a human. (Link to history)	Can sort images of humans according to their age Can sort using different senses Can describe how a baby changes over time Can look at books about the human life-cycle from an expectant mother, parent with a baby and elderly person	Baby, mum, dad, sister, brother, grandad, nanna, grandma, toddler, infant, child, teenager, adult, pregnant,
	To know and explore collections of materials with similar and/or different properties. To know the differences between materials and what observable changes they notice.	Can sort materials using simple properties Can describe how the chocolate changes when heated. Can describe how fruit juice changes when put in the freezer Can describe how fruit changes when blended. Can describe what happens to ice when it is left in the sun	Mix, stir, cook, hot, oven, microwave, change, burn, melt, hard, runny, set, freeze, freezer, cold, blended, hard, soft, bendy, stiff, wobbly, wood, plastic, paper, card, fabric

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	To know how things work. (Electricity, light, sound)	Can explore, play with, and investigate mechanical equipment Suggestions: wind-up toys, pulleys, sets of cogs with pegs and boards. Listen to the sounds different musical instruments make Can identify objects that use electricity to work Can identify devices that use batteries and/or mains electricity Can talk about fabrics that are reflective to help us be seen at night Can describe which materials block light to help us protect ourselves from the sun. Can compare how bright different light sources are Can compare how reflective different materials are	Bee-bot, mobile phone, ipad, computers, battery, plug, socket, electricity, wire, sound, light, move light, torch, bulb, lamp, spotlight, shiny, bright, brighter, brightest, Sun, shine, glow, mirror
	To explore and talk about different forces they can feel. (forces)	Can compare the path of different wind-up toys Can compare how far different wind-up toys move Can compare how easy it is to ride a scooter or bike on different surfaces Can sort objects according to whether they float or sink Can sort objects/materials according to whether their shape can be changed	Object, float, sink, water, up, down, top, bottom, push, pull, magnet, spring, squash, bend, twist, stretch, turn, spin, smooth, rough, fast, slow

Learning links to enhance long term memory	Role –play Explore the environment Enhancements to areas of provision scientist equipment Visitors – pregnant mummy, nurse, electrician, pets, animals, fire brigade, doctor, police officer Outdoor environment – nature/sound walk, visit the pond, look at habitats, build habitats, grow vegetables/fruit,	**Assessment**	Can children talk about what they see, hear, touch, and smell? Can children ask and answer questions? Can children sort objects? Can children name and describe animals they have encountered? Can children talk about how they have changed since they were babies? Can children talk about how they planted and cared for seeds and bulbs? Can children name the material they are using? Can children identify devices that use batteries? Can children spot their own reflection in objects? Can children describe what they feel when riding bikes and scooters on different surfaces and ramp? Can children recognise and describe the sounds made by different objects?

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Reception				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Seasonal	To know the seasonal changes	Can sort clothes suitable for each season Can observe and draw how a puddle changes over time Can describe how a snowman changes when it melts Can observe the changes to a tree/leaf in each season Can find out about how animals behave in different seasons Can find out about the weather and seasons	Spring, summer, autumn, winter, seasons, sunny, cloudy, hot, warm, cold, shower, raining, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, windy, rainbow, animals, young, plants, flowers, hibernate, migrate, snowflake
	Living things and their habitats	To know that some environments that are different to the one in which they live	Can observe plants and habitats in the environment Can sort animals according to where they live. Can listen to and talk about books/talk from visitors to describe how animals from a different habitat are cared for Can ask questions, make observations and talk about what they have found out.	Names of animals, live, on land, in water, jungle, desert, North Pole, South Pole, sea, hot, cold, wet, dry, snow, ice, environment, polar regions, ocean, camouflage
	Humans	To know the names of and describe people familiar to them and talk about people in the community	Can use mirrors to look at their faces Can make handprints and footprints Can sort images of people according to their characteristics Can name some people in the community that help us Can find out information from visitors Can investigate if taller children are faster Can investigate if taller children stronger	Hair (long, short, straight, curly), eyes , skin, big/tall, small/short, bigger/smaller, baby, toddler, child, adult, old person, old, young, brother, sister, mother, father, aunt, uncle, grandmother, grandfather, cousin, friend, family,
	Materials, including changing materials	To know how to explore natural materials in the environment using their senses	Can investigate how popcorn made in a microwave compares to popcorn made on a fire Can investigate how quickly ice cubes melt in different areas of the Can investigate how cupcakes cook if they have different amounts of mixture Can describe how the block of ice changes over time Can describe how a snowman change over time Can describe how cake mixture/bread dough changes as it is cooked	Ice, water, frozen, icicle, snow, melt, wet, cold, slippery, smooth, big, bigger, biggest, smaller, smaller, smallest, hard, soft, bendy, rigid, wood, plastic, paper, card, metal, strong, weak, hot, apply heat, waterproof, soggy,

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	Light	To know how to make shadows	Can talk about the shadows that they see inside and outdoors Can draw around a shadow Can identify the light source and the object that is making the shadow	Sun, sunny, light, shadow, shady, clouds, torch, see-through, non-see through, source, light source
	Forces	To know how objects move	Can compare how cars move down ramps/gutters. Can compare how wheels turn when sand or water is poured through Can compare how objects fall Compare how different balls bounce. Compare how a marble moves through different liquids. Compare how different paper aeroplanes fly. Can adapt objects to see if they can be made to float or sink	float, sink, up, down, top, bottom, surface, move, roll, drop, fly, turn, spin, fall, fast, slow, faster, slower, fastest, slowest, further, furthest, wind, air, water, blow, bounce
	Sound	To know how to describe the sounds they hear.	Can describe the sounds they hear on a sound walk Can identify what is making a sound Can make a musical instrument Can investigate the sound of rain on different objects They can match animal sounds to the pictures	sound, noise, listen, hear, music, voices, bird song, traffic, sirens, thunder, high, low, loud, quiet, soft, volume, crackle, thunder, hum, buzz, roar.
	Earth and space	To know the natural world	Can sort things that happen in the daytime and at night Can talk about the sun, moon and stars Can talk about planet Earth Can talk about space travel Can talk about animals that are active at night Can use books to find out about nocturnal animals	Sun, Moon, Earth, star, planet, sky, day, night, space, round, bounce, float, nocturnal, sort, group,

Learning links to enhance long term memory	Role –play – rocket, hibernation station, habitat, shadow makers, Enhancements to areas of provision scientist equipment e.g. binoculars, magnifiers, nets, coloured paddles, torches, Visitors nurse, parents, fire brigade, police, vet Puzzles – day and night, habitats, family, Outdoor environment – habitats, leaf printing, sound walk, Visit to the zoo	**Assessment**	Can children describe what they can see, hear. Smell and feel? Can children ask and answer questions? Can children describe themselves, family, friends and people in the community? Can children talk about different types of weather/seasons? Can children identify differences between day and night? Can children point out shadows in the playground? Can children describe what happens when an object sinks and floats? Can children name and identify animals and plants in their environment? Can name and describe animals that live in different habitats?

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Year 1 Autumn				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Plants	To know some common trees	Can make close observations of leaves, seeds, flowers etc Can describe some of the key features of these trees e.g. the shape of the leaves, the colour of the flower/blossom Can sort and group parts of plants using similarities and differences	Horse, chestnut, hawthorn, ash, holly, sycamore leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud
	Plants	To know the features of deciduous and evergreen trees	Can collect information on features that change during the year Can use photographs to talk about how plants change over time	Deciduous , evergreen, seasons, Autumn, Winter, Spring, Summer
	Animals including humans	To know the names of main parts of the human body	Can ask questions Can label parts of the body on pictures and diagrams Can investigate the size of body parts in the class e.g. feet, arms, record findings.	Head, arms, elbows, wrist, legs, knees, fingers, hands, feet, toes, ankle
	Animals including humans	To know identify and name a variety of common animals fish/amphibians/mammals/ reptiles/birds	Can name a variety of common animals Can sort and group animals using similarities and differences Can use secondary resources to find out what animals eat, including talking to experts e.g. pet owners, vet,	Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, fish, amphibian, mammal, reptile, bird,
	Animals including humans	To know the basic needs of animal survival. (Herbivore, carnivore, omnivore)	Can name common animals that are carnivore, herbivores and omnivores Can classify animals according to what they eat	Herbivore, carnivore, omnivore, plants, meat, air, water,
	Everyday materials	To know the names of everyday materials	Can name different materials Can match an object to the material it is made from	Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, cardboard, rubber, wool, clay,
	Everyday materials	To know how to sort objects by their properties	Can sort objects and materials based on their properties	Wood, plastic, glass, metal, rock, bendy, floppy, waterproof, hard, soft, stretchy, stiff, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through
	Force	To know how an object moves on different surfaces.	Can investigate movement of a car on different surfaces Can compare how cars move down ramps Can record their findings	Force, surface, carpet, sandpaper, rubber, plastic, corriflute,

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	Sound	To know the names sources of sound (Senses)	Can describe the sounds they can hear outside and match this to an object. Can describe the volume of the sound	Sound, noise,
	Seasonal	To know the changes from autumn to winter	Can name the four seasons and when they occur in the year Can describe features that change throughout the year	Weather, seasons, Summer, Spring, Autumn, Winter,
	Plants	To know the names of common trees	Can name the trees in the local area Can make observations and talk about the changes in the trees compared to the beginning of the term (Explorify odd one out Winter scene)	Horse, chestnut, hawthorn, ash, holly, sycamore,
	Plants	To know the features of deciduous and evergreen trees	Can observe the changes to the trees in winter compared to autumn Can take photographs and annotate these with changes they notice. *(Seasonal walk observing the effect of seasons and obvious signs of deciduous and evergreen)*	Deciduous, evergreen, decay, rotten,

Learning links to enhance long term memory	Environmental walk looking at trees and plants in the local area. Homework – observing and naming plants around children's houses. Recycling centre Visit from LA Explorify	**Assessment**	Can children sort and group animals using similarities and differences ? Can children name body parts correctly? Can children point to and name the parts of a plant, recognising that they are not always the same? Can children point out trees, which lost their leaves and those that kept them the whole year? Can children describe the properties of different materials?

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Year 1 Spring				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Electricity	To know some sources of electricity	Can identify objects that need electricity to work Can identify a plug, switch and battery	Electricity, battery plug, switch, light bulb, fridge, microwave, TV,
	Animals including humans	To know the 5 senses – see, hear, taste, touch and smell	Can match the senses to parts of the body (Explorify zoom in and out Pink and bumpy)	Senses, see, hear, taste, touch, smell, eyes, nose, mouth, ears,
	Animals including humans	To know how we use our senses	Can talk about their findings from investigations using appropriate vocabulary e.g. we found out that crisps taste different, we could identify the different foods by the smell	I found out… I noticed…
	Animals including humans	To know animals that are carnivores, herbivores and omnivores.	Can label/sort animals that are carnivores, herbivores and omnivores Can use secondary sources to find animals that are carnivores, herbivores and omnivores	Lion, wolf, leopard, polar bear, frogs, squirrels, hamsters, dogs, cats, caterpillar, deer, giraffe,
	Animals including humans	To know offspring grow into adults.	Can match pets/farm animals to their adult parents Can describe how animals are similar and different from their parents	Cat, kitten, dog, puppy, rabbit, Kit, sheep, lamb, cow, calf, horse, fowl,
	Everyday materials	To know what objects are made out of	Can distinguish between an object and the material from which it is made from Can label an picture and identify all the materials the objects are made of e.g. playground, house	Wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card, rubber, wool, clay,
	Everyday materials	To know the uses of everyday materials	Can classify objects made of one material in different ways e.g. a group of objects made of wood, Can classify in different ways one type of object made from a range of materials e.g. a collection of spoons made of different materials.	Metal, wood, plastic, spoon, chair, table, pencil, ruler, cupboards, doors, window frame, tree trunk, shed,
	Forces	To know how to describe a force	Can observe and describe movement (Forces) Can explain if they feel a push or a pull Group objects in a Venn diagram that need to be pushed, pulled or both	Force, push, pull, contact force, movement, venn diagram
	Plants	To know the names of common garden plants	Can identify plants by matching them to named images	Rose, tulip, daffodil, lavender, hydrangea, seat pea, marigolds
	Plants	To know the basic structure of a common garden plant	Can observe key characteristics of a plant after planning a seed Can classify leaves, seeds, flowers etc. using a range of characteristics Can identify plants by matching them to named images	Leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, Stem, bud,

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	Seasons	To know the types of weather in different seasons	Can describe the different types of weather in seasons Can describe features that change throughout the year	Sunny, rainy, raining, shower, windy, snowy, cloudy, hot, warm, cold, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, rainbow,

Learning links to enhance long term memory	Visit the outdoor environment and make observational drawings of garden plants/trees Explorify	**Assessment**	Can children identify some sources of electricity? Can children talk about their findings from investigations using appropriate vocabulary? Can children name the five sense? Can children name trees and other plants that they see regularly? Can children describe some of the key features of these trees and plants? e.g. the shape of the leaves, the colour of the flower/blossom? Can children name the foods a carnivore, omnivore and herbivore eats?

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Year 1 Summer				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Plants	To know the names of common wild plants	Can use photographs to talk about how plants change over time	Daisy, dandelion, daffodil, buttercup, nettles,
	Plants	To know what plants need to stay healthy	Can observe changes over time of a sunflower seed growing into a plant. Can record growth in a dairy	Seed, soil, nutrients sunflower, water, air, sunlight,
	Light	To know some sources of light	Can identify and name some sources of light. Can label sources of light in an image	Senses, sight, eyes, light, sun, candles, light bulbs,
	Rocks	To know what a fossil is.	Can make observations using magnifying equipment of fossils and describe what they can see. Can make observational drawing of fossils	Fossils, rocks, stone, pebble, hard, soft,
	Animals including humans	To know what animals like to eat	Can describe what animals eat and can sort these into groups e.g. - some eat other animals, some eat plants, some eat both plants and animals.	Lion, wolf, leopard, polar bear, frogs, squirrels, hamsters, dogs, cats, caterpillar, deer, giraffe,
	Animals including humans	To know what makes a healthy diet.	Can sort food into two groups healthy and unhealthy	Healthy, diet, sugar, vegetables,
	Everyday materials	To know the properties of materials.	Can describe the properties of different materials Can sort objects into groups based on their properties.	Bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through
	Everyday materials	To know the suitability of different materials	Can investigate why a material is not suitable e.g. which material is best for absorbing a spilt drink. Can record their finding in a simple table	Absorb, water, investigate, sponge, paper, cloth, wood, tinfoil, plastic,
	Seasons	To know how day lengths vary throughout the year	Can gather data about day length regularly throughout the year and present this to compare the seasons	Seasons, winter, summer, spring, autumn, Sun, sunrise, sunset, day length
	Seasons	To know the changes from spring to summer	Can describe the different types of weather in seasons Can describe features that change throughout the year	sunny, rainy, raining, shower, windy, snowy, cloudy, hot, warm, cold, storm, thunder, lightning, rainbow,

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	Electricity	To know how to complete a simple circuit	Can follow instruction to make a simple circuit	Electricity , wire, bulb, battery, power source,

Learning links to enhance long term memory	Activity week Visit an allotment Clay fossils Explorify STEM	**Assessment**	Can children sort objects and materials using a range of properties? Can children describe days as being longer (in time) in the summer and shorter in the winter? Can children describe weather in different seasons over a year? Can children explain that plants need water, air, light, warmth and nutrients to stay healthy? Can children describe a healthy diet?

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Year 2 Autumn				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Living things and their habitats	To know why a habitat for a particular plant or animal is suitable *(Explorify zoom in and out tiny teeth- Frogs habitat)*	Can ask questions Can match an animal to its habitat Can describe how features of these animals and plants make them suitable to the habitat	Habitat, pond, woodland,
	Living things and their habitats	To know why a microhabitat for a particular plant or animal is suitable	Can make observations of microhabitats and take photographs. Can describe how different conditions of microhabitats affect which plant and animals live there.	Microhabitat, logs, bushes, leaf litter, bark,
	Living things and their habitats	To know the names of some common animals which are carnivores, herbivores and omnivores	Can research the foods these animals eat. Can sort animals into carnivores, herbivores and omnivores.	Lion, wolf, polar bear, mice, squirrels, cows, birds, dogs, foxes, certain insects
	Living things and their habitats	To know how animals obtain their food from plants and other animals	Can describe how animals obtain their food. Can produce a simple food chain	Food chain, energy,
	Living things and their habitats	To know the difference in a food chain for a herbivore and carnivore.	Can explain the difference in a food chain for a herbivore and carnivore e.g. mice, cow, bird, fox, Can use secondary sources	Plants, meat,
	Animals including humans	To know the effect of exercise on the body	Can ask questions Can investigate and record what happens to their body when they do exercise Can record findings	Exercise, heartbeat, breathing, sweating,
	Animals including humans	To know that humans need to right amount of different types of food	Can classify food using the eat well guide	Meat, fish, vegetables, bread, rice, pasta, dairy
	Animals including humans	To know why hand washing is important.	Can investigate what is best for washing hands Can ask questions Can record findings from investigation	Hygiene, germs, disease, water, warm, cold, soap,
	Uses of everyday materials	To know the names of materials an object is made from	Can match objects to the materials in which it is made from e.g. house Can describe why that material is suitable.	Wood, metal, plastic, glass, brick, rock, paper, cardboard

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	Uses of everyday materials	To know the different properties of materials	Can decide how best to group materials on the basis of their properties Can explain their reasons for groups made.	Opaque, transparent and translucent, reflective, non-reflective, flexible, rigid
	Seasons	To know how weather and day length varies throughout the year (Autumn /Winter)	Can compare and contrast weather and day length across the 4 seasons.	Seasons, winter, summer, spring, autumn, Sun, sunrise, sunset, day length, hours, light, dark, daylight,

Learning links to enhance long term memory	Nature walk in local area /forest school Make a healthy snack (Link to DT) Explorify	**Assessment**	Can children give key features that mean the animal or plant is suited to its microhabitat? Can children explain what animal eat using a food chain ? Can children name an object, say what material it is made from, identify its properties and make a link between the properties and a particular use ? Can children name foods in each section of the Eatwell Guide?

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Year 2 Spring				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Seasons	To know what are the similarities and difference between deciduous and evergreen trees	Can describe the differences between a deciduous and evergreen tree	Silver birch, oak, alder, chestnut , fir, deciduous, evergreen
	Electricity	To know what electrical appliances use batteries and plugs	Can categorise electrical appliances, explain the reasons for your categories batteries/plugs.	Batteries, plug,
	Electricity	To know the names of components in a circuit	Can complete a simple circuit Can label components in a circuit diagram	Appliance, battery power, main power, circuit, battery, wire, bulb, switch,
	Uses of everyday materials	To know the suitability of everyday materials	Can compare the suitability of everyday materials Can ask questions Can record findings Can explain why paper is not suitable for a boat.	Suitable, unsuitable, waterproof, soak, absorb,
	Animals including humans	To know the basic needs of animals including humans for survival.	Can ask questions about how a parent look after their baby	Baby, feed, milk, food, sleep, clean,
	Animals including humans	To know that humans have offspring that grow into adults.	Can order pictures to show how babies grow into adults.	Offspring, reproduction, growth, baby, toddler, child, teenager, adult, old person
	Animals including humans	To know the main differences between adult animals and their offspring	Can describe how adult animals look different to their offspring	Chick/hen, kitten/cat, cow/calf, sheep/lamb/ goat/kid, caterpillar/butterfly,
	Living things and their habitats	To know the difference between things that are living, dead and never been alive	Can organise things of their choice into groups, living, dead and never been alive. Can record finding in a chart *Explorify odd one out living, moving*	Air, survive, dead, fur, hair, feathers, twigs leaves, never been alive, wood, rock, metal, plastic,
	Living things and their habitats	To know why a plant is suited to its environment	Can describe the conditions for a plant to grow in its environment Can label a picture that shows how a plant is suited to its environment.	living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, water, air, survive, survival,

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	Plants	To know the similarities and differences of a seed and a bulb	Can describe how seeds and bulbs are similar and different. Can label parts of a seed and bulb	Bulb, seed, baby root, food, tunic, flower bud, hard shell, stem, scales,
	Plants	To know how seeds and bulbs grow into mature plants	Can describe the growth of a plant from a seed and bulb Can suggest answers to questions Can record information about the growth of a plant and answer questions e.g. photographs , measurements	Seeds, embryo, bulbs, seed coat, baby pant, food, tunic, scales, stem, root, flower bud,

Learning links to enhance long term memory	Parent and baby visit Forest school Planting seeds and bulbs Visiting a farm Explorify	**Assessment**	Can children describe how animals, including humans, have offspring which grow into adults, using the appropriate names for the stages? Can children state the basic needs of animals, including humans, for survival? Can children find a range of items outside that are living, dead and never lived? Can children describe how plants that they have grown from seeds and bulbs have developed over time? Can children spot similarities and difference between bulbs and seeds? Can children explain using the key properties why a material is suitable or not suitable for a purpose?

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Year 2 Summer				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Plants	To know what plants need to stay healthy	Can investigate how plants grow in different conditions. Can gather and record data to help answer questions Can answer questions based on observation over time.	Food, water, air, sun, temperature,
	Living things and their habitats	To know why a glass bottle has never been alive	Can explain why certain materials have never been alive Can research using secondary sources	Glass, sand, heat,
	Living things and their habitats	To know why an animal is suited to its environment	Can observe and draw different types of habitats in the environment. Can name a range of animals that live in a habitat and micro-habitats that they have studied	Pond, woodland, bark, bushes, log,
	Living things and their habitats	To know that habitats provide a basic need for animals and plants	Can categorise animals according to the conditions they require	Conditions, light, dark, shaded, sunny, wet, damp, dry, hot, cold,
	Living things and their habitats	To know plants and animals in a habitat depend on each other	Can create simple food chains for a familiar local habitat from first hand observation and research	Energy
	Animals including humans	To know the importance of a healthy diet	Can create a healthy lunchbox with the right amount of different types of food Can explain why a healthy diet is important	meat, fish, vegetables, bread, rice, pasta, dairy, healthy, diet,
	Animals including humans	To know the importance of hygiene	Can draw diagrams to show how humans keep hygienic	hygiene, germs, disease, teeth, brushing, toothpaste, bath, shower, wash,
	Uses of everyday materials	To know that some solid objects from some materials can change shape.	Can observe and describe changes to the shape of solid objects when they are squashed, bent, twisted or stretched Can ask questions based on their findings.	Shape, push/pushing, pull/pulling,twist/twisting, squash/squashing, bend/bending, stretch/stretching
	Uses of everyday materials	To know why some materials change shape and some do not.	Can experiment with changing the shape of solid objects. Can organise and summarise their findings. *Explorify what if every material was stretchy/rigid/transparent?*	Investigate, record, findings, flexible, stretchy, force,
	Light	To know some sources of light	Can Illustrate how light travels from light sources to our eyes.	Light, sun, lights bulbs, candles,

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	Forces	To know how different objects move	Can compare how different things move e.g .Do heavy and light things move differently? Can describe if there is a pattern	Force, heavy light, fast, slow,

Learning links to enhance long term memory	School trip e.g. farm, Martin Mere, Local country park, Visit from school nurse Explorify	**Assessment**	Can children identify plants that grew well in different conditions? Can children explain in simple terms why an animal or plant is suited to a habitat? Can children construct a food chain that starts with a plant and has the arrows pointing in the correct direction? Can children explain why being hygienic Is important?

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Year 3 Autumn				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Plants	To know the functions of a flowering plant	Can describe and illustrate the functions of a flowering plant	roots; stem/trunk; leaves; and flowers
	Plants	To know how seeds are dispersed	Can describe how seeds are formed Can list ways in which seeds are dispersed Can observe seeds being blown from the trees e.g. sycamore seeds Can research different types of seed dispersal	seed dispersal (wind dispersal, animal dispersal, water dispersal)
	Animals including humans	To know the name of bones in a human skeleton	Can identify and group animals with and without skeletons Can label the bones of a human skeleton	Body, skeleton, Vertebrate, invertebrate, skull, jaw, humerus, radius, ulna, spine, pelvis, femur, tibia and fibula. Scapula, ribs, sternum,
	Animals including humans	To know the role of joints of human and animals in movement	Can label the joints of a human and animal and explain how these help with movement Can use secondary sources to research the similarities and differences between joints in humans and animals	joints, hip, ball hinge, socket, wrist, ankle, elbow, connected,
	Rocks	To know the names of different types of rock.	Can match rocks to their names Can research types of rocks using secondary resources	Rock, stone, pebble, boulder, marble, chalk, granite, sandstone, slate,
	Rocks	To know the properties of different types of rocks	Can observe rocks closely using a microscope e.g. do they have grains or crystals? Can classify rocks based on their properties	Igneous, sedimentary, metamorphic, Grain, crystals, layers, hard, soft, texture, absorb water,
	Forces and magnets	To know how things move on different surfaces	Can observe and describe the movement of objects on surfaces. Can complete tables to record observations. Can use the word friction appropriately	Force, push, pull, twist, contact force, non-contact force,

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	Forces and magnets	To know how magnets attract and repel each other and attract some materials and not others.	Can explore what materials are attracted to a magnet Can classify materials according to whether they are magnetic or non-magnetic Can observe and describe how magnets attract and repel each other	magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, nickel
	Forces and magnets	To know the north and south poles of magnets	.Can predict whether two magnets will attract or repel each other, depending on which poles are facing Can label the north and south poles of magnets	Poles, north pole, south pole, attract, repel,
	Light	To know that we need light in order to see things	Can ask and answer questions Can observe the effect of light and seeing things Can illustrate how light travels from light sources to our eyes	Light, dark, light source, straight line, see,
	Light	To know the effect of light and seeing things	Can explain how light enters out yes Can explore how different objects are more or less visible in different levels of lighting	Light rays, beams, energy,

Learning links to enhance long term memory	Explore school to identify what rocks are used for the building Stem ambassador visit/presentation. 'Rocks and fossils' Explorify	**Assessment**	Can children explain the function of the parts of a flowering plant? Can children give different methods of seed dispersal? Can children classify rocks in a range of different ways, using appropriate vocabulary? Can children use their results to describe how objects move on different surfaces? Can children use classification evidence to identify that some metals, but not all, are magnetic? Can children clearly explain, giving examples, that objects are not visible in complete darkness?

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Year 3 Spring				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Animals including humans	To know the role of the skeleton and muscles in support, protection and movement	Can observe and describe the role of muscles in the human movement Can categorise muscle movement as relaxing and contracting	Muscle, movement, bones, tendons, contracts, relaxes, pulls, bend, straighten, support joints,
	Forces and magnets	To know everyday materials that are 'attracted' and 'not attracted to magnets	Can observe then complete tables that describe everyday materials as 'attracted' and 'not attracted' to magnets	Magnets, magnetic, attracted, not attracted,
	Forces and magnets	To know that magnets have two poles	Can explain that when two north poles are brought together they will push away from each other and if north and south poles are brought together, they will pull together.	Poles, north, south, attract, repel, push, pull, force,
	States of matter	To know materials as solids, liquids and gases	Can observe and describe the typical properties of solids, liquids and gases Can group objects that are solids, liquids and gases	Solids, liquid, gases,
	Rocks	To know the names of some minerals found in rocks	Can use secondary sources to find what minerals are found in rocks Can use magnifiers to observe minerals	Minerals, quartz, limestone, dolomite, calcite, mica,
	Rocks	To know how a fossil is formed	Can research using secondary sources how fossils are formed Can describe and illustrate the formation of fossils	Fossils, animal, die, decompose, skeleton, particles, sediment, compact,
	Plants	To know the requirements of plants for life and growth	Can grow, observe and record the growth of a range of different plants.	Air, light, water, nutrients, soil,
	Plants	To know why leaves are important in creating food for plants	Can explain how leaves are important in creating food for a plant.	Photosynthesis, oxygen, sunlight, food, carbon dioxide, sugars, glucose,
	Plants	To know how water is transported through a plant	Can experiment with food colouring to demonstrate how water is transported through a plant Can explain and summarise observations	Water, transport, absorb, capillary action, xylem
	Rocks	To know the names of different types of soil	Can observe and describe the properties of soils. Can name different types of soil	Clay, sand, silt, loam, peat, chalk,

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	Rocks	To know how soil is formed	Can find out about how soil is formed from rocks and organic matter	Organic matter, living, decaying, plants, water, air, rock, minerals,

Learning links to enhance long term memory	Skelton models Planting in the environment Explorify	**Assessment**	Can children explain observations made during investigations? Can children explain the role of the skeleton and muscles for support, protection and movement? Can children explain how a fossil is formed? Can children explain that soils are made from rocks and contain living/dead matter? Can children describe what happens to the two magnetic poles?

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Year 3 Summer				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Forces and magnets	To know how magnets work at a distance	Can experiment with magnets to explore whether the force of magnetism can act through materials. (STEM link)	contact force, non-contact force, magnetic force, magnet, strength,
	Plants	To know the process of pollination	Can observe flowers carefully to identify the pollen and flowers being visited by pollinators e.g. bees and butterflies in the summer.	Insect/wind pollination, stamen, stigma, pollen, bees,
	Plants	To know the life cycle of a plant.	Can illustrate and describe the stages of a plant's life cycle.	Male, female, germination, pollen pollination, fertilisation, seed formation,
	Animals including humans	To know animals, including humans need the right types and amount of nutrients.	Can classify food in a range of ways	nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water,
	Animals including humans	To know how humans get nutrients from the food they eat.	Can illustrate how humans get nutrition from the food they eat. Can plan a daily diet to contain a good balance of nutrients	Nutrition, diet, healthy, balance, digestive system, intestine, bloodstream, energy, fuel,
	Animals including humans	To know the names of natural sources of human food	Can name the (e.g. natural) sources of human food (science capital) Can visit an allotment	Natural sources, fruit, vegetables, fresh meat, fish, nuts, seeds, beans, lentils, wholegrain,
	Animals including humans	To know the role of the skeleton and muscles	Can describe the role of the skeleton and muscles in support, protection and movement Can draw a diagram to show	Muscles, bones, tendons, contract, relax,
	Light	To know that shadows are formed when the light from a light source is blocked by an opaque object	Can observe ad record the effect of blocking light with solids. Can describe how shadows are formed	Light, block, opaque, transparent, translucent,
	Light	To know how the size of shadows change	Can observe, investigate and record the length of shadows at different times of the day Can explain the pattern in the way shadows change size	Shadows, light, pattern, increase, decrease, size,
	Light	To know that light from the sun is dangerous	Can answer questions about the effect of light seeing things Can design a poster to explain the ways we can	Light, observe, sunglasses, direct, sun, UV rays, damage, retina,

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				protect our eyes from the sun	
	Light	To know how light is reflected from surfaces		Can explore how objects with different surfaces are more or less visible Can label a number of effects of reflection	Light, reflect, visible, shiny, matt, surface,
Learning links to enhance long term memory	STEM Ambassador : Zoom presentation from a bee keeper/Make candles Garry Packer 'Beautiful bees and other pollinators' Visit an allotment to see food natural sources of food STEM - On the farm – live 1001 inventions		**Assessment**	Can children describe the life cycle of flowering plants, including pollination, seed formation, seed dispersal, and germination? Can children describe and demonstrate how shadows are formed by blocking light? Can children describe, demonstrate and make predictions about patterns in how shadows vary? Can children explain how looking at the sun is dangerous? Can children name the nutrients found in food?	

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Year 4 Autumn				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Plants	To know why a flower that is not pollinated will not reproduce	Can explain why a flower that is not pollinated will not reproduce	Pollination, Insect/wind, stamen, stigma, pollen, bees,
	Living things and their habitats	To know which animals and plants live in a specific habitat	Can Identify plants and animals that would live in a specific habitat Can observe plants and animals in different habitats	habitat, micro-habitat, environment,
	Living things and their habitats	To know that groups of animals can be grouped in a variety of ways	Can ask questions Can use a classification key to present information based on animal and plants features	Classification, classification keys, features,
	Animals including humans	To know the different types of teeth in humans and their function	Can label the different types of adult teeth in a diagram Make comparisons between human and animal teeth present information in a table	Teeth, incisor, canine, molar, premolars, carnivore, herbivore,
	Animals including humans	To know the basic parts of the digestive system	Can sequence the basic parts of the digestive system Can draw the basic parts on a human outline	Oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus
	States of matter	To know the properties of solids, liquids and gases	Can observe closely and classify a range of solids and liquids Can explore making gases visible e.g. squeezing sponges under water to see bubbles, using straws to blow objects Classify materials according to whether they are solids, liquids and gases	Solid, liquid, gas, properties, classify, air,
	States of matter	To know that some materials change state when they are heated or cooled	Can observe and describe the effect of heating and cooling water, chocolate butter and other everyday items Can measure/research the temperature at which this happens in degrees Celsius (°C). Can complete a table or graph to show results	Heating, cooling, state change, melting, freezing, melting point, boiling, boiling point,
	Sound	To know how sounds are made	Can listen and describe a range of sounds Can classify sound sources	Sound, source, musical instruments, alarms, voices, energy,

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	Sound	To know that sound travels through vibrations in the air to the ear. .	Can Listen to and describe the sounds through a variety of mediums and show in a diagram that sound travels through vibrations in the air to the ear	Sound, vibrations, ear, air, waves,
	Electricity	To know how to construct a simple series electrical circuit	Can identify common appliances that run of electricity Can label components in a circuit	Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, cell, batteries, wires, bulbs, buzzers
	Electricity	To know how to construct a circuit with a switch	Can construct a complete circuit with a switch Can answer questions about the completeness of a circuit e.g. whether a lamp will light	Switch, bulb, light, battery,

Learning links to enhance long term memory	Visit from a dentist (science capital) Healthy teeth PSTT STEM Explorify	**Assessment**	Can children name a range of living things living in a range of habitat? Can children create a classification key to identify animals and plants? Can children draw the parts of the digestive system onto a human outline? Can children explain the role of the different types of teeth? Can children name properties of silds, liquids and gases? Can children give everyday examples of melting and freezing? Can children communicate structures of circuits using drawings, which show how the components are connected? Can children incorporate a switch into a circuit to turn it on and off?

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Year 4 Spring				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Living things and their habitats	To know how a change to the environment is a danger to habitats	Can give examples of how an environment may change both naturally and due to human impact Can present their learning about changes to the environment in different ways e.g. campaign video, persuasive letter	Environment, habitat, human impact, positive, negative, migrate, hibernate, deforestation, climate change,
	Animals including humans	To know how to describe the simple functions of the human digestive system	Can research the function of the digestive system Can produce a labelled 3D model of the digestive system in groups	Oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus,
	Animals including humans	To know the similarities and differences between human and animal teeth	Can compare and contrast the teeth of a human with those of another animal. Can explain how the teeth in animal skulls show they are carnivores, herbivores or omnivores	Teeth, incisor, canine, molar, premolars, carnivore, lion,
	Animals including humans	To know how to take good teeth hygiene	Can ask and answer questions Can investigate the effects of food on the teeth Can investigate their own teeth hygiene through disclosing tablets	Diet, sugar, plaque, gum health, cavities, brushing, toothpaste, disclosing tables
	States of matter	To know the properties of solids, liquids and gases	Can compare and contrast solids, liquids and gases.	Solids, liquids and gases
	States of matter	To know how to use a thermometer to measure temperature	Can use a thermometer to measure temperatures e.g. icy water (melting), tap water, hot water, boiling water (demonstration)	Measure, temperature, thermometer,
	Sound	To know that vibrations from sounds travel through a medium to the ear	Can use a diagram to show how sounds travel from an object to the ear	Ear, narrow, passageway, ear canal, eardrum, solids, liquids, gases,
	Sound	To know how to measure the loudness of sounds	Can compare and contrast how loud sounds are. Can measure sound Can record their findings	Pitch, high, low, column, faint, loud, insulation,
	Sound	To know how to increase and decrease pitch and volume.	Can demonstrate how to increase or decrease pitch and volume by hitting or blowing harder Can measure the sound Record findings	Increase, decrease, pitch, volume,

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	Electricity	To know how opening and closing switches affects a series circuit.	Can investigate that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.	Positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer,
	Electricity	To know how different materials act as conductors of electricity	Can recognise and name conductors and insulators. Can use classification evidence to identify that metals are good conductors and non-metals are insulators	Conductor, insulator, metal, non-metal, symbol, copper, zinc, iron , nickel,

Learning links to enhance long term memory	Electrician to visit (Science capital) Music Dentist visit (Dental hygiene) Explorify STEM	**Assessment**	Can children give examples of how an environment may change both naturally and due to human impact? Can children explain the role of the different types of teeth? Can children use a diagram to show how sounds travel from an object to an ear. Can children use data to identify patterns in pitch and volume? Can children describe how their switch works? Can children associate metals as being good conductors?

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Year 4 Summer				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	States of matter	To know the water cycle	Can present their learning about the water cycle in a range of ways e.g. diagrams, explanation text, story of a water droplet Use secondary sources to find out about the water cycle.	evaporation, condensation, temperature, precipitation, transpiration, surface runoff,
	States of matter	To know the meaning of evaporation	Can set up investigations to explore changing the rate of evaporation e.g. washing, puddles, handprints on paper towels, liquids in containers Can record their findings	Evaporation, predict, conclude, measure,
	Electricity	To know the effect of poor conductors	Can observe the effect of poor conductors and label materials as good or poor conductors. Can explain insulator	Insulator, conductor, wood, rubber, glass, plastic,
	Sound	To know the role of vibrations in creating sounds	Can explore making vibrations Can observe vibrations e.g. rice on a drum, rubber band (pluck the string) Can explain the role of vibrations in making sound	Air particles, molecules, ear, sound waves, brain, hear, Compressions, rarefactions,
	Sound	To know that sounds get fainter as the distance from the sound source increases.	Can set up a simple comparative test e.g to find out What happens to the sound of the drum when we get further away from it? Can ask and answer scientific questions Can measure sounds over different distances using scientific equipment, Can record findings in a table	Investigate, measure, distance. Loudness, data logger,
	Sound	To know the materials sound passes through	Can ask questions Can investigate what materials sound travels through Can explain what happens to particles in the different materials Can record their findings	Particles, materials, water, wood, insulation,
	Animals including humans	To know how humans obtain nutrients	Can create a fact sheet on the human digestive system and how humans obtain nutrients	Diet, fuel, protein, carbohydrate, balanced diet, fats, energy, sugar, digestion,

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	Animals including humans	To know how to construct and interpret a food chain	Can draw a food chain to identify producers, predators and prey Can name producers, predators and prey	Producers, predators, prey, food chain,
	Animals including humans	To know that food chains always start with light.	Can use a food chain to show they always start with light.	Light, food chain, herbivores, carnivores, energy,
	Living things and their habitats	To know how environments may change naturally	Can use secondary sources to find out about how environments may naturally change	Climate, weather,
	Living things and their habitats	To know the positive and negative impact humans have on the environment	Use secondary sources to find out about human impact, both positive and negative, on environments	Deforestation, forests, rainforest, negative, positive, endangered species, protected

Learning links to enhance long term memory	Climate change/water cycle - Geography STEM PSTT Explorify	**Assessment**	From their data, can children explain how to speed up or slow down evaporation? Can children use data to identify patterns in pitch and volume? Can children explain insulator? Can children explain how humans obtain nutrients? Can children name producers, predators and prey in a habitat?

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Year 5 Autumn				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Living things and their habitats	To know the life processes common in all living things	Can identify the 7 life processes and describe each one.	Nutrition, movement, reproduction, excretion, respiration, sensitivity, growth,
	Living things and their habitats	To know the differences in the life cycles of a mammal, amphibian, insect and a bird	Can show the similarities and differences between the different life cycles Can record information in a table, Venn diagram or map.	Mammal, insect, bird, placental, endothermic, monotreme, marsupials, metamorphosis, vertebrate,
	Living things and their habitats	To know the process in the reproduction of some plants	Can explain the difference between sexual and asexual reproduction and give examples of how plants reproduce in both ways	Reproduce, sexual, asexual, pollination, fertilisation, ovules, stigma, sexual, fertilises, asexual, plantlets, tubers, bulbs, cuttings
	Animals including humans	To know that offspring do not always look like their parents	True or false? All young offspring look like smaller versions of their adult parents. Can use secondary sources to prove or disprove the statement. Explorify: getting to grips with inheritance.	Offspring, DNA, inheritance, genetic, features, organisms,
	Properties and changes of materials	To know how to compare and group materials based on their properties	Can observe and describe materials on the basis of their hardness, solubility, conductivity and their response to magnets Can create a chart or table grouping/comparing everyday materials by different properties	Hardness, transparency, solubility, conductivity, magnetic, Electrical, thermal,
	Properties and changes of materials	To know that dissolving, mixing and changes of state are reversible changes	Can separate mixtures by sieving, filtering and evaporation, choosing the most suitable method and equipment for each mixture Can explain the results from their investigation	Ice, melt, filter, sieve, salt, sugar, soluble, evaporation, solution, dissolve, liquid,
	*Earth and space*	To know why the movement of the Earth gives rise to the seasonal changes.	Can draw a labelled diagram showing how the movement of the Earth gives rise to the seasonal changes.	Earth, axis, spring, summer, autumn, winter, seasons, orbit, tilted, northern hemisphere, southern hemisphere
	*Earth and space*	To know how to earth's rotation gives rise to day and night	Can research scientists who first observed the earth's movement around the sun (Nicolaus Copernicus) Can use secondary sources to help make a model to	Day, night, rotation, hours, daylight,

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			show why day and night occur	
	Forces	To know the theory of gravitation	Can research how the work of scientists such as Galileo Galilei and Isaac Newton helped to develop the theory of gravitation.	Gravity, Earth, pull, force, mass, scientist, Galileo Galilei, Isaac Newton
	Forces	To know that unsupported objects fall because of the force of gravity	Can explain which object will reach Earth first if dropped from the same height? Can record findings	Fair test, gravity, pull, force
	Forces	To know that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	Can label the forces and draw the direction in which they transfer. Can explore how levers, pulleys and gears work	Force, levers, pulleys, gears,

Learning links to enhance long term memory	Visit to The Alston Observatory (Earth and space) DT Explorify STEM PSTT	**Assessment**	Can children present their understanding of the life cycle of a range of animals in different ways? Can children demonstrate the effect of gravity acting on an unsupported object? Can children demonstrate how pulleys, levers and gears work? Can children give reasons for choice of equipment and methods to separate a given solution or mixture such as salt or sand in water?

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Year 5 Spring				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Animals including humans	To know the main changes in the human body from childhood to old age *(Link to RSHE)*	Can draw a timeline of the stages of growth and development of a human	Baby, infant, toddler, teenager, adult, elderly,
	Animals including humans	To know the physical signs of human aging *(Link to RSHE)*	Can explain the changes that takes place in boys and girls during puberty Can label the changes to the human body	Puberty, body hair, changes, breasts, hips, genitals, menstruation,
	Living things and their habitats	To know the process of the reproduction of some animals	Can compare the gestation times for mammals and look for patterns e.g. in relation to size of animal or length of dependency after birth.	Gestation, male, female, sperm, fertilise, female egg,
	Living things and their habitats	To know how to use classification keys to identify insects and animals	Can use classification keys to identify insects and animals Can create a classification key to identify insects and animals	Classification key,
	Forces	To know how to make a working mechanism *(Link to DT)*	Can apply knowledge of forces and movement to make a working mechanism	Mechanism, drag forces,
	Forces	To know the effects of water resistance in a range of contexts	Can observe and describe the effect of water resistance Can make predictions	Water resistance, drag, friction, slow, predict, up thrust, buoyancy,
	Properties and changes of materials	To know that some materials are soluble and non-soluble	Can observe (through direct experience) and describe materials as soluble or non-soluble. (link to water cycle)	Dissolve, disappear, liquid, solution,
	Properties and changes of materials	To know how adding an acid to bi-carbonate of soda create a new material	Can ask and answer questions Can investigate what happened when an acid is added to bi-carbonate of soda Can plan a fair test Can make predictions	Irreversible change, carbon dioxide,

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	Properties and changes of materials	To know how burning a material creates a new material and is not reversible.	Can observe and describe how burning a material creates a new material and is not reversible. Can group materials	Burning, irreversible change, wood, ash, smoke,
	Earth and space	To know phases of the moon	Can observe, name and record the phases of the moon	Moon phases, full moon, new moon, crescent, gibbous, reflect, sunlight, orbit, waxing , waning
	Earth and space	To know the movement of the Earth, and other planets, relative to the Sun in the solar system	Can observe pictures and videos of the sun, earth and moon and describe them using mathematical vocabulary	Solar system, planets, Mercury, Jupiter, saturn. Mars, Uranus, Neptune,

Learning links to enhance long term memory	School nurse – Children can ask questions about puberty Academy – lab Explorify STEM	**Assessment**	Can children explain the changes that take place in boys and girls during puberty? Can children explain how a baby changes physically as it grows, and also what it is able to do? Can children give examples of friction, water resistance and air resistance? Can children explain how the Earth moves in relation to the Sun and the Moon moves in relation to the Earth?

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Year 5 Summer				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Earth and space	To know the movement of the Moon relative to the Earth	Can use secondary sources to help create a model e.g. role play or using balls to show the movement of the Earth around the sun and the Moon around the Earth.	Moon, Earth, solar system, planets,
	Earth and space	To know why the sun, Earth and Moon are almost spherical	Can consider the views of scientists in the past and evidence used to deduce shapes and movements of the Earth, Moon and planets before space travel Can ask and answer questions	Flat, sphere, sun, moon, earth, spherical, evidence, Ancient Greeks,
	Earth and space	To know the movement of the sun across the sky in relation to day and night.	Can make a sundial Can make first-hand observations of how shadows caused by the Sun change through the day. Record observations and present findings	Sundial, shadows,
	Properties and changes of materials	To know how to group together everyday materials on the basis of their conductivity	Can use what you know about thermal conductors and insulators to make a prediction for this question 'If a snowman will melt faster with or without a coat on? ' Can test it by wrapping ice cubes in 'coats' made of different materials	Thermal, conductor, insulator, heat, material, variable
	Properties and changes of materials	To know that oxidisation creates a new material and is irreversible	Can investigate what happens to an apple when it is cut with a metal object Can record observations over time	Oxidisation, chemical reaction, rust, brown, orange,
	*Animals including humans*	To know that offspring do not ways look like their adult parents	Can debate if all young offspring look like a smaller version of their adult parent	Offspring, genetics, metamorphosis
	Living things and their habitats	To know the similarities and differences in the life cycle of mammals, an amphibian, and insect and a bird	Can complete a table to identify the similarities And differences.	Life cycle, mammal, amphibian, insect, bird,
	Living things and their habitats	To know how animals and plants are suited to their environments.	Can explain that All living things in an ecosystem depend on each other to survive (and hopefully thrive), providing sources of food and shelter for each other.	Features, adaptations, ecosystem, interdependent,

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			Can create a food chain of a woodland ecosystem e.g. blackberries –shrew - owl Can research Charles Darwin's' theory	
	Forces	To know the effects of air resistance	Can ask and answer questions Can investigate what affects how well a parachute falls Record findings	Air resistance, fair test, variables, up thrust, drag
	Forces	To know the effect of friction	Can investigate which ramp material will create the most and least friction using a toy car Can use a stopwatch to measure time	Friction, ramp, surface, material, stopwatch, seconds, minutes,
	Electricity	To know how the voltage of cells effect the brightness of a bulb	Can investigate the effect of the number of cells and the bulb brightness Can record their findings in a diagram	Bulb, cell, battery, brightness, dim,

Learning links to enhance long term memory	Academy – lab Visit to Myerscough college – Witton Park PSTT STEM Explorify	**Assessment**	Can children show the movement of the Earth and Moon? Can children explain the chemical reaction of oxidisation? Can children explain why offspring do not always look like their parents? Can children explain how animals and plants are suited to their environment? Can children explain how friction can be useful and un-useful?

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Year 6 Autumn				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Animals including humans	To know the human circulatory system	Can draw and label diagrams of the human circulatory system Can create a presentation model for the circulatory system	Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide,
	Animals including humans	To know the functions of the heart	Can describe the functions of the heart Can carry out a pulse rate investigation Can plan a fair test	Heart, pulse, rate, pumps, blood, blood vessels, muscle,
	Animals including humans	To know the names of nutrients that are important to animals and humans	Can research – Why do we need to drink water?	Nutrients, chemical substance, carbohydrates, p[proteins, vitamins, fats, water, minerals,
	Animals including humans	To know some effects of poor exercise, drug misuse (including smoking) and poor diet on the way the human body functions	Can explore the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health	Diet, exercise, drugs, lifestyle,
	Living things and their habitats	To know why observable features are used to classify living things	Can use secondary sources to learn about the formal classification system devised by Carl Linnaeus and why it is important Can explain why observable features are used to classify living things into broad groups	Binomial system, classification, characteristics, observable features, species,
	Evolution and inheritance	To know that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago	Can note, name and describe plants and animals that inhabited the Earth millions of years ago Can make observations of fossils to identify living things that lived on Earth millions of years ago	Organism, fossilisation, decompose, sediment, minerals, evolution,
	Evolution and inheritance	To know the theory of evolution	Can describe the theory of evolution Can compare the ideas of Charles Darwin and Alfred Wallace on evolution	Charles Darwin, Alfred Wallace, evolution, evolve,
	Electricity	To know recognised symbols when representing a simple circuit in a diagram	Can label and learn the recognised symbols for representing components in a circuit diagram	Circuit, electrons, component, cell, circuit
	Electricity	To know how to associate the brightness of a lamp with the number and voltage of cells used in the circuit	Can observe the effect of placing extra bulbs into a circuit and how this can be overcome by increasing the number and voltage of cells	Brightness, dimmer, dull,

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	Light	To know that light appears to travel in a straight line	Draw and label diagrams to show how light travels.	Light rays, beams, energy,
	Light	To know how light travels	Can experiment with ways that demonstrate how light travels. Can report findings	Light sources, reflect,

Learning links to enhance long term memory	STEM Jennifer Haig – introduction to the circulatory system RHSE Dissect a heart (animal) PSTT Explorify STEM 1001 inventions	**Assessment**	Can children draw a diagram of the circulatory system and label the parts and annotate it to show what the parts do? Can children Produce a piece of writing that demonstrate the key knowledge e.g. explanation text, job description of the heart? Can children give examples of living things that lived millions of years ago and the fossil evidence we have to support this? Can children give examples of fossil evidence that can be used to support the theory of evolution? Can children draw circuit diagrams of a range of simple series circuits using recognised symbols? Can children make electric circuits and demonstrate how variation in the working of particular components, such as the brightness of bulbs, can be changed by increasing or decreasing the number of cells or using cells of different voltages?

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Year 6 Spring				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Animals including humans	To know how arteries and veins are connected by capillaries	Can draw a diagram that shows how arteries and veins are connected by capillaries	Arteries, veins, capillaries, blood vessels
	Animals including humans	To know the ways in which nutrients and water are transported within animals, including humans	Can describe how water and nutrients pass the arteries through capillaries to veins.	Waste
	Animals including humans	To know the different roles of veins and arteries in the human circulatory system	Can present information in a table showing the differences between the veins and arteries	Flows, towards, away, heart, pulmonary artery,
	Living things and their habitats	To know the criteria for classifying living things	Propose criteria for the classification groups for; mammals, amphibians, insects and birds.	Vertebrates, , invertebrates, warm-blooded, cold-blooded, insects, spiders, snails, worms,
	Evolution and inheritance	To know living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents	Can Identify features in animals and plants that are passed on to offspring and explore this process by considering the artificial breeding of animals e.g. dogs.	Offspring, inherit, heritance, traits, characteristics, variation, breeding,
	Evolution and inheritance	To know how animals and plants are adapted to suit their environment in different ways	Can compare and contrast different types of adaption Can analyse the advantages and disadvantages of specific adaptations	Adaption, organisms, natural selection,
	Evolution and inheritance	To know why adaption may lead to evolution	Use secondary sources to find out about how the population of peppered moths changed during the industrial revolution Can explain why adaption may lead to evolution.	Natural selection, survival, industrial revolution, advantage disadvantage, variation, moth,
	Electricity	To know how to associate the volume of a buzzer with the number and voltage of cells used in the circuit	Can investigate the volume of a buzzer Can record findings in a table	Volume, buzzer, loudness
	Electricity	To know how to compare and give reasons for variations in how components function ,	Can suggest why a bulb or buzzer may stop working when the voltage is increased (Science capital)	Component, function
	Light	To know how we see things	Can draw and label diagrams that show how objects are seen	Reflect, rays, light,

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	Light	To know how light diverges from a source	Observe and describe how light diverges from a source	Curve, angle,

Learning links to enhance long term memory	Environment walk looking about habitats in natural surrounding Forest school Explorify STEM Academy lad Moth by Isabel Thomas	**Assessment**	Can children identify characteristics that will make a plant or animal suited or not suited to a particular habitat? Can children explain why the dominant colour of the peppered moth changed over a very short period of time? Can children predict results and answer questions by drawing on evidence gathered? Can children describe, with diagrams or models as appropriate, how light travels in straight lines either from sources or reflected from other objects into our eyes?

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Year 6 Summer				
Thread	**Focus & Concept**	**Knowledge**	**Skills**	**Vocabulary**
	Animals including humans	To know the functions of the human heart	Can explain the different function of the human heart	Blood, vessels, lungs, muscle,
	Animals including humans	To know about human blood pressure	Can discover information about human blood pressure Create a leaflet	Blood pressure,
	Animals including humans	To know how the digestive system breaks down nutrients	Can draw a diagram to show how the digestive system breaks down nutrients	Stomach acid, bile, intestine, kidneys, filtration, bladder,
	Living things and their habitats	To know the reasons for classifying plants and animals based on specific characteristics.	Explain some of the problems with not using specific characteristics when classifying living things.	Flowering, non-flowering, mosses, ferns, conifers
	Animals including humans	To know positive impact of a balanced diet and exercise on the way their bodies function.	Can create a leaflet to describe how good exercise and a balanced diet can have a positive impact on the body.	Balanced diet, exercise, energy, strength, lifestyle,
	Evolution and inheritance	To know why adaption may lead to evolution	Can use Darwin's 'natural selection' theory to explain how birds have evolved to help them survive in different habitats Can use research of birds to identify their diet Can present findings	Finches, beaks, Galapagos island, population, climate change, pelican, toucan, woodpecker,
	Evolution and inheritance	To know the effect of animals and plants not adapting	True or false? Plants and animals would not survive if they could not adapt.	Adapt, survival, extinction,
	Light	To know why shadows have the same shape as the objects that cast them.	Can draw and label diagrams that show how shadows are formed and that the size of the shadow may be predicted when the position of the source of light changes	Shadow, dark, screen, light source, opaque, translucent, transparent,
	Light	To know what affects the size of shadows	Can investigate the size of shadows Can record measurements in a table Can plot a line graph showing how the size of an object's shadow depends on the distance between the light source and the object	Object, distance, variable,

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	Electricity	To know the outcome of placing various components into an electrical circuit	Can carry out fair tests exploring changes in circuits Can explain the pattern	Current, volt,
	Electricity	To know the effect of contact with a live uninsulated power wire	Can explain what might happen if a bird sits on a live, uninsulated power line? (propose) Design a poster	Uninsulated, insulator, conductor, danger,

Learning links to enhance long term memory	Visit from the school nurse Human heart and circulatory system song Academy lad Explorify STEM	**Assessment**	Can children explain both the positive e effects of diet, exercise, drugs and lifestyle on the body? Can children explain the process of evolution? Can children predict and explain, with diagrams or models as appropriate, how the shape of shadows can be varied ? Can children make electric circuits and demonstrate how variation in the working of particular components can be changed by increasing or decreasing the number of cells or using cells of different voltages ?