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|  | Autumn 1 | Autumn 2 | Spring 1  | Spring 2 | Summer 1 | Summer 2 |
| **Nursery**  | **Humans** | **Materials** | **Electricity** | **Plants** | **Animals, excluding Humans** | **Forces** |
| **Reception** | **Materials Including Changing Materials** | **Humans** | **Living Things and Their Habitats (Plants**  | **Light** | **Animals Excluding Humans** |
| **Seasonal Change** |
| **Year 1** | **Animals Including Humans** | **Plants**  | **Everyday Material Properties** |
| **Seasonal Change** |
| **Year 2** | **Uses of Every day Materials** | **Plants** | **Living Things and Their Habitats** | **Animals Including Humans** |
| **Year 3** | **Plants** | **Light** | **Forces and Magnets** | **Rocks** | **Animals Including Humans** |
| **Year 4** | **Electricity** | **Sound** | **States of Matter** | **Animals, Including Humans** | **Living Things and Their Habitats\*** |
| **Year 5** | **Earth and Space** | **Forces** | **Properties and Changes of Materials** | **Living Things and Their Habitats** | **Animals including Humans (taught alongside PSHE) \*** |
| **Year 6** | **Electricity** | **Light** | **Living Things and Their Habitats** | **Animals Including Humans\*** | **Evolution and Inheritance** |

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| **Nur** | **National Curriculum** | **Progression steps** | **Vocabulary** |
| **Autumn Term** |
| Unit: Humans | • Use all their senses in hands-on exploration of natural materials. • Begin to make sense of their own life-story and family’s history. • Understand the key features of the life cycle of a plant and an animal.  | **Opportunities to learn about the life cycles of humans**• Looking at photographs of the children as babies• Sharing books about how to look after a baby• Talking to an expectant mother, parent with a baby and elderly person• Talking to adults about photographs of the adults at different ages• Identifying pictures of babies, toddlers, children, adults and old people in magazines or other media• Drawing humans at different agesOpportunities to learn about how to take care of themselves• Talking about how they look after their own health and hygiene• Noticing when they feel hot and cold and how to respond to this• Choosing appropriate materials to protect themselves from the Sun**Opportunities to learn about their senses**• Exploring the natural environment with their senses• Exploring objects using their senses e.g. smelling pots, feely bags, listening pots etc.• Sorting collections of natural objects using their senses e.g. bark, pebbles, feathers, seeds, cones, leaves, sticks• Looking closely at natural objects using a magnifying glass or app on a tablet• Going on a sound walk• Playing guessing games where children pick an object and either describe it or are asked questions in order to identify it• Playing listening games• Sharing books | grow, change, baby, toddler, child, adult, old person, smell, taste, touch, feel, hear, see, blind, deafExpose children to supplementary vocabulary such as:life cycle, senses, elderly, die (if appropriate) |
| Unit: Materials | • Use all their senses in hands-on exploration of natural materials.• Explore collections of materials with similar and/or different properties.• Talk about the differences between materials and changes they notice. | **Opportunities to explore a range of materials in a sensory way especially through touch, including more unusual materials**• Exploring oobleck (cornflour and water), gellibaff, shaving foam, foam burst shower gel etc.Opportunities to shape and join materials• Building junk models using a range of materials• Shaping and joining materials using equipment e.g. scissors, hole punch, including when using wood e.g. a hammer and nail**Opportunities to change materials**• Making smoothies• Mixing ingredients to make playdough, cakes, biscuits, bread, jelly etc.• Melting chocolate for decorating bakes/biscuits or to combine with other ingredients e.g. refrigerator cake, chocolate crispy cakes• Comparing cooked and uncooked pasta, noodles, rice or potatoes• Cooking popcorn in a microwave• Cooking cakes, biscuits, bread etc.• Making ice lollies and ice-cream• Using medical ice packs including self-activated cool pads• Removing toys from ice• Adding baking soda and fizzy bath bombs to water• Adding coloured sweets to water• Adding currants to fizzy water/lemonade• Adding bicarbonate of soda to vinegar to make a bubbling potion | 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, fabricExpose children to supplementary vocabulary such as:solid, liquid, rigid, stronger, weaker |
| **Spring Term** |
| Unit: Electricity | • Explore how things work. | **Opportunities to identify electrical devices**• Spotting devices that are plugged into power sockets in the classroom• Spotting devices that use batteries in the classroom• Sorting objects/photographs of objects according to whether they use electricity or not• Sorting objects/photographs of objects according to whether they use batteries and/or mains electricity.• Looking at shopping catalogues that include electrical devices**Opportunities to use battery-powered devices**• Using Code-a-Pillars, Bee-Bots, shopping tills, torches, remote control cars, talk cards/recording devices, hand-held fans**Opportunities to talk about how electrical devices work**• Describing what the devices do e.g. make a sound, make light, move• Suggesting that batteries may need charging or replacing when a device does not work | battery, plug, socket, electricity, wire, sound, light, moveExpose children to supplementary vocabulary such as:• mains electricity, device, appliance, electrical |
| Unit: Plants | • Use all their senses in hands-on exploration of natural materials. • Explore collections of materials with similar and/or different properties. • Plant seeds and care for growing plants. • Understand the key features of the life cycle of a plant and an animal. • Begin to understand the need to respect and care for the natural environment and all living things.  | • Observing and photographing/drawing how plants grow and die • Observing and photographing/drawing what happens when fruit, vegetables and flowers are left to decay • Gathering seeds and digging up bulbs of the plants they grow • Designing seed packets • Using what they grow to make food to eat • Sharing books about plants and growing plants  |  plant, leaf, stem, trunk, branch, root, bark, flower, petal, seed, berry, fruit, vegetable, bulb, plant, hole, dig, water, weed, grow, shoot, die, dead, soil Expose children to supplementary vocabulary such as:  seedling, healthy, unhealthy, strong, sturdy, wilting, decay, mould, life cycle  |
| **Summer Term** |
| Unit: Animals Excluding Humans | • Understand the key features of the life cycle of a plant and an animal. | **Opportunities to learn about the life cycles of animals**• Caring for eggs and the young animals that emerge, such as chicks, caterpillars, frogs• Sharing books with information about animal life cycles (fiction and non-fiction)• Looking at and matching pictures of animals and their young• Watching videos of animals and their young and how they change over time• Playing games involving matching or describing animals and their young• Playing with small world animals, matching adults to their young• Visiting a farm, zoo or pet shop, particularly to see young animals• Talking about the sounds adult and young animals make and comparing them• Drawing adult animals and their young | egg, chick, bird, caterpillar, cocoon, chrysalis, butterfly, frog spawn, tadpole, froglet, frog, grow, change, die, names of animals and their young, fur, feathers, scales, tail, wings, beak, claws, paws, hooves, swim, walk, run, jump, jump, fly, patterns, spots, stripesExpose children to supplementary vocabulary such as:life cycle, mane, webbed feet |
| Unit: Forces | • Explore how things work. • Explore and talk about different forces they can feel. • Talk about the differences between materials and changes they notice.  | **Opportunities to feel forces**• Pushing floating objects under water e.g. balloons, table tennis balls etc.• Exploring magnets of different shapes and sizes• Exploring springs of different sizes, both compression and extension springs• Using bikes and scooters on different surfaces and ramps**Opportunities to explore how things work**• Testing a range of objects to find out if they float or sink• Playing games that contain springs e.g. bagatelle• Playing with wind-up toys• Racing wind-up toys• Playing with gears and pulleys e.g. sets of gears, large playground pulleys etc.• Playing with magnetic toys e.g. train carriages joined by magnets, magnetic construction kits etc.**Opportunities to explore how objects/materials are affected by forces**• Pushing, pulling, twisting and bending malleable (e.g. modelling clay, playdough, springs, pipe cleaners, elastics, sponges etc.) and non-malleable objects/materials• Cutting and joining objects/materials e.g. wood, building kits with nuts and bolts etc. |  object, float, sink, water, up, down, top, bottom, push, pull, magnet, spring, squash, bend, twist, stretch, turn, spin, smooth, rough, fast, slow Expose children to supplementary vocabulary such as: rising, falling, attract, repel, faster, slower, pulley, gear, elastic  |

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| **Reception** | **National Curriculum** | **Progression steps** | **Vocabulary** |
| **Ongoing Throughout the Year** |
| Unit: Seasonal Changes | •Explore the natural world around them. • Describe what they see, hear and feel whilst outside. • Understand the effect of changing seasons on the natural world around them. | **Opportunities to play and explore outside in all seasons and in different weather**• Playing in the rain and snow• Drawing around puddles• Catching rain and hail in buckets• Catching snowflakes on frozen black paper and looking at them with magnifying glasses or an app on a tablet• Making icicles• Using scarves or pinwheels to explore the strength and direction of the wind• Looking at photographs of different seasons and types of weather• Sharing books about different seasons and types of weather**Opportunities to observe living things throughout the year**• Sharing books about the seasons• Going on seasonal walks to observe key features of the seasons• Making artwork with seasonal found objects• Visiting a canal or pond to look for birds and their young in spring• Visiting a farm to see the young animals in the spring• Finding minibeasts in the school grounds at different times in the year• Taking photographs of the minibeasts they find in the school grounds at different times in the year• Looking for birds and other animals throughout the year using binoculars• Sharing books and videos about animals that migrate or hibernate over winter, gather food in autumn, build nests and lay eggs in spring etc.• Taking photographs of the plants they find in the school grounds at different times in the year• Observing closely and drawing the plants in the school grounds at different times in the year• Matching animals and plants they find to pictures that identify them | 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, flowersExpose children to supplementary vocabulary such as:hibernate, migrate, snowflake |
| **Autumn Term** |
| Unit: Materials including Changing Materials  | • Explore the natural world around them.• Describe what they see, hear and feel whilst outside. | **Opportunities to explore a range of materials in a sensory way, including natural materials**• Looking for dew, ice, icicles and frost in the playground• Using their senses to explore natural materials in the environment, such as stones, twigs, leaves, feathers, seeds, flowers etc.• Gathering natural materials to make collections**Opportunities to make objects from different materials, including natural materials**• Making pictures using natural materials they have gathered from the environment• Making dens, nests, bug hotels etc. using natural materials• Making ice pictures by putting water in a shallow tray and adding natural objects gathered from the environment and then leaving them outside to freeze or putting them in the freezer• Making junk models with a range of materials, including natural materials they have gathered from the environment**Opportunities to compare how materials change**• Making popcorn in a microwave and on a fire• Making pizza dough with different flours• Baking bread in different tins or for different times to compare the outcome• Baking cupcakes and removing one after every five minutes• Choosing where to put ice cubes in the playground and observing how quickly they melt• Observing how a large block of ice changes over time, using string to measure around it• Putting wax crayons in different areas of the playground and observing how they change• Making a snowman and observing how it changes over time• Making snowballs and putting them in different parts of the playground and observing how they change over time | 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, not waterproof, best, change, change backExpose children to supplementary vocabulary such as:solid, liquid, gas, most suited |
| **Spring Term** |
| Unit: Living Things and Their Habitats (plants) | • Draw information from a simple map.• Explore the natural world around them.• Describe what they see, hear and feel whilst outside.• Recognise some environments that are different to the one in which they live. | **Opportunities to explore the plants in the surrounding natural environment**• Taking photographs of the plants they find in the school grounds• Observing closely and drawing the plants in the school grounds• Finding plants in the school grounds to match with photographs of them• Looking at aerial views to count the number of trees in the school grounds• Using a map of the school grounds, with pictures of where specific plants can be found, to find those plants• Creating a map to show how to find their favourite plants in the school grounds**Opportunities to explore the animals in the surrounding natural environment**• Finding minibeasts in the school grounds• Taking photographs of the minibeasts they find in the school grounds• Matching the minibeasts they find to pictures that identify them• Observing the minibeasts closely, using a magnifying glass or app on a tablet• Drawing pictures of the minibeasts• Creating a map to show where they found each type of minibeast• Sharing books about minibeasts• Playing with small world minibeasts• Building minibeast homes**Opportunities to explore plants and animals in a contrasting natural environment**• Visiting a contrasting natural environment e.g. forest, beach, etc.• Finding and taking photographs of plants and animals in the contrasting natural environment• Sharing non-fiction and fiction books about the contrasting natural environment visited | • plant, tree, bush, flower, vegetable, herb, weed, animal, names of plants and animals they see, name of a contrasting environment e.g. beach, forestExpose children to supplementary vocabulary such as:environment |
| Unit: Humans | • Talk about members of their immediate family and community.• Name and describe people who are familiar to them. | **Opportunities to describe people who are familiar to them**• Talking about themselves, friends, family and community using photographs• Using mirrors to look at their faces• Creating pictures or collages of themselves, friends, family and community• Making hand and footprints using paint• Making fingerprints using ink pads• Using a ‘magic’ mirror which shows everything about them and getting children to describe themselves and how they are special• Sharing books about different types of families**Opportunities to learn about how to take care of themselves**• Demonstrating and talking about how they look after themselves• Talking about other people that look after them• Talking to a dentist, nurse, meal supervisor/school cook, road crossing supervisor etc.• Sharing videos of people who care for us and how we look after ourselves | hair (black, brown, dark, light, blonde, ginger, grey, white, long, short, straight, curly), eyes (blue, brown, green, grey), skin (black, brown, white), 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, boy, girl, man, womanExpose children to supplementary vocabulary such as:bald, elderly, wrinkles, male, female, freckles |
| **Summer Term** |
| Unit: Light | • Describe what they see, hear and feel whilst outside.  | **Opportunities to explore shadows**• Looking for shadows created by the Sun on cloudy and non-cloudy days• Drawing around shadows and comparing their shape and size• Making shadows using their bodies, both outside using the Sun and inside using torches• Making shadows using transparent and opaque objects/materials• Putting hands in a beam of light and making shadow shapes• Making shadows using shadow puppets or other objects• Observing a toy outside and noticing how the shadow changes during the day• Observing what areas are sunny and shady at different times in the day• Sharing books about shadows**Opportunities to explore rainbows**• Making rainbows from sunlight e.g. bubbles, water sprinkler, holographic paper, CDs etc.• Sharing books about rainbows | Sun, sunny, light, shadow, shady, clouds, torch, see-through, non-see-through, source, light sourceExpose children to supplementary vocabulary such as:casting a shadow, pale, dark, transparent, opaque |
| Unit: Animals excluding Humans | **• Recognise some environments that are different to the one in which they live. Links with other areas of learning** | **Opportunities to learn about animals from a different habitat**• Sharing books about animals in the local area and animals in other countries e.g. jungle, polar regions, desert, ocean• Looking at pictures of animals in different habitats• Watching videos of animals in different habitats• Playing games involving matching animals to their habitats• Playing with small world animals in different habitats• Visiting the zoo, focusing on animals that live in different habitats• Caring for pets from a different habitat e.g. tropical fish• Creating pictures of animals in their habitats• Pretending to be animals• Naming and describing animals they see in books, pictures, videos or while on a trip• Describing different habitats | names of animals, live, on land, in water, jungle, desert, North Pole, South Pole, sea, hot, cold, wet, dry, snow, iceExpose children to supplementary vocabulary such as:environment, polar regions, ocean, camouflage |

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| **Year 1** | **National Curriculum** | **Progression steps** | **Vocabulary** |
| **Ongoing Throughout the Year** |
| Unit: Seasonal Change | • Observe changes across the four seasons.• Observe and describe weather associated with the seasons and how day length varies. | 1. To observe changes across the four seasons
2. To classify different plants
3. To observe closely and record
4. To observe and record daily weather (do in November)
5. To record and discuss simple data
6. To observe and describe how day length varies.
7. To understand how the seasons and weather affect our daily lives
8. To observe changes across the seasons
9. To understand how animals adapt to the changing seasons
10. To collect data
11. To use observation skills
12. To recognise changes across the seasons
13. To describe simple observations
 | Weather (sunny, rainy, windy, snowy etc.)Seasons (winter, summer, spring, autumn)Sun, sunrise, sunset, day length |
| **Autumn Term** |
| Unit: 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 the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).• Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. | 1. To identify, name and label the basic parts of the human body.
2. To draw and label the basic part of the human body.
3. To make first-hand close observations of parts of the body e.g. hands, eyes and compare two people.
4. Look for patterns e.g do people with big hands have big feet? (WS)
5. To say which part of the body is associated with each sense
6. To investigate human senses e.g. Which part of my body is good for feeling, which is not? Which food/flavours can I identify by taste? Which smells can I match? (WS)
7. To identify and name a variety of common animals, including fish, amphibians, reptiles, mammals and birds.
8. To classify animals according to my own criteria (WS)
9. To describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles and mammals, including pets).
10. To identify and name a variety of common animals that are carnivores, herbivores and omnivores.
 | Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hoovesNames of animals experienced first-hand from each vertebrate groupParts of the body including those linked to PSHE teaching (see joint document produced by the ASE and PSHE Association)Senses – touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongueN.B.The children need to be able to name and identify a range of animals in each group e.g. name specific birds and fish. They do not need to use the terms mammal, reptiles etc. or know the key characteristics of each, although they will probably be able to identify birds and fish, based on their characteristics. |
| **Spring Term** |
| Unit: Plants | **(Unit to continue into Summer Term through nature journals)**• 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. | 1. To closely observe different seeds and understand the importance of seed production
2. To make observations of a plant throughout the seasons

(Choose a tree and revisit throughout the year – link to Seasonal Change work)1. To identify and describe the basic structure of a variety of common flowering plants, including trees.
2. To explore the different features of a range of leaves.
3. To identify different parts of a plant
4. To closely observe the growth of a bean into a plant (WS)
5. To identify and name a variety of common wild and garden plants
6. To classify leaves, seeds, flowers etc. using a range of characteristics.
 | Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, budNames of trees in the local areaNames of garden and wild flowering plants in the local area |
| **Summer Term** |
| Unit: Everyday 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. | 1. To identify and name a variety of everyday materials
2. To distinguish between an object and the material from which it is made
3. To compare and group together a variety of everyday materials on the basis of their simple physical properties
4. To investigate materials (absorbency)
5. To choose appropriate materials based on their properties

Some learning intentions may go over one lesson – look at PLAN documentation for activities etc. | Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through |

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| **Year 2** | **National Curriculum** | **Progression steps** | **Vocabulary** |
| **Autumn Term** |
| Unit: 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. | 1. To name a variety of every day materials
2. To describe simple physical properties of everyday materials
3. To identify materials objects are made out of

(introduce vocab: strong, rigid, flexible…)1. To understand why specific materials are used
2. To find out how the shapes of solid objects can be changed by squashing, bending, twisting and stretching.
3. To identify and describe the suitability of a variety of everyday materials
4. To choose a new use for an item, based on suitability of the material
5. To test the properties of materials
 | Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboardProperties of materials – as for Year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigidShape, push/pushing, pull/puling, twist/twisting, squash/squashing, bend/bending, stretch/stretching |
| Unit: 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. | 1. To classify seeds and bulbs.
2. To make close observations of seeds and bulbs.
3. Observe and describe how seeds and bulbs grow into mature plants. (PLANT BULBS in planters outside)
4. To consider what plants needs to grow
5. To make close observations and measurements of their plants growing from seeds and bulbs.
6. To make comparisons between plants as they grow.
 | **As for Year 1:** Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, budNames of trees in the local areaNames of garden and wild flowering plants in the local area**New Vocabulary for this unit**: light, shade, sun, warm, cool, water, grow, healthy |
| **Spring Term** |
| Unit: Living Things and 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 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. | 1. To explore the outdoors, identifying different habitats and micro-habitats
2. To explore and compare the differences between things that are living, dead, and things that have never been alive. (WS)
3. To identify that most living things live in habitats to which they are suited.
4. To identify animals in their micro-habitats.

(Use a pictogram to present findings WS)1. To predict and then identify which micro-habitats will suit a specific mini-beast
2. To name a variety of habitats and the animals that live in them.
3. To describe how different habitats provide for the basic needs of different kinds of animals
4. To describe how animals obtain their food from plants and other animals, using the idea of a simple food chain.
5. To classify objects found in the local environment (WS)
 | Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feedNames of local habitats e.g. pond, woodland etc.Names of micro-habitats e.g. under logs, in bushes etc. |
| **Summer Term** |
| Unit: 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. | 1. Complete KWL grid. To find out about and describe the basic needs of animals, including humans, for survival (water, food and air).
2. To be able to sort and classify food in a range of ways
3. To understand the need to eat the right amounts of different types of food
4. To describe the importance of exercise (W.S)
5. To understand the importance of good hygiene
6. To notice that animals, including humans, have offspring which grow into adults.
7. To describe the basic needs of animals (research and guide on how to look after a pet)
 | Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly), exercise, heartbeat, breathing, hygiene, germs, disease, food types (examples – meat, fish, vegetables, bread, rice, pasta) |

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| **Year 3** | **National Curriculum** | **Progression steps** | **Vocabulary** |
| **Autumn Term** |
| Unit: 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 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. | 1. To identify and describe functions of different parts of a plant
2. To investigate what happens when plants are put in different conditions (2 lessons)
3. To explore the requirements of plants for life and growth and how they vary from plant to plant
4. To investigate the way in which water is transported within plants
5. To explore the part that flowers play in the life cycle (including pollination)
6. To explore seed dispersal
 | Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal) |
| Unit: 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 an opaque object. • Find patterns in the way that the size of shadows change. | 1. To recognise that we need light in order to see things (May take 2 lessons – see PLAN example)
2. To recognise that darkness is the absence of light
3. To recognise shadows are formed when a light source is blocked
4. To understand that the sun can be dangerous and that there are ways to protect my eyes
5. To find patterns in the way that the size of shadows change
 | Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous |
| **Spring Term** |
| Unit: Forces and 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 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. | 1. To recap how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2)
2. To understand that a force is a push or a pull
3. To compare how things move on different surfaces. (WS)
* present results in a bar chart
1. To explore magnets and how they attract some materials and not others.
2. To understand and observe how a magnets two poles attract or repel each other
3. To explore how some forces need contact between two objects, but magnetic forces can act at a distance.
4. To compare and group together a variety of everyday materials (on the basis of whether they are attracted to a magnet) and identify some magnetic materials. (WS)
5. To record findings using a simple table
6. To predict how an item will move on a different surface.
 | Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole |
| **Summer Term** |
| Unit: 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 matter. | 1. To observe rocks closely.
2. To classify rocks in a range of ways, based on their appearance.
3. To observe how rocks change over time e.g. gravestones or old building.
4. To research using secondary sources how fossils are formed.
5. To observe soils closely.
6. To classify soils in a range of ways based on their appearance.
7. To investigate the water retention of soils.
8. Observe how soil can be separated through sedimentation..
 | Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil |
| Unit: 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. | N.B – There may be more than one activity covered per session/some learning intentions may go across 2 sessions. Look at PLAN do1. To identify the different food groups
2. To understand that we need the right amounts of nutrition
3. To understand how we get nutrition from the things we eat
4. To identify that humans and some other animals have skeletons (research)
5. To understand how muscles work
 | Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints |

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| **Year 4** | **National Curriculum** | **Progression steps** | **Vocabulary** |
| **Autumn Term** |
| Unit: Electricity | • Identify common appliances that run on electricity. • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. • Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. • Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.• Recognise some common conductors and insulators, and associate metals with being good conductors. | 1. To identify common appliances that run on electricity.
2. To construct a simple series electrical circuit, identifying and naming its basic parts
3. To clearly label and draw a simple circuit
4. To explore how to connect a range of different switches and investigate how they function in different ways.
5. To make predictions and record findings
6. To recognise some conductors and insulators
7. To understand why metals are good conductors

N.B. Children should be given one component at a time to add to circuits. | Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol N.B. Children in Year 4 do not need to use standard symbols for electrical components, as this is taught in Year 6. |
| Unit: Sound | • Identify how sounds are made, associating some of them with something vibrating. • Recognise that vibrations from sounds travel through a medium to the ear. • Find patterns between the pitch of a sound and features of the object that produced it. • Find patterns between the volume of a sound and the strength of the vibrations that produced it. • Recognise that sounds get fainter as the distance from the sound source increases. | 1. To identify how sounds are made, associating some of them with something vibrating.
2. To recognise that vibrations from sounds travel through a medium to the ear.
3. To find patterns between the pitch of a sounds and features of the object that produced it.
4. To test how sound can be changed and record findings
5. Recognise that sounds get fainter as the distance from the sound source increases.
6. To find patterns between the volume of a sound and the strength of the vibrations that produced it (e.g such as the length of a guitar string, amount of water in bottles, size of tuning forks.)
 | Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation |
| **Spring Term** |
| Unit: 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. | 1. To compare materials (solids, liquids and gases)
2. To know the difference between a solid, liquid and a gas.
3. To group materials together, according to whether they are solids, liquids or gases.
4. To observe that some materials change state when they are heated (WS) and to measure the temperature at which the material changes state (°C). (chocolate buttons)
5. To observe that some materials change state when they are cooled (WS) (ice)
6. To plan and undertake an investigation to explore the changing rate of evaporation. (WS)
7. To understand the process of condensation
8. To identify the part played by evaporation and condensation in the water cycle
 | Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle |
| **Summer Term** |
| Unit: Animals, Incuding 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 variety of food chains, identifying producers, predators and prey. |

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| 1. To identify the different types of teeth in humans and their simple functions.
2. To observe changes over time (WS)
3. To identify the different types of teeth in humans and their simple functions.
4. To describe the functions of basic parts of the digestive system in humans
5. To understand that living things can be classified as producers, predators and prey according to their place in the food chain.
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 | Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain |
| Unit: Living Things and 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 sometimes pose dangers to living things. | 1. To recognise that living things can be grouped in a variety of ways.
2. To explain my own understanding and current knowledge of habitats
3. To recognise that living things can be grouped in a variety of ways.
4. To create my own classification key
5. To classify plants
6. To recognise that living things can be grouped in a variety of ways.

LI’s may cover more than one session – Please see PLAN document for activities etc. | Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate |

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| **Year 5** | **National Curriculum** | **Progression steps** | **Vocabulary** |
| **Autumn Term** |
| Unit: 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.  | 1. To describe the movement of the Earth, and other planets, relative to the Sun in the solar system.
2. To use a model to describe and compare the movements of different planets in space.
3. To use the idea of the Earth’s rotation to explain day and night.
4. To describe the movement of the Moon relative to the Earth.

(some objectives will cover more than one lesson, see PLAN examples of work) | Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, rotates, star, orbit, planets  |
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| Unit: Forces | • Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. • Identify the effects of air resistance, water resistance and friction that act between moving surfaces. • Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.  | 1. To explain how unsupported objects fall towards the Earth
2. To identify the effects of friction, that act between moving surfaces. (To compare how things move on different surfaces (Y3))
3. To identify the effects of air resistance
4. To investigate air resistance
5. To identify the effects of water resistance (e.g. dropping shapes through water and pulling shapes, such as boats, along the surface of water.)
6. To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.
 | Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears  |
| **Spring Term** |
| Unit: Properties and 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 associated with burning and the action of acid on bicarbonate of soda.  | SEE NUMBER 6 SUMMER TERM A – PLANT BULBS NOW1. To compare and group materials together according to whether they are solids, liquids and gases
2. To compare and group together everyday materials on the basis of their properties
3. To understand that some materials will dissolve in liquid to form a solution.
4. To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.
5. To give reasons for the particular uses of everyday materials
6. To demonstrate that dissolving, mixing and changes of state are reversible changes.
7. To explore a range of non-reversible changes e.g. rusting, adding fizzy tablets to water, burning.
8. To research new materials produced by chemists

 (e.g. Spencer Silver (glue of sticky notes) and Ruth Benerito (wrinkle free cotton)) | Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material  |
| **Summer Term** |
| Unit: Living Things and 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. | 1. To understand the differences in the life cycles of a mammal, an amphibian an insect and a bird
2. To understand the life process of reproduction in some animals and plants
3. To research and compare (WS)
4. To compare life cycles of different animals by looking for patterns (WS)
5. To observe how plants grow and reproduce (WS)
 | Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings |
| Unit: Animals Including Humans | Describe the changes as humans develop to old age. | This unit is likely to be taught through direct instruction due to its sensitive nature | Puberty – the vocabulary to describe sexual characteristics |

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| **Year 6** | **National Curriculum** | **Progression steps** | **Vocabulary** |
| **Autumn Term** |
| Unit: 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. | 1. To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. (Recap of Y4)
2. To use recognised symbols when representing a simple circuit in a diagram.
3. To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.
4. To 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.
* Some Lis may cover more than one lesson – See PLAN documentation for this unit to see activities etc.
 | Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage N.B. Children do not need to understand what voltage is but will use volts and voltage to describe different batteries. The words “cells” and “batteries” are now used interchangeably. |
| Unit: 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 shadows have the same shape as the objects that cast them. | 1. To recall how patterns are formed and find patterns in the way that the size of shadows change. (Y3 recap)
2. To recognise that I need light in order to see things and that dark is the absence of light. (recap)
3. To 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.
4. To recognise that light appears to travel in straight lines. (W.S)
5. To explain that objects are seen because they give out or reflect light into the eye and 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.
6. To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.
7. To present and interpret data
8. To draw a conclusion
 | **As for Y3:** Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous**New Vocabulary for this unit**: Light, plus straight lines, light rays |
| **Spring Term** |
| Unit: Living Things and 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. | 1. To recognise that living things can be grouped in a variety of ways.

(recap – Y4)1. To describe and give reasons for how plants are classified (into broad groups according to common observable characteristics and based on similarities and differences.) (WS)
2. To understand how a classification key works and then create my own (WS)
3. To conduct research into the characteristics of the four broad groups of plants. (WS)
4. To use secondary sources to research the characteristics of animals that belong to a group.

(2 lessons – one researching, one writing up findings)1. To name and identify a variety of invertebrates.
2. To give reasons for classifying animals based on specific characteristics.
3. To identify and name living things that do not fall into the plants and animals groups (micro-organisms)
 | Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non-flowering |
| **Summer Term** |
| Unit: 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 the ways in which nutrients and water are transported within animals, including humans. | 1. To understand the main parts of the human circulatory system.
2. To investigate pulse rate
3. To understand the effect of different activities on my pulse rate
4. pattern seeking – To explore which groups of people may have higher or lower resting pulse rates
5. observation over time – To observe how long it takes my pulse rate to return to my resting pulse rate (recovery rate)
6. To research the negative effects of drugs (e.g. tobacco) and the benefits of a healthy diet and regular exercise by asking an expert or using carefully selected secondary sources.
 | Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle |
| Unit: Evolution and Inheritance  | • Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.• Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.• Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. | 1. To explain my own understanding of inheritance, adaptation and evolution
2. To identify how plants are adapted to suit their environment
3. To identify how animals are adapted to suit their environment
4. To think about an environment and the adaptations needed in order to survive.
5. To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.
6. To observe closely
 | Offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils |

 **APPENDIX A – COVID-19 Coverage**

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|  | Autumn 1 | Autumn 2 | Spring 1  | Spring 2 | Summer 1 | Summer 2 |
| **Nursery**  | **Humans** | **Materials** | **Electricity** | **Plants** | **Animals, excluding Humans** | **Forces** |
| **Reception** | **Materials Including Changing Materials** | **Living Things and Their Habitats (Plants)** | **Humans**  | **Light** | **Animals Excluding Humans** |
| **Seasonal Change** |
| **Year 1** | **Animals Including Humans** | **Plants**  | **Everyday Material Properties** |
| **Seasonal Change** |
| **Year 2** | **Uses of Every day Materials** | **Plants** | **Living Things and Their Habitats** | **Animals Including Humans** |
| **Year 3** | **Plants\*** | **Light** | **Forces and Magnets** | **Rocks** | **Animals Including Humans** |
| **Year 4** | **Electricity** | **Sound** | **States of Matter** | **Animals, Including Humans** | **Living Things and Their Habitats\*** |
| **Year 5** | **Earth and Space** | **Forces\*** | **Properties and Changes of Materials** | **Living Things and Their Habitats** | **Animals including Humans (taught alongside PSHE)\*** |
| **Year 6** | **Electricity** | **Light** | **Living Things and Their Habitats** | **Animals Including Humans\*** | **Evolution and Inheritance** |