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| **Science 2024-2025 curriculum overview including, EYFS, key vocabulary and science capital initiatives** |
| **Year Group** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Nursery** |  |  |  |  |  |  |
| **Coverage** | **\*Myself****\*Senses****\*Autumn****\*Goldilocks and The Three Bears** \*Repeat actions that have an effect. \*Explore materials with different properties.\*Explore natural materials, indoors and outside.\*Explore and respond to different natural phenomena in their setting and on trips.\*Make connections between the features of their family and other families.\*Notice differences between people. | **\*Autumn****\*Light****\*Christmas****\*Gruffalo Child****\*Peace at Last****\*Look Up**\*Repeat actions that have an effect. \*Explore materials with different properties.\*Explore natural materials, indoors and outside.\*Explore and respond to different natural phenomena in their setting and on trips. \*Make connections between the features of their family and other families.\*Notice differences between people.\*Explore collections of materials with similar and/or different properties.  | **\*Winter****\*Weather (forces)****\*Changing materials****\*Elmer the Elephant****\*Princess and the Pea**\*Use all their senses in hands-on exploration of natural materials.\*Explore collections of materials with similar and/or different properties.\*Talk about what they see, using a wide vocabulary.\*Explore how things workExplore and talk about different forces they can feel.\*Talk about the differences between materials and changes they notice. | **\*Spring****\*Growing****\*Billy Goats Gruff****\*Tea Time Around the World**\*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.\*Talk about the differences between materials and changes they notice. | **\*People who help us****\*Mini Beasts****\*Dachy’s Deaf**\*Show interest in different occupations.\*Explore how things work.\*Begin to understand the need to respect and care for the natural environment and all living things.\*Continue to develop positive attitudes about the differences between people. | **\*Summer****\*Holidays****\*How to Find Gold**\*Use all their senses in hands-on exploration of natural materials. \*Explore collections of materials with similar and/or different properties.\*Talk about what they see, using a wide vocabulary\*Begin to understand the need to respect and care for the natural environment and all living things.\*Continue to develop positive attitudes about the differences between people.\*Know that there are different countries in the world and talk about the differences they have experienced or seen in photos. |
| **Reception** | **Understanding the world** | **Understanding the world** | **Understanding the world** | **Understanding the world** | **Understanding the world** | **Understanding the world** |
| **Coverage** | **\*Myself/Humans****\*My Family History-****\*Babies and growing up****\*”Clean Up”- Recycling****Nighttime Symphony****The Lumber Jack’s Beard**\*Use all their senses in hands-on exploration of natural materials.\*Explore collections of materials with similar and/or different properties.\*Talk about what they see, using a wide vocabulary. \*Begin to make sense of their own life-story and family’s history\*Talk about members of their immediate family and community.\* Name and describe people who are familiar to them.\*Understand that some places are special to members of their community.\*Recognise that people have different beliefs and celebrate special times in different ways\*Know some similarities and differences between things in the past and now, drawing on their experiences and what has been read in class.\*Understand the past through settings, characters and events encountered in books read in class and storytelling. | **\*Autumn and Winter.****\* Weather/Seasons****\*Birthdays.****\*Christmas.****\*Materials.****Mr Archimedes Bath****What the JackDaw saw**\*Recognise that people have different beliefs and celebrate special times in different ways (Diwali).\*Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.\* Explore the natural world around them, making observations.\* Understand some important processes and changes on the natural world around them, including the seasons and changing states of matter.\*Talk about the differences between materials and changes they notice. | **\*School Environment****Pip and Posy the Big Balloon****Brown Bear Brown Bear**\*Draw information from a simple map.\*Name and describe people who are familiar to them. \*Comment on images of familiar situations in the past.\*Past and Present of how the school has changed- Comment on images of familiar situations in the past.\*Describe what they see, hear and feel whilst outside.  | **\*Spring.****\*Growing.****\*Mini-beasts****\*Colour****The Three Little Pigs**\*Explore how things work.\* 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\*Explore the natural world around them, making observations and drawing pictures of animals and plants.\*Describe what they hear, see and feel whilst outside.  | **\*Summer****\*Incredible Rainforests and The Great Big Water Cycle****Adventure****\*Different cultures – The Wheels on the Tuktuk****The Ocean is Blue**\*Show interest in different occupations\*Continue developing positive attitudes about the differences between people.\*Know that there are different countries in the world and talk about the differences they have experienced or seen in photos.\*Know some similarities and differences between different religious and cultural communities in this country, drawing on their experiences and what has been read in class.\*Explain some similarities and differences between life in this country and life in other countries, drawing on knowledge from stories, non-fiction texts and – when appropriate. | **\*People who help us.** **\*Superheroes****\*Holidays- Past and present****\*Space m- Astro Girl**\*Compare and contrast characters from stories, including figures from the past (Mae Jemison)\*Comment on images of familiar situations in the past.**ELG- Assessed at the end of Reception:****People, Culture and Communities**\*Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps.\*Know some similarities and differences between different religious and cultural communities in this country, drawing on their experiences and what has been read in class.\*Explain some similarities and differences between life in this country and life in other countries, drawing on knowledge from stories, non-fiction texts and (when appropriate) maps.The Natural World\*Explore the natural world around them, making observations and drawing pictures of animals and plants.\*Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.\*Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. |
| **Science Capital** | World Space Week |  |  | BSW |  | GSS |
| **Year 1** | **Living things humans** | **Living things animals** | **materials** | **Materials** | **Plants** | **Plants** |
| **Vocabulary** | **Sight, touch, hearing, smell, taste, organs,** legs, arms, hands, fingers, foot, eyes, nose, mouth, ears, head, human, body, heart, brain, lungs, stomach, hair, elbows, neck, teeth, food, breathe, pump, blood, think, digest  | tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves **mammals, fish, reptiles**, **birds, amphibians, carnivore, omnivore** and **herbivore**. | **Object, material, wood, plastic, glass, metal, water, rock,** brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, | **Properties, soft, hard,** stretchy, stiff, bendy, floppy, **waterproof**, absorbent, breaks/tears, **rough, smooth, shiny**, dull, see-through, not see-through, **magnetic**,  | **Leaf, flower,** blossom, petal, fruit, berry, **root**, **seed, trunk**, branch, **stem**, bark, stalk, bud Names of trees in the local area Names of garden and wild flowering plants in the local area (disiduous, evergreen) | **Leaf, flower,** blossom, petal, fruit, berry, **root, seed,** **trunk**, branch, **stem**, bark, stalk, bud Names of trees in the local area Names of garden and wild flowering plants in the local area |
| **Science Capital** | World Space Week |  |  | BSW |  | GSS |
| **Seasonal changes** |
| **Weather** (sunny, rainy, windy, snowy etc.) • **Seasons** (**winter, summer, spring, autumn**) • Sun, **sunrise, sunset**, day length - To be taught inline with Year 1 Geography topic |
| **Year 2** | **Materials** | **Super scientists****(materials focus)** | **Animals inc humans** | **Plants** | **Living things & habitats** | **Living things & habitats** |
| **Vocabulary** | Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard Properties of materials – as for Year 1 plus **opaque, transparent** and **translucent, reflective**, non-reflective, **flexible**, **rigid**, Shape, push/pushing, pull/puling, twist/twisting, squash/squashing, bend/bending, stretch/stretching | **Question, investigate, record, observe, tests, predict** | **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) | Recap Year 1 words plus **light, shade**, sun, warm, cool, water, grow, healthy, **bulb, seed, germinate, dispersal** | **Living, dead, never been alive,** suited, suitable, basic needs, food, **food chain**, **habitats, shelter,** move, feed • Names of local habitats e.g. pond, woodland etc. • Names of micro-habitats e.g. under logs, in bushes etc. | **Living, dead, never been alive,** suited, suitable, basic needs, food, **food chain, habitats, shelter,** move, feed • Names of local habitats e.g. pond, woodland etc. • Names of micro-habitats e.g. under logs, in bushes etc. |
| **Science Capital** | World Space Week |  | Knowsley Safari zoom | BSW |  | GSS |
| **Year 3** | **Rocks & soils** | **Animals inc humans** | **Animals inc humans** | **Plants** | **Forces** | **Light** |
| **Vocabulary** | **Rock**, stone, pebble, boulder, grain, crystals, layers, hard, soft, **water**, **texture**, **absorb**, soil, **fossil**, marble, chalk, granite, sandstone, slate, **soil**, peat, sandy/chalk/clay soil | **Nutrition,** nutrients**, diet,** **carbohydrates,** sugars, **protein, vitamins, minerals,** fibre, fat, water,  | **skeleton, bones, muscles, support, protect,** move, skull, ribs, spine**, muscle joints** | **Photosynthesis,** **pollen**, insect/wind **pollination,** seed formation, **seed dispersal** (wind dispersal, animal dispersal, water dispersal) **germination, roots** | **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 | Light, **light source**, dark, absence of light, **transparent, translucent, opaque**, shiny, matt, surface, **shadow**, **reflect**, mirror, sunlight, dangerous |
| **Science Capital** | World Space Week |  | Knowsley Safari Park | BSW |  | GSS |
| **Year 4** | **States of matter** | **Electricity** | **Sound** | **Animals inc humans** | **Animals inc humans** | **Living things & habitats** |
| **Vocabulary** | **Solid, liquid, gas,** change state, **melting, freezing**, melting point, boiling point, **evaporation,** temperature, water cycle,condensation | **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 | Sound, source, vibrate, vacuum, **silence**, **vibration**, travel, **pitch** (high, low), **volume**, faint, loud, insulation, **frequency****Sound wave,** medium | **Digestive system,** **digestion**, mouth, **teeth**, **saliva**, **oesophagus**, **stomach**, small **intestine**, nutrients, large intestine, rectum, anus, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, **producer**, predator, prey, food chain | **Digestive system,** **digestion**, mouth, **teeth**, **saliva**, **oesophagus**, **stomach**, small **intestine**, nutrients, large intestine, rectum, anus, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, **producer**, predator, prey, food chain | **Classification**, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate, **species, climate,****Adaptation, invertebrate, vertebrate,** amphibian |
| **Science Capital** | World Space Week |  |  | BSW | Martin Mere | GSS |
| **Year 5** | **Earth & Space** | **Forces** | **Life cycles** | **Materials** | **Materials** | **Animals inc humans** |
| **Vocabulary** | Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, **rotates**, star, **orbit,** planets**, heliocentric, geocentric, spherical, axis,** gravity | Force, gravity, Earth, **air resistance, water resistance, friction,** mechanisms, simple machines, **levers, pulleys, gears** | **Life cycle,** reproduction, **Asexual reproduction, sexual reproduction**, sperm, **fertilisation**, egg, live young, **metamorphosis**, **plantlets**, runners, bulbs, cuttings | Thermal/electrical insulator/conductor, change of state, mixture**, dissolve, solution, soluble,** **insoluble**, filter, sieve, **reversible/irreversible change**, burning, rusting, new material | Thermal/electrical insulator/conductor, change of state, mixture**, dissolve, solution, soluble,** **insoluble**, filter, sieve, **reversible/irreversible change**, burning, rusting, new material | Puberty – the vocabulary to describe sexual characteristics**Embryo, gestation, adolescent, puberty, foetus** |
| **Science Capital** | World Space Week | Christmas Lecture at LJMU |  | BSW |  | GSS |
| **Year 6** | **Electricity** | **Light** | **Light** | **Evolution & inheritance** | **Living things & habitats** | **Animals inc humans** |
| **Vocabulary** | Circuit, complete circuit, circuit diagram, **component**, **conductor, insulator** 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. | As for Year 3 - Light, plus **straight lines, light rays****transparent, translucent, opaque, light source** | As for Year 3 - Light, plus **straight lines, light rays****transparent, translucent, opaque, light source** | Offspring, sexual reproduction, vary, **characteristics, suited, adapted**, environment, **inherited, species**, fossils, **evolve** | Vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, flowering, non-flowering, **micro-organisms, mould, fungus, bacteria, virus, decay** | **Heart rate, pulse,** pumps, blood, **blood vessels**, transported, lungs, **oxygen, carbon dioxide,** nutrients, water, muscles, cycle, **circulatory system**, diet, exercise, **drugs**, lifestyle |
| **Science Capital** | World Space Week |  |  | BSWMartin MereNatural History Museum |  | GSS |