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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 work  Explore 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 |  |  | BSW  Martin Mere  Natural History Museum |  | GSS |