



Lingham Primary School

EYFS Foundation One

## Understanding the World on a page

Sticky Knowledge	Key skills	Key Vocabulary
To begin to identify and sort materials	To begin to talk about similarities and differences of materials	Rough, smooth, hard, soft Wood, metal and plastic
To begin to understand lifecycles	To observe and notice changes in a life cycle: plant	
Know that a magnet attracts some materials	To observe and notice changes in a lifecycle: caterpillar	Seeds, soil, pot, plant, water, sun
To begin to investigate materials and observe how changes occur	Magnetism, floating/sinking, melting	Egg, cocoon, caterpillar, butterfly
To begin to identify and talk about what they can see	To draw simple observations of plants, animals, caterpillars, flowers  Talk about what they see using a range of vocabulary	Magnetic, push, pull, force Ice, melting
<p><b>Key Texts</b></p> <p>Cora Caterpillar Barry Tranter &amp; Emma Tranter            Jasper's Beanstalk – Nick Butterworth            The Hungry Caterpillar – Eric Carle            Life Cycle of a Caterpillar – Camilla de la Bedoyere            Plants – Steve Pollock</p>		



Lingham Primary School

EYFS Foundation Two

## Understanding the World on a page

Sticky Knowledge	Key skills	Key Vocabulary
To begin to understand how our body works.	To be able to name some parts of the body.	Ears, eyes, nose, mouth, sense
To begin to identify and sort materials	To begin to identify similarities and differences in properties.	Wood, metal, fabric, plastic, hard, soft, bendy, smooth, rough
To begin to identify and talk about light and shadow	To understand how a shadow is made	Light, dark
To begin to understand lifecycles	To observe and notice changes in a lifecycle: tadpoles  To observe and notice changes in a lifecycle: plant	Frogspawn, tadpole, change, froglet
To begin to understand how to investigate materials and observe how changes occur	Magnetism, floating and sinking, melting	Float, sink, magnetic, metal, push, pull, force, ice, melt, solid
To be able to identify and talk about what they can see	To draw observations of animals and plants: fish, flowers, animal alphabet, tadpoles, froglet, stick insect	

### Key Texts

Tadpole's Promise - Jeanne Willis  
 Lifecycle of a Frog- Camilla de la Bedoyere  
 Night and Day Monkey - Julia Donaldson  
 Jasper's Beanstalk - Nick Butterworth  
 Funny Bones - Janet and Alan Ahlberg  
 Eyes, Nose, Fingers and Toes - Judy Hindley



# Lingham Primary School

## Year 1 **Science** on a page

Sticky Knowledge	Working Scientifically Investigations	Key Vocabulary
<p><b>Plants</b></p> <ul style="list-style-type: none"> <li>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</li> <li>Identify and describe the basic structure of a variety of common flowering plants, including trees.</li> </ul> <p><b>Animals Including Humans</b></p> <ul style="list-style-type: none"> <li>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</li> <li>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</li> <li>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</li> <li>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> </ul> <p><b>Everyday Materials</b></p> <ul style="list-style-type: none"> <li>Distinguish between an object and the material from which it is made.</li> <li>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</li> <li>Describe the simple physical properties of a variety of everyday materials.</li> <li>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul> <p><b>Seasonal Changes</b></p> <ul style="list-style-type: none"> <li>Observe changes across the four seasons.</li> <li>Observe and describe weather associated with the seasons and how day length varies.</li> </ul>	<p><b>Comparative and Fair Testing</b></p> <p>Which material is the best for keeping ..... dry?</p> <p><b>Pattern Seeking</b></p> <p><b>Observing Over Time</b></p> <p>Observational changes and weather of the Seasons. Observations of a growing bean.</p> <p><b>Identifying and Classifying</b></p> <p>Identify plants and trees by matching them to named images. To use magnifying glasses to observe changes over time. Identifying and classifying animals by type and by what they eat.</p> <p><b>Research</b></p> <p>Research into adaptive traits/features of plants and animals (Polar/Arctic Circle) Research into types of animals and what they eat.</p> <p>Investigations using senses</p>	<p><b>Plants</b></p> <p>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.</p> <p><b>Animals Including Humans</b></p> <p>Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves. Names of animals from each of the vertebrate groups. Senses – touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue</p> <p><b>Everyday Materials</b></p> <p>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</p> <p><b>Seasonal Changes</b></p> <p>Weather (sunny, rainy, windy, snowy etc.)</p> <ul style="list-style-type: none"> <li>Seasons (winter, summer, spring, autumn)</li> <li>Sun, sunrise, sunset, day length.</li> </ul>



# Lingham Primary School

## Year 2 **Science** on a page

Sticky Knowledge	Working Scientifically Key Investigations	Key Vocabulary
<p><b><u>Animals Including Humans</u></b> Understand how animals, including humans, have offspring, which grow into adults, using the appropriate names for the stages. Explain the basic needs of animals, including humans, for survival Can state the importance for humans of exercise, eating the right amounts of different types of food, and hygiene Identify foods in each section of the Eat well Guide.</p> <p><b><u>Living Things and their Habitats</u></b> To understand all objects are either living, dead or have never been alive. To know animals and plants live in a habitat to which they are suited. Understand within a habitat there are different micro-habitats. These micro-habitats have different conditions e.g. light or dark, damp or dry. These conditions affect which plants and animals live there.</p> <p><b><u>Uses of Everyday Materials</u></b> Explain all objects are made of one or more materials that are chosen specifically because they have suitable properties for the task. Understand a material can be suitable for different purposes and an object can be made of different materials. Objects made of some materials can be changed in shape by bending, stretching, squashing and twisting.</p> <p><b><u>Plants</u></b> Understand plants may grow from either seeds or bulbs. Know the life cycle of a plant Know mature plants may have flowers which then develop into seeds, berries, fruits etc. Know that plants need specific conditions in order to grow and stay healthy.</p>	<p><b><u>Pattern Seeking</u></b> Does the height of a person affect how far they can jump?</p> <p><b><u>Observing over time</u></b> The lifecycle of a butterfly Observing plant growth from seed/bulb to mature plant.</p> <p><b><u>Research</u></b> Different types of habitats &amp; the animals that are suited.</p> <p><b><u>Fair Testing</u></b> How does light affect growing plants? (what conditions plants need to grow and why lack of light alters plant growth) Do properties determine their use? (investigate which materials would be best for a roof)</p> <p><b><u>Identifying &amp; Classifying</u></b> Living, Dead or Never alive Microhabitats-animals that live there</p>	<p><b><u>Animals Including Humans</u></b> Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly), exercise, heartbeat, breathing, hygiene, germs, disease, food types</p> <p><b><u>Living Things and their Habitats</u></b> Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, pond, woodland etc. micro-habitats.</p> <p><b><u>Uses of Everyday Materials</u></b> wood, metal, plastic, glass, brick, rock, paper, cardboard, opaque, transparent and translucent, reflective, non-reflective, flexible, rigid Shape, push/pushing, pull/puling, twist/twisting, squash/squashing, bend/bending, stretch/stretching</p> <p><b><u>Plants</u></b> light, shade, sun, warm, cool, water, grow, healthy</p>



# Lingham Primary School

## Year 3 **Science** on a page

Sticky Knowledge	Working Scientifically Investigations	Key Vocabulary
<p><b>Forces</b> Know that some forces need contact between two objects, but magnetic forces can act at a distance. Distinguish that magnets attract or repel each other and attract some materials and not others. Know that magnets have two poles and explain that two magnets will attract or repel each other, depending on which poles are facing.</p> <p><b>Light</b> Know that they need light in order to see things, and that dark is the absence of light. Know that light is reflected from surfaces. Explain that light from the sun can be dangerous and that there are ways to protect their eyes. Explain that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p><b>Rocks</b> Explain in simple terms how fossils are formed when things that have lived are trapped within rock. Know that soils are made from rocks and organic matter.</p> <p><b>Animals Including Humans</b> Know 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. Know that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p><b>Plants</b> Name and describe the functions of different parts of flowering plants: roots; stem/trunk; leaves; and flowers. Know 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. Explain the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p><b>Comparative and Fair Testing</b> Does the distance between the object and the light source affect the size of the shadow?  Does the friction produced by different surfaces affect the movement of a car?</p> <p><b>Pattern Seeking</b> Does the size and shape of a magnet affect how strong it is?  Does the length of the femur bone affect the distance of a jump?</p> <p><b>Observing Over Time</b> Will the type of soil and its permeability affect the time taken for water to flow through it?  What do plants need to grow well?</p> <p><b>Identifying and Classifying</b> Identifying and classifying objects as magnetic and non-magnetic.  Identifying and classifying rocks according to their properties.</p> <p><b>Research</b> Research into the work and findings of Mary Anning.</p>	<p><b>Forces</b> 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</p> <p><b>Light</b> Light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous</p> <p><b>Rocks</b> 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</p> <p><b>Animals Including Humans</b> Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, support, protect, move, skull, ribs, spine, muscles, joints</p> <p><b>Plants</b> Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)</p>



# Lingham Primary School

## Year 4 **Science** on a page

Sticky Knowledge	Working Scientifically Investigations	Key Vocabulary
<p><b><u>Animals Including Humans</u></b>            Draw and sequence the main parts of the digestive system.            Describe what happens in each part of the digestive system.            Identify the four types of teeth and their purpose.            Name producers, predators and prey within a habitat using a food chain.</p> <p><b><u>Living Things and their Habitats</u></b>            Name living things living in a range of habitats, giving the key features that helped them to identify them.            Give examples of how an environment may change both naturally and due to human impact.</p> <p><b><u>States of Matter</u></b>            Name properties of solids, liquids and gases.            Give everyday examples of melting and freezing.            Give everyday examples of evaporation and condensation.            Draw, label and describe the water cycle.</p> <p><b><u>Sound</u></b>            Name sound sources and state that the vibration of the object produces sounds.            Know that sounds travel through different mediums such as air, water, metal.            Give examples to demonstrate how the pitch of a sound are linked to the features of the object that produced it.            Give examples of how to change the volume of a sound.            Give examples to demonstrate that sounds get fainter as the distance from the sound source increases.</p> <p><b><u>Electricity</u></b>            Name the components in a circuit.            Draw and make electric circuits.            Control a circuit using a switch.            Name some metals that are conductors.            Name materials that are insulators.</p>	<p><b><u>Comparative and Fair Testing</u></b>            Does a change in temperature affect the rate at which chocolate melts?</p> <p><b><u>Pattern Seeking</u></b>            Is there a pattern among materials that are electrical conductors?             Is there a pattern between:            * pitch of a sound and features of the object that produced it?            * volume of a sound and the strength of the vibrations that produced it?</p> <p><b><u>Observing Over Time</u></b>            Which liquid will do the most damage to an eggshell?</p> <p><b><u>Identifying and Classifying</u></b>            Classifying materials into solid, liquid and gas based on their properties.             Classifying living things in different ways according to their features.</p> <p><b><u>Research</u></b>            Research about human impact, both positive and negative, on environments.</p> <p><b><u>Hi-impact led Science</u></b>            The Digestive System.</p>	<p><b><u>Animals Including Humans</u></b>            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</p> <p><b><u>Living Things and their Habitats</u></b>            Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate</p> <p><b><u>States of Matter</u></b>            Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle</p> <p><b><u>Sound</u></b>            Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation</p> <p><b><u>Electricity</u></b>            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</p>



# Lingham Primary School

## Year 5 **Science** on a page

Sticky Knowledge	Working Scientifically Investigations	Key Vocabulary
<p><b><u>Earth and Space</u></b> 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.</p> <p><b><u>Forces</u></b> 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. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p> <p><b><u>Properties and changes of Materials</u></b> Understand that materials have different uses depending on their properties and state (liquid, solid, gas). Know that some materials will dissolve in a liquid and form a solution while others are insoluble and form sediment. Know that mixtures can be separated by filtering, sieving and evaporation. Understand that some changes to materials such as dissolving, mixing and changes of state are reversible, but some are not reversible.</p> <p><b><u>Living Things and their Habitats</u></b> 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.</p> <p><b><u>Animals Including Humans</u></b> Describe the changes as humans develop to old age. Know the gestation periods of humans and some other animals.</p>	<p><b><u>Comparative and Fair Testing</u></b> Does the size of a parachute's canopy affect the speed of its descent?  Do properties of a material determine whether they are suitable for a given use?</p> <p><b><u>Pattern Seeking</u></b> Is there a relationship between a mammal's size and its gestation period?</p> <p><b><u>Observing Over Time</u></b> Is time taken by the sugar to dissolve affected by the temperature of the water?</p> <p><b><u>Identifying and Classifying</u></b> Identifying and classifying materials based on their properties.</p> <p><b><u>Research</u></b> Research about the planets in the solar system and their orbital periods.  Research some mechanisms that allow a smaller force to have greater effect.</p> <p><b><u>Hi-impact led Science</u></b></p>	<p><b><u>Earth and Space</u></b> Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, solar system, rotates, star, orbit, planets, moon phases</p> <p><b><u>Forces</u></b> Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears</p> <p><b><u>Properties and changes of Materials</u></b> Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material</p> <p><b><u>Living Things and their Habitats</u></b> Life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings</p> <p><b><u>Animals Including Humans</u></b> Gestation, reproduce, fertilisation, Species, infancy, toddler, adolescent, Adult, Elderly person, Puberty,</p>



# Lingham Primary School

## Year 6 **Science** on a page

Sticky Knowledge	Working Scientifically Investigations	Key Vocabulary
<p><b><u>Living Things and their Habitats</u></b> Group living things according to characteristics. Explain the difference between vertebrates and invertebrates. Recall the 5 main groups of vertebrates and give characteristics of each.</p> <p><b><u>Animals Including Humans</u></b> Know the function of veins, arteries and capillaries. Explain the route of blood in the double circulatory system. Explain the link between exercise and heart rate. Explain the impact of diet, exercise and drugs on the body.</p> <p><b><u>Evolution and Inheritance</u></b> Explain that all living things have offspring of the same kind and inherit characteristics from their parents. Distinguish between inherited and acquired characteristics. Explain how plants and animals have adapted to their environment. Explain that evolution is a change over time. Describe how fossils show us that animals or plants have changed over time.</p> <p><b><u>Light</u></b> Know that light travels in straight lines. Explain how we see objects. Explain that objects that block light cause shadows. Give examples of how light is refracted.</p> <p><b><u>Electricity</u></b> Explain how to make a bulb brighter/motor faster/buzzer louder by adding more cells. Recognise circuit symbols to draw accurate circuit diagrams. Explain the function of switches in circuits. Explain the impact of increasing voltage.</p>	<p><b><u>Comparative and Fair Testing</u></b>  Does changing the voltage in a circuit affect the brightness of a bulb?  Does increasing the length of wires in a circuit affect the volume of a buzzer?</p> <p><b><u>Pattern Seeking</u></b>  Is there a pattern between the size and shape of a bird's beak and the food it will eat?</p> <p><b><u>Observing Over Time</u></b>  Does the intensity of exercise affect heart rate?</p> <p><b><u>Identifying and Classifying</u></b>  Classifying plants and animals based on observable characteristics.</p> <p><b><u>Research</u></b>  Research into blood. Research into adaptive traits of plants and animals.</p> <p><b><u>Hi-impact led Science</u></b>  Heart dissection.</p>	<p><b><u>Living Things and their Habitats</u></b> vertebrates, invertebrates, fish, amphibians, reptiles, birds, mammals, flowering, non-flowering.</p> <p><b><u>Animals Including Humans</u></b> heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle.</p> <p><b><u>Evolution and Inheritance</u></b> offspring, sexual reproduction, variation, characteristics, suited, adapted, environment, inherited, species, fossils</p> <p><b><u>Light</u></b> light, light source, dark, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, refraction.</p> <p><b><u>Electricity</u></b> circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage</p>