



Ferndale Primary and Nursery School

Year 3 Science

Working Scientifically

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<p>Planning:</p> <ul style="list-style-type: none"> Asking relevant questions and using different types of scientific enquiries to answer them Setting up simple practical enquiries, comparative and fair tests 	<p>Observing/obtaining evidence:</p> <ul style="list-style-type: none"> Making systematic and careful observations and where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers 	<p>Recording:</p> <ul style="list-style-type: none"> Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables 	<p>Concluding:</p> <ul style="list-style-type: none"> Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions Identifying differences, similarities or changes related to simple scientific ideas and processes Using straightforward scientific evidence to answer questions or to support their findings 	<p>Evaluating:</p> <ul style="list-style-type: none"> Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
Language Enrichment	First Hand Experiences	Purpose / Life Skills	Previous Knowledge	
<p>Discuss enquiry threads in small groups and a whole class.</p> <p>Research, relevant, questions, scientific enquiry, comparative and fair test, systematic, careful observation, accurate, measurements, thermometer, data logger, gather, record, classify, present, drawings, labelled diagrams, keys, bar chart, tables, oral and written explanations, conclusion, predictions, differences, similarities, changes, evidence, improve, secondary sources, guides, keys, construct, interpret enquiry, comparative testing, identifying, classifying, grouping, observing over time, pattern seeking, research using secondary sources</p>	<p>Experiments</p> <p>STEM events</p> <p>Science links made explicit on education trips</p>	<p>Scientists</p> <p>Research</p> <p>Botanists</p> <p>Farming</p>	<p>See below</p>	



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Biology

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.

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.

Language Enrichment	First Hand Experiences	Purpose / Life Skills	Previous Knowledge
<p>Plants Key vocabulary: Photosynthesis, pollen, insect/wind pollination, male, female, seed formation, seed dispersal (wind, animal, water), air nutrients, minerals, soil, absorb, transport</p> <p>Animals including Humans Key vocabulary: Offspring, reproduction, growth, baby, toddler, child, teenager, adult, old person, survival, survive, water, food, air, exercise, heartbeat, breathing, hygiene, germs, disease, <i>-Names of animals and their babies e.g. chick, chicken- kitten, cat</i> <i>-Food types e.g. meat, fish, vegetables, bread, rice, pasta, dairy</i></p> <p>Living things and their habitats Key vocabulary: Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine</p>	<p>Dissect flowers/plants</p> <p>Plant and grow over time flowering plants</p> <p>Die the water of flowers/ flower plants to see the way water travels</p> <p>Explore flowering plants in the locality and observe – from a safe distance the pollinators that visit the plants</p> <p>Have foodstuffs for food types lesson for children to see</p> <p>Create a healthy meal suggestion for the school menu</p>	<p>Scientists</p> <p>Medical profession</p> <p>Veterinary medicine</p> <p>Botanist</p> <p>Wildlife conservation</p>	<p>Plants:</p> <ul style="list-style-type: none"> • Observe and describe how seeds and bulbs grow into mature plants (Yr2) • Find out and describe how plants and seeds need water, light and a suitable temperature to grow and stay healthy (Yr2) <p>Animals including Humans:</p> <ul style="list-style-type: none"> • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals (Yr1) • Identify and name a variety of common animals that are carnivores, herbivores and omnivores (Yr1) • Describe and compare the structure of a variety of common animals • Find out about and describe the basic needs of animals including humans for survival (water, food and air) (Yr2) • Describe the importance for humans of exercise, eating the right amounts of difference types of food, and hygiene (Yr2)



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Chemistry

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.

Language Enrichment	First Hand Experiences	Purpose / Life Skills	Previous Knowledge
Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb, water, fossil, bone, flesh, minerals, marble, chalk, granite, sandstone, slate, soil <i>-Types of soil e.g. peaty, sandy, chalk, clay</i>	Fossil hunting/ excavations Handling different rocks and fossils in the lessons Making a wormery Making recommendations for Stone Age henges based on rock properties	Scientists Archaeology Palaeontology Gardening/Arboreal Construction work Architects Surveyors Conservation	<ul style="list-style-type: none"> • Distinguish between an object and the material from which it is made (Yr1) • Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock (Yr1) • Describe the simple physical properties of a variety of everyday materials (Yr1) • Compare and group together a variety of everyday materials on the basis of their simple physical properties (Yr1) • Identify and compare the suitability of a variety of everyday materials including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses (Yr2)



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Physics

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 a solid object
- Find patterns in the way that the size of shadows changes.

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.

Language Enrichment	First Hand Experiences	Purpose / Life Skills	Previous Knowledge
<p>Light Key vocabulary: Light, light source, Sun, sunlight, dangerous</p> <p>Forces and Magnets Key vocabulary: 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>Using touches and the sun in shadow observations</p> <p>Light topic 'Gruffalo's Child' bags to go home for home learning</p> <p>Use a range of magnets for attracting and repelling observations</p>	<p>Scientists</p> <p>Medicine – CT scanners, optometrists, ophthalmologists</p> <p>Using magnets to keep knives, needles and pins safe in the school</p>	<p>Light:</p> <ul style="list-style-type: none"> • Explore how things work (Nursery) • Talk about the differences in materials and changes they notice (FS) • Describe what they see, hear and feel whilst outside (FS) • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense (Yr1) • Describe the simple physical properties of a variety of everyday materials (Yr1) <p>Forces and Magnets:</p> <ul style="list-style-type: none"> • Explore how things work (Nursery) • Explore and talk about different forces they can feel (Nursery) • Talk about the differences between materials and changes they notice (Nursery) • Explore the natural world around them (FS) • Describe what they see, hear and feel whilst outside (FS) • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching (Yr2)