

Fazakerley Primary School

Formosa Drive, Liverpool, L10 7LD

Fazakerley Primary School Long Term Curriculum Map – Science

YEAR GROUP	Autumn Term	Spring Term	Summer Term
EYFS	<p>All About Me</p> <p><u>Knowledge</u> To describe what they look like Identify similarities and differences about themselves bones/features To understand the importance of self-hygiene</p> <p><u>Working Scientifically</u> Ask simple scientific questions Make observations and notice simple patterns and changes Discuss what they have observed Use simple equipment safely Make simple predictions</p> <p>Scientific Vocabulary - Germs, infections, touch, taste, smell, hear, see, legs, arms, toes, elbow, shoulder, stomach, knee, shin, calves, knuckle, joints, head, skull, brain, heart, lungs, feet, hands, fingers, wrist</p> <p>1B</p> <p>Light and Dark - Stars</p> <p><u>Knowledge</u> Sun and the Moon- planets and stars To understand why it goes dark at night To identify Night and Day</p>	<p>Superheroes and senses</p> <p><u>Knowledge</u> To know what our 5 senses are and why we need them To know what happens when our senses do not work To know that some materials are magnetic, some are not. To know that some materials are waterproof, some are not. To know the names of some materials</p> <p><u>Working Scientifically</u> Ask simple scientific questions Make observations and notice simple patterns and changes Discuss what they have observed Use simple equipment safely Make simple predictions</p> <p>Scientific vocabulary - senses, touch, taste, hearing, sight, smell, blind, deaf, danger, magnetic, non magnetic, waterproof, non waterproof, test, results, fabric, materials, plastic, fabric, metal, glass, wood.</p> <p>2B</p> <p>Once Upon A Time</p> <p><u>Knowledge</u> To know the difference between healthy and unhealthy food To describe features of our faces</p>	<p>Growing</p> <p><u>Knowledge</u> Identify types of minibeasts Begin to classify animals Explore the lifecycle of a duck and butterfly Seasonal changes To know what a living thing needs to grow</p> <p><u>Working Scientifically</u> Ask simple scientific questions Make observations and notice simple patterns and changes Discuss what they have observed Use simple equipment safely Make simple predictions</p> <p>Scientific Vocabulary - spider, worm, butterfly, snail, worm, woodlouse, bee, beetle etc Root, stem. Flower, petal, leaf Water, sun, rain, food, drink, space, light, dark, Investigation, test, experiment, results, method, question, predict, observe, describe, group. Names of vegetables</p> <p>3B</p> <p>The Environment around us</p> <p><u>Knowledge</u> To know the difference between different environments eg beach, city, countryside To know about pollution of the environment</p>

	<p>Nocturnal animal</p> <p><u>Working Scientifically</u> Ask simple scientific questions Make observations and notice simple patterns and changes Discuss what they have observed Use simple equipment safely Make simple predictions</p> <p>Scientific Vocabulary - Morning, afternoon, evening, dawn, midnight, Moon, Sun, Earth, rotation, shadow, light, , computer, Hoover etc</p> <p>Owl, moth, hedgehog, bat, hamster</p>	<p>Materials – to know the difference between hot and cold/ hard and soft</p> <p><u>Working Scientifically</u> Ask simple scientific questions Make observations and notice simple patterns and changes Discuss what they have observed Use simple equipment safely Make simple predictions</p> <p>Scientific Vocabulary - Healthy, unhealthy, sugar, fat, vitamins, fibre, vegetables, fish, meat, protein</p> <p>Eyes, nose, mouth, teeth, lips, cheek, forehead, eyelashes, eyebrow, chin, ear</p> <p>Fabric, wood, metal, plastic, glass magnet, magnetic, non magnetic, hot, cold, hard, soft, temperature</p>	<p>To know changes that we can make to prevent pollution To know about recycling and why it is important</p> <p><u>Working Scientifically</u> Ask simple scientific questions Make observations and notice simple patterns and changes Discuss what they have observed Use simple equipment safely Make simple predictions</p> <p>Scientific Vocabulary – Environment, recycle, pollution, materials, whale, sea creatures, dolphin, sealion, ocean, sea, water, land, forests, beach.</p>
<p>Year 1</p>	<p style="text-align: center;"><u>1A</u></p> <p>Materials and their properties</p> <p><u>Knowledge:</u> To identify and name a variety of everyday materials, including wood, metal, glass, plastic, water and rock Distinguish between an object and the material from which it is made Describe the properties of a variety of everyday materials Compare and group a variety of everyday materials</p> <p><u>Working Scientifically:</u> Ask simple questions Perform simple tests Make simple predictions Identify and classify, by comparing and grouping similar things/organisms together based on observable features.</p>	<p style="text-align: center;"><u>2A</u></p> <p>Plants</p> <p><u>Knowledge:</u> To identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. To describe the basic structure of a variety of common flowering plants including trees.</p> <p><u>Working Scientifically:</u> Ask questions to help group/classify objects/organisms Classify things into two groups based on observable features. Observe closely, noticing any changes. Record data using simple charts/tables. Discuss their findings and explain how things/organisms have been sorted.</p> <p>Scientific Vocabulary – Leaves, flowers, blossoms, petals, fruit, roots, bulb, seeds, trunk, branches, stem.</p>	<p style="text-align: center;"><u>3A</u></p> <p>Animals, incl. humans</p> <p><u>Knowledge:</u> To 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 The differences between animals and humans Draw and label parts of the human body. Understand which body part is associated with each of the senses.</p> <p><u>Working Scientifically</u> Ask simple questions and recognise that they can be answered in different ways. Identify and classify, by comparing and grouping similar things/organisms together based on observable features. Gather and record data using tables/sorting circles and simple Venn diagrams. Use their observations to suggest answers to simple</p>

Record (using simple tables/diagrams) and discuss their findings

Scientific Vocabulary –

Wood, plastic, glass, metal, water, rock, brick, paper, card, rubber, fur, fleece, cotton, wood, polyester, wool.

Names of common objects made from these materials e.g. door, building block, window, pencil sharpener, teddy etc

Soft, hard, rough, smooth, stretchy, stiff, shiny, dull, flexible, water proof, absorbent, opaque

1B

Seasonal change

Knowledge:

To observe changes that occur between Autumn and Winter

Observe and describe weather associated with Autumn and Winter

How day length varies between the two seasons

Working Scientifically:

Begin to recognise that observations will need to be made over a longer period of time

Observe and measure changes using simple measuring equipment

Use tables to record simple data

Discuss and write simple sentences about what they have observed/discovered

Scientific Vocabulary –

Spring, summer, autumn, winter, day, night, light, dark, sunrise, sunset, sun, rain, snow, hail, precipitation, wind, cloud, cloud cover, deciduous, evergreen tree

Names of plants in their local environment e.g, Grass, Clover, Daisy, Buttercup, Dandelion, Oak, Holly etc.

2B

Seasonal change

Knowledge:

To observe changes that occur between Winter and Spring

Observe and describe weather associated with Spring

How day length varies between the two seasons

Working Scientifically:

Begin to recognise that observations will need to be made over a longer period of time

Observe and measure changes using simple measuring equipment

Sequence simple changes

Use tables to record simple data

Discuss and write simple sentences about what they have observed/discovered

Scientific Vocabulary –

Spring, summer, autumn, winter, day, night, light, dark, sunrise, sunset, sun, rain, snow, hail, precipitation, wind, cloud, cloud cover, deciduous, evergreen tree

scientific questions.

Enrichment – Visit to Farmer Ted's

Scientific Vocabulary –

Fish, amphibian, reptile, bird, mammal

Common names of fish, amphibians, reptiles, birds, mammals including pets and those found in the local environment.

Common structure of animals including humans including – head, face, ears, hair, eyes, nose, mouth, teeth, cheek, chin, neck, body, arms, hands, fingers, paw, fins, wings, legs, feet, toes, tail, skin, scales, fur, feathers,

Herbivore, carnivore, omnivore

See, look, hear, listen, touch, feel, taste, smell

3B

Seasonal change

Knowledge:

To observe changes that occur between Spring and Summer

Observe and describe weather associated with Spring and Summer

How day length varies between the two seasons

Working Scientifically:

Begin to recognise that observations will need to be made over a longer period of time

Observe and measure changes using simple measuring equipment

Sequence simple changes

Use tables to record simple data

Discuss and write simple sentences about what they have observed/discovered

Scientific Vocabulary –

Spring, summer, autumn, winter, day, night, light, dark, sunrise, sunset, sun, rain, snow, hail,

Year 2

	<p>Working scientifically vocabulary – Question, find out, observe, describe, test, compare, measure, length, height, mass/weight, time, temperature, record, results, table, chart, pictograph, block graph, bar chart</p>		<p>precipitation, wind, cloud, cloud cover, deciduous, evergreen tree</p> <p>Enrichment: STEM Week</p>
	<p style="text-align: center;"><u>1A</u></p> <p>Uses of everyday materials</p> <p><u>Knowledge:</u> To identify and compare the suitability of a variety of everyday materials (including wood, metal, plastic, glass, brick, rock, paper and cardboard) for particular uses How the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <p><u>Working Scientifically:</u> Ask questions and suggest how to collect the data needed. Make simple predictions based on something similar they have observed before. Classify and group materials based on observable features. Use simple measuring equipment and read scales Record their data appropriately using tables/Venn diagrams/graphs Discuss their observations/findings Describe simple patterns Enrichment: - Trip to recycling centre</p> <p>Scientific Vocabulary – Wood, plastic, glass, metal, water, rock, brick, paper, card rubber, fleece, fur, cotton, wool, polyester.</p> <p>Words to describe why certain materials are suitable for particular uses e.g. soft, hard, rough, smooth, stretchy, stiff, shiny, dull, flexible, waterproof, absorbent, opaque, transparent, translucent</p> <p>Squash, bend, twist, stretch</p>	<p style="text-align: center;"><u>2A</u></p> <p>Living things and their habitats</p> <p><u>Knowledge:</u> To explore and compare 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 these habitats provide for the basic needs to different animals and plants Identify and name a variety of plants and animals in their habitats (Including micro habitats) look at simple food chains and describe how animals obtain their food.</p> <p><u>Working Scientifically:</u> Ask questions to help place things in groups based on similar observable or behavioural features Make comparisons to compare/group similar things/organisms Classify things into two groups Record appropriately using tables/sorting circles/Venn diagrams to help distinguish sets of similar things/organisms Describe observations/data Discuss their findings</p> <p>Scientific Vocabulary – Living, dead, non-living</p> <p>Habitat, micro habitat, food chain</p> <p>Field, hedgerow, pond, woodland, seashore, ocean, rainforest, arctic, desert</p> <p>Air, food, water, shelter, heat, warmth, sun</p>	<p style="text-align: center;"><u>3A</u></p> <p>Animals, including Humans</p> <p><u>Knowledge:</u> To identify and describe the basic needs of animals including humans, for survival (water, food and air) Describe the importance of exercise, eating the right amounts of different types of food and hygiene To notice that animals, including humans, have offspring which grow into adults</p> <p><u>Working Scientifically:</u> Ask simple questions and recognise that they can be answered in different ways. Make comparisons to group similar things/organisms together Record appropriately using tables/sorting circles/Venn diagrams Describe how things/organisms have been sorted Discuss their observations/findings</p> <p>Scientific Vocabulary – Reproduce, offspring, grow, adults (fish, amphibian, reptile, bird, mammal, human)</p> <p>Survival, water, food, shelter,</p> <p>Exercise, fit, healthy, food, fruit, vegetables, meat, fish, eggs, nuts, pulses, beans, milk, cheese, bread, pasta, rice, butter, vegetable oil, olive oil.</p> <p>Common names of fish, amphibians, reptiles, birds and mammals including pets and those found in the local environment.</p> <p>Common structure of animals including humans including – head, face, ears, hair, eyes, nose, mouth, teeth, cheek, chin, neck, body, arms, hands, fingers, paw, fins, wings, legs, feet, toes, tail, skin, scales,</p>

Key scientists

John Dunlop
Charles Macintosh
John McAdam

1B

Plants

Knowledge:

To observe and describe how seeds and bulbs grow into mature plants
Find out and describe how plants need water, light and suitable temperature to grow and stay healthy

Working Scientifically:

Asking simple questions and recognise that they can be answered in different ways.
Make observations over time.
Observe and measure changes using simple measuring equipment
Record data appropriately using tables/sorting circles/Venn diagrams
Use data to make practical and block graphs
Describe observations
Discuss their findings

Scientific Vocabulary –

Seeds, bulbs, grow, healthy, water, light, temperature, soil, nutrients

Leaves, flowers, blossoms, petals, fruit, roots, trunk, branches, stem

Plants in their local environment e.g. grass, Clover, Daisy, Buttercup, Oak, Holly etc

Plants grown to eat e.g. tomatoes, cucumber, radish, herb etc

Working scientifically vocabulary –

Question, find out, observe, describe, test, compare, measure, length, height,

Plants

Knowledge:

To observe and describe how seeds and bulbs grow into mature plants
Find out and describe how plants need water, light and suitable temperature to grow and stay healthy

Working Scientifically:

Asking simple questions and recognise that they can be answered in different ways.
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Plants in their local environment e.g. grass, Clover, Daisy, Buttercup, Oak, Holly etc

Plants grown to eat e.g. tomatoes, cucumber, radish, herb etc

fur, feathers,

Herbivore, carnivore, omnivore

3B

Plants

Knowledge:

To observe and describe how seeds and bulbs grow into mature plants
Find out and describe how plants need water, light and suitable temperature to grow and stay healthy

Working Scientifically:

Asking simple questions and recognise that they can be answered in different ways.
Make observations over time.
Observe and measure changes using simple measuring equipment
Record data appropriately using tables/sorting circles/Venn diagrams
Use data to make practical and block graphs
Describe observations
Discuss their findings

Enrichment: STEM Week

Scientific Vocabulary –

Seeds, bulbs, grow, healthy, water, light, temperature, soil, nutrients

Leaves, flowers, blossoms, petals, fruit, roots, trunk, branches, stem

Plants in their local environment e.g. grass, Clover, Daisy, Buttercup, Oak, Holly etc

Plants grown to eat e.g. tomatoes, cucumber, radish, herb etc

	<p>mass/weight, time, temperature, record, results, table, chart, pictograph, block graph, bar chart</p>		
<p>Year 3</p>	<p style="text-align: center;"><u>1A</u></p> <p>Forces and magnets</p> <p><u>Knowledge:</u> That magnets have two poles and observe how magnets attract or repel each other. Understand that magnets attract some materials and not others and compare and group a variety of everyday materials on the basis of whether they are attracted to a magnet. Predict whether two magnets will attract or repel each other, depending on which poles are facing. Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces act at a distance.</p> <p><u>Working Scientifically:</u> Ask relevant questions and use different scientific enquiries to answer them. Carry out simple comparative and fair test enquiries. Make systematic and careful observations. Take accurate measurements using a range of equipment. Gather, record, classify and present data in a variety of ways. Make predictions based on previous knowledge. Record findings in an appropriate way (drawings, diagrams, keys, charts) Use evidence to answer questions and support findings. Use results from enquiries to draw simple conclusions and raise further questions.</p> <p>Scientific Vocabulary – Force, contact, non-contact</p> <p>Move, surface, metal, carpet, tiles, wood, lino, bubble wrap, sandpaper, fleece, polythene, towel</p>	<p style="text-align: center;"><u>2A</u></p> <p>Light</p> <p><u>Knowledge:</u> Recognise that light is needed in order to see things and that dark is the absence of light Notice that surfaces reflect light Understand that shadows are formed when a light source is blocked by a solid object Investigate the way that the size of shadows changes Understand that light from the sun can be dangerous and there are ways to protect ourselves</p> <p><u>Working Scientifically:</u> Ask relevant questions and use different scientific enquiries to answer them. Carry out simple comparative and fair test enquiries. Suggest ways to make a test fairer Make systematic and careful observations. Take accurate measurements using a range of equipment. Gather, record, classify and present data in a variety of ways. Make predictions based on previous knowledge. Record findings in an appropriate way (drawings, diagrams, keys, charts) Use evidence to answer questions and support findings. Use results from enquiries to draw simple conclusions and raise further questions. Notice links/patterns between two sets of data</p> <p>Scientific Vocabulary – See, eyes, light, dark, absence</p> <p>Light sources, sun, dangerous, lamp, flame, torch, light bulb</p> <p>Day, night, light, dark, dim, sunrise, sunset, dusk</p> <p>Reflect, reflection, shadow, shape, size, pattern</p>	<p style="text-align: center;"><u>3A</u></p> <p>Animals, incl. humans</p> <p><u>Knowledge:</u> That animals including humans, need the right types and amounts of nutrition and that they cannot make their own food. Understand that animals, including humans get nutrition from what they eat Identify that humans and some other animals have skeletons and muscles for support, protection and movement The main body parts associated with the skeleton and muscles</p> <p><u>Working Scientifically:</u> Ask relevant questions suggesting ways in which they can be answered Make systematic and careful observations Classify (making simple classification keys) and present data in a variety of ways (Including Carroll and Venn diagrams) Use drawings, diagrams and charts to present findings Use scientific evidence to answer questions and support findings Use results of scientific inquiries to raise further questions. Report on findings of enquiries in a variety of ways.</p> <p>Scientific Vocabulary – Humans, food, feeding, balanced, diet, meat, fish, eggs, nuts, pulses, beans, cereal, fruit, vegetables, dairy products, milk, cheese, butter, potatoes, bread, rice, pasta, vitamins, minerals</p> <p>Fish, amphibian, bird, mammal, reptile</p> <p>Skeleton, skull, ribs, spine (backbone) joints, support, muscles</p>

<p>Magnet, magnetic, magnetic field, bar, horseshoe, ring, strength, strong, weak, metal, coated</p> <p>Attract, repel, poles, north, south</p> <p>Working Scientifically Vocabulary – Question, find out, observe, describe, test, compare, explain, accurate, predict</p> <p>Measure, length, height, weight/mass, time, temperature, tape measure, thermometer, data logger</p> <p>Record, results, table, chart, pictograph, clock graph, bar chart</p>	<p style="text-align: center;"><u>2B</u></p> <p>Plants</p> <p><u>Knowledge:</u> Identify and describe the functions of different parts of flowering plant. Explore the requirements of plants for life and growth and how they vary from plant to plant Investigate the way in which water is transported within plants Explore the role of flowers in the life cycle of flowering plants</p> <p><u>Working Scientifically:</u> Ask relevant questions and use different scientific enquiries to answer them. Carry out simple comparative and fair test enquiries. Make systematic and careful observations. Take accurate measurements using a range of equipment. Gather, record, classify and present data in a variety of ways. (simple classification keys, Venn and Carroll diagrams) Make predictions based on previous knowledge. Record findings in an appropriate way (drawings, diagrams, keys, charts) Use evidence to answer questions and support findings. Use results from enquiries to draw simple conclusions and raise further questions.</p> <p>Scientific Vocabulary – Leaves, flowers, blossoms, petals, fruits, roots, bulb, seed, trunk, branches, stem, stigma, style, anther</p>	<p style="text-align: center;"><u>3B</u></p> <p>Rocks</p> <p><u>Knowledge:</u> Compare and group together different kinds of rocks on the basis of their simple physical properties Recognise that soils are made from rocks and organic matter Describe in simple terms how fossils are formed</p> <p><u>Skills developed:</u> Ask relevant questions suggesting ways in which they can be answered Make systematic and careful observations Look for patterns/changes over a longer period of time Classify (making simple classification keys) and present data in a variety of ways (Including Carroll and Venn diagrams) Use drawings, diagrams and charts to present findings Use scientific evidence to answer questions and support findings Use results of scientific inquiries to raise further questions. Report on findings of enquiries in a variety of ways. Suggest alternative ways to sort/group/classify</p> <p>Enrichment: STEM Week</p> <p>Scientific Vocabulary – Rocks, granite, limestone, sandstone, fossil, soil, sandy, peat, decay, compost</p> <p>Soft, hard, rough, smooth, stiff, shiny, dull, waterproof, absorbent, opaque, transparent,</p>
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Year 4

		<p>Air, light, water, nutrients, soil, transport, seeds, seedling, bulb, compost, decay, die, fruit, moisture, ovary, ovule</p> <p>Pollen, pollination, seed formation, dispersal, reproduce</p>	<p>translucent, texture</p> <p>Key Scientist – Mary Anning</p>
	<p style="text-align: center;"><u>1A</u></p> <p>States of matter <u>Knowledge:</u> 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</p> <p><u>Working Scientifically:</u> Ask relevant questions and use different types of scientific enquiry to answer them. Make predictions based on everyday experiences and knowledge. Set up and carry out simple practical enquiries, comparative and fair tests. Identify the correct type of enquiry between fair test and pattern seeking. Make systematic and careful observations. Take accurate measurements using a range of equipment Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings in an appropriate way Use results to draw simple conclusions, suggest improvements and raise further questions Use simple scientific evidence to answer questions or support findings Suggest how investigations could be improved</p> <p>Scientific Vocabulary –</p>	<p style="text-align: center;"><u>2A</u></p> <p>Electricity <u>Knowledge:</u> Identify common appliances that run on electricity Construct a simple series electrical circuit identifying and naming the basic parts of a simple electrical circuit, 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 conductor</p> <p><u>Working Scientifically:</u> Ask relevant questions and use different types of scientific enquiry to answer them. Make predictions based on everyday experiences and knowledge. Set up and carry out simple practical enquiries, comparative and fair tests. Identify the correct type of enquiry between fair test and pattern seeking. Make systematic and careful observations. Take accurate measurements using a range of equipment Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings in an appropriate way Use results to draw simple conclusions, suggest improvements and raise further questions Use simple scientific evidence to answer questions or support findings Suggest how investigations could be improved</p>	<p style="text-align: center;"><u>3A</u></p> <p>Animals, incl. humans <u>Knowledge:</u> 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</p> <p><u>Working Scientifically:</u> Ask relevant questions and use different types of scientific enquiries to answer them Make predictions based on everyday experiences/ knowledge. Make systematic and careful observations. gather record classify and present data in a variety of ways help in answering questions. record findings using drawings, labelled diagrams, keys, bar charts and tables. Report on findings including oral and written explanations Identify differences, similarities and changes relating to simple scientific ideas and processes Use straightforward scientific evidence to answer questions and support findings</p> <p>Scientific Vocabulary –</p> <p>Digestion, mouth, teeth, tongue, saliva, oesophagus, stomach, gastric juices, enzyme, small intestine, bile, pancreatic juice, large intestine, rectum</p> <p>Incisors, cut, slice, canines, grip, pierce, premolars, molars, crush, grind, dental, dentist, disclosing tablets</p>

<p>Solids, liquids, gases</p> <p>Change state, melt, freeze, heated, cooled, temperature, Celsius, chocolate, butter, ice, water, steam, water vapour</p> <p>Water cycle, evaporation, condensation, rate, precipitation, rain, rain fall, snow, sleet</p> <p style="text-align: center;"><u>1B</u></p> <p>Sound <u>Knowledge:</u> Identify how sounds are made, associating some of them with something vibrating Recognise that vibrations from sound travel through a medium to the ear Recognise that sounds get fainter as the distance from the sound source increases 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.</p> <p><u>Working Scientifically:</u> Ask relevant questions and use different types of scientific enquiry to answer them. Make predictions based on everyday experiences and knowledge. Set up and carry out simple practical enquiries, comparative and fair tests. Identify the correct type of enquiry between fair test and pattern seeking. Make systematic and careful observations. Take accurate measurements using a range of equipment Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings in an appropriate way Use results to draw simple conclusions, suggest improvements and raise further questions Use simple scientific evidence to answer</p>	<p>Scientific Vocabulary –</p> <p>Electrical appliances, mains, battery, television, computer, tablet, mobile phone, light, lamp, cooker, microwave, toaster, radio</p> <p>Component, bulb, buzzer, battery, cell, wire, motor, switch, open, closes, circuit, series, complete loop, bright, brightness, current</p> <p>Electrical insulator, plastic, fabric, electrical conductor, metals, water</p> <p style="text-align: center;"><u>2B</u></p> <p>Living things and their habitats <u>Knowledge:</u> 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 constantly changing and that this can sometimes pose dangers to specific habitats</p> <p><u>Working Scientifically:</u> Ask relevant questions and use different types of scientific enquiries to answer them Make predictions based on everyday experiences/ knowledge. Make systematic and careful observations. gather record classify and present data in a variety of ways help in answering questions. record findings using drawings, labelled diagrams, keys, bar charts and tables. Report on findings including oral and written explanations Identify differences, similarities and changes relating to simple scientific ideas and processes Use straightforward scientific evidence to answer questions and support findings</p> <p>Scientific Vocabulary –</p> <p>Classify, classification, animal, vertebrates, fish,</p>	<p>Food chain, producers, predators, prey, herbivore, carnivore, omnivore</p> <p style="text-align: center;"><u>3B</u></p> <p>Scientists and Inventors enrichment unit Children should explore the works of scientists who have played a significant role within the fields that they have been studying this year</p> <p>Sound Alexander Graham Bell (Sound vibrations for telephone)</p> <p>States of matter – Kelvin temperature scale Lord Kelvin</p> <p>Electricity Thomas Edison Garrett Morgan</p> <p>Living things and their habitats – Deforestation and conservation Gerald Durrell</p> <p><u>Working Scientifically</u> Use scientific evidence to support/refute ideas Make predictions based on scientific knowledge Enrichment: STEM Week</p>
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	<p>questions or support findings Suggest how investigations could be improved</p> <p>Scientific Vocabulary –</p> <p>Sound, sources, vibrating, medium, ear, eardrum, instrument, pitch, high, low, volume, loudness, loud, soft, quiet, insulation, soundproof, distance, fainter</p> <p>Working Scientifically Vocabulary –</p> <p>Question, find out, observe, describe, test, compare, explain, accurate, predict</p> <p>Measure, length, height, weight/mass, time, temperature, tape measure, thermometer, data logger</p> <p>Record, results, table, chart, pictograph, clock graph, bar chart</p>	<p>amphibians, reptiles, birds, mammals, invertebrates, snails, slugs, worms, spiders, insects, flowering plants, non-flowering plants, ferns, mosses, fungi</p> <p>Environment, habitat, micro habitat, adaption, human impact, ecological, ecosystem, nature reserves, parks, ponds, pollution, litter, deforestation, field, hedgerow, pond, woodland, seashore, ocean, rainforest, arctic, desert, nest, borrow, air, food, water, shelter, heat, warmth, sun, camouflage</p>	
<p>Year 5</p>	<p style="text-align: center;"><u>1A</u></p> <p>Earth and space <u>Knowledge:</u> 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><u>Working Scientifically:</u> Plan different types of scientific enquiry to answer questions. Take measurements using a range of scientific equipment, with increasing accuracy and precision. Record data and results of increasing complexity using scientific diagrams, classification keys and</p>	<p style="text-align: center;"><u>2A</u></p> <p>Properties and changes of materials <u>Knowledge:</u> Compare and group together everyday materials based on evidence from comparative and fair tests, 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, include changes associated with burning and</p>	<p style="text-align: center;"><u>3A</u></p> <p>Animals, incl. humans <u>Knowledge:</u> Describe the changes as humans develop to old age. Look at stages of growth and development Changes that occur during puberty</p> <p><u>Working Scientifically:</u> Plan different types of scientific enquiry to answer questions Make predictions based on scientific knowledge. Take measurements using a range of scientific equipment with increasing accuracy and precision Explore the work of scientists and of scientific research Record results of increasing complexity using scientific diagrams, classifications keys and tables Report and present findings in oral and written forms. Identify scientific evidence that has been used to support or refute ideas.</p> <p>Scientific Vocabulary –</p>

tables.
Report and present findings in oral and written forms
Identify scientific evidence that has been used to support or refute ideas.

Scientific Vocabulary –

Day, night, light, dark, dim, sunrise, sunset, dusk, Earth, moon, reflect, sun, star, spherical, rotation, Earth's axis, solar system, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Neptune, Uranus, Neptune (Pluto as a dwarf planet), shadow clock, sundials, astronomical clock

1B

Forces

Knowledge:

Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
Identify the effect of air resistance, water resistance and friction, that act between moving

the action of acid on bicarbonate of soda

Working Scientifically:

Plan different types of scientific enquiry to answer questions, including recognising and controlling variables where necessary.
Use test results to make predictions for further comparative and fair tests
Take measurements using a range of scientific equipment, with increasing accuracy and precision.
Take repeat readings where appropriate.
Record data and results of increasing complexity using diagrams, tables, scatter graphs, bar graphs and line graphs.
Report and present findings including casual relationships and degree of trust in results in oral and written forms
Identify scientific evidence that has been used to support/refute ideas.

Scientific Vocabulary –

Soft, hard, rough, smooth, stiff, shiny, dull, rough, waterproof, absorbent, opaque, transparent, translucent, texture, conduct, insulate, electrical, thermal, magnetic

**Solids, liquids, gasses, dissolve, solution, substance, separate, filtering, sieving, evaporating, reversible, irreversible, state, burning, oxygen, acid, bicarbonate of soda, carbon dioxide
Changing state, melt, freeze, heated, cooled, temperature, Celsius, chocolate, butter, ice, water, steam, water vapour, water cycle, evaporation, condensation, rate, precipitation, rain, rain fall, snow, sleet**

2B

Living things and their habitats

Knowledge:

Describe the difference 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

Human, gestation, baby, child, teenager, adult, geriatric, puberty, hormones, muscles, testicles, pubic hair, voice, acne, breasts, hips, period, ovulation

3B

Scientists and Inventors **enrichment unit**

Children should explore the works of scientists who have played a significant role within the fields that they have been studying this year

Earth and Space – Geocentric to heliocentric

Ptolemy
Alhazen

<p>surfaces Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</p> <p><u>Working Scientifically:</u> Plan different types of scientific enquiry to answer questions, including recognising and controlling variables where necessary. Use test results to make predictions for further comparative and fair tests Take measurements using a range of scientific equipment, with increasing accuracy and precision. Take repeat readings where appropriate. Record data and results of increasing complexity using diagrams, tables, scatter graphs, bar graphs and line graphs. Report and present findings including casual relationships and degree of trust in results in oral and written forms Identify scientific evidence that has been used to support/refute ideas.</p> <p>Scientific Vocabulary –</p> <p>Force, contact, non-contact, gravity, falling, friction, air resistance, water resistance, newton, force metre, drag, gears, levers, pulleys, gears, move, surface, material, carpet, tiles, wood, lino, bubble wrap, sandpaper, fleece, polythene, towel</p> <p>Working Scientifically Vocabulary –</p> <p>Question, find out, observe, describe, test, compare, explain, accurate, predict</p> <p>Measure, length, height, weight/mass, time, temperature, tape measure, thermometer, data logger</p> <p>Record, results, table, chart, pictograph, clock graph, bar chart, line graph, reliable, variable, valid, explain, independent variable, dependent variable, control variables, fair test, reliability</p>	<p><u>Working Scientifically:</u> Plan different types of scientific enquiry to answer questions Make predictions based on scientific knowledge. Take measurements using a range of scientific equipment with increasing accuracy and precision Explore the work of scientists and of scientific research Record results of increasing complexity using scientific diagrams, classifications keys and tables Report and present findings in oral and written forms. Identify scientific evidence that has been used to support or refute ideas.</p> <p>Scientific Vocabulary –</p> <p>Life cycle, reproduction, asexual, sexual, animal, vertebrates, amphibians, reptiles, birds, mammals, invertebrates, insect, babies, young, grow, adult, egg, caterpillar, larva, chrysalis, pupa, head, abdomen, thorax, wings, fur, feathers, scales,</p> <p>Plants, seeds, stem, root cuttings, tubers, bulbs, pollen, leaves, flowers, blossom, petals, fruit, roots, seed, trunk, branches, stigma, style, anther, ovary, ovule, seed formation, seed dispersal</p>	<p>Copernicus</p> <p>Forces – Theory of gravitation Galileo Galilei Isaac Newton</p> <p>Living things and their habitats – naturalists and animal behaviourists David Attenborough Jane Goodall</p> <p>Properties and changes of materials – how chemicals create new materials Spencer Silver – (sticky note glue) Ruth Benerito – (wrinkle free cotton)</p> <p><u>Working scientifically</u> Identify scientific evidence that has been used to support/refute ideas. Make predictions based on scientific evidence</p> <p>Enrichment: STEM Week</p>
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Year 6

	<u>1A</u>	<u>2A</u>	<u>3A</u>
	<p>Living things and their habitats <u>Knowledge:</u> 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</p> <p><u>Working Scientifically:</u> Plan different types of scientific enquiries to answer questions. Make predictions based on scientific knowledge. Take measurements when necessary using a range of scientific equipment, with increasing accuracy and precision. Explore the work of scientists and scientific research. Record data and results of increasing complexity using labelled scientific diagrams, classification keys and tables. Report and present findings from enquiries in oral and written forms. Identify scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Scientific Vocabulary – Vertebrates, amphibians, reptiles, birds, mammals, invertebrates, insects, spiders, snails, worms, head, abdomen, thorax, wings, fur, feathers, scales, plants, micro-organisms, kingdom, species</p> <p>Working Scientifically Vocabulary – Question, find out, observe, describe, test,</p>	<p>Light <u>Knowledge:</u> 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.</p> <p><u>Working Scientifically:</u> Plan different types of scientific enquiries to answer questions. Make predictions based on scientific knowledge. Use test results to make predictions to set up further comparative and fair tests. Take measurements when necessary using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when necessary. Explore the work of scientists and scientific research. Record data and results of increasing complexity using labelled scientific diagrams, tables, scatter, bar and line graphs. Report and present findings from enquiries in oral and written forms (including conclusions, casual relationships, explanation of results and degree of trust in results). Identify scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Scientific Vocabulary – See, eyes, light, straight lines, reflect, reflected, reflection, light sources, shadows, size, shape, pattern, mirrors, (Possibly extend to include – rainbows, colour, colour</p>	<p>Animals, incl. humans <u>Knowledge:</u> Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood (including the pulse and clotting). 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</p> <p><u>Working Scientifically:</u> Plan different types of scientific enquiries to answer questions. Make predictions based on scientific knowledge. Take measurements when necessary using a range of scientific equipment, with increasing accuracy and precision. Explore the work of scientists and scientific research. Record data and results of increasing complexity using labelled scientific diagrams, classification keys and tables. Report and present findings from enquiries in oral and written forms. Identify scientific evidence that has been used to support or refute ideas or arguments.</p> <p>Scientific Vocabulary – Blood, heart, heart rate, circulation, oxygen, lungs, veins, arteries, cells, pulse rate, healthy diet, exercise, drugs, nutrients, water</p>

compare, explain, accurate, predict
Measure, length, height, weight/mass, time, temperature, tape measure, thermometer, data logger
Record, results, table, chart, pictograph, clock graph, bar chart, line graph, reliable, variable, valid, explain, independent variable, dependent variable, control variables, fair test, reliability

1B

Evolution and Inheritance

Knowledge:

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

Working Scientifically:

Plan different types of scientific enquiries to answer questions.
Make predictions based on scientific knowledge.
Take measurements when necessary using a range of scientific equipment, with increasing accuracy and precision.
Explore the work of scientists and scientific research.
Record data and results of increasing complexity using labelled scientific diagrams, classification keys and tables.
Report and present findings from enquiries in oral and written forms.
Identify scientific evidence that has been used to support or refute ideas or arguments.

Scientific Vocabulary –

Fossils, evolution, evolve, inherit, inheritance, offspring, vary, variation, species, adapt,

filters, water, refraction)

2B

Electricity

Knowledge:

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

Working Scientifically

Plan different types of scientific enquiries to answer questions.
Make predictions based on scientific knowledge.
Use test results to make predictions to set up further comparative and fair tests.
Take measurements when necessary using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when necessary.
Explore the work of scientists and scientific research.
Record data and results of increasing complexity using labelled scientific diagrams, tables, scatter, bar and line graphs.
Report and present findings from enquiries in oral and written forms (including conclusions, casual relationships, explanation of results and degree of trust in results).
Identify scientific evidence that has been used to support or refute ideas or arguments.

Scientific Vocabulary –

Component, bulb, buzzer, battery, cell, wire, motor, switch, open, closes, circuit, series, complete loop, bright, brightness, current, volume, volts, voltage,

3B

Scientists and Inventors enrichment unit

Children should explore the works of scientists who have played a significant role within the fields that they have been studying this year

Living things and their habitats – classification

Carl Linnaeus
Libbie Hyman

Evolution and inheritance

Mary Anning (palaeontologist)
Charles Darwin (evolution)
Alfred Wallace (evolution)
Mary Leakey (fossils)

Electricity – how electronics are used in modern technology

Steve Jobs

Animals including humans – impact of diet and exercise

Marie Maynard Daly

Working scientifically

Identify scientific evidence that has been used to support/refute ideas.
Make predictions based on scientific evidence

Enrichment: STEM Week

	environment, climate, habitat, suited	symbols, circuit diagram	
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