Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

Love, Learn, Discover
Lewis Street Primary School

Class	Topic	Knowledge - Learning objective & Sticky knowledge	Vocabulary (each year group uses all previous years' vocab)
Nursery	**Biology** Plant structure (Book: Jasper's Beanstalk)	Introduce the structure of flowering plants. - Y1 (By growing sunflower and broad beans) Where are the petals?	leaves, flowers, petals, roots, seed, stem, broad beans
	Life cycles (Book: The Very Hungry caterpillar)	Observe how seeds and bulbs grow into mature plants. (By growing sunflower and broad beans) How has our plant grown? Name the offspring of animals. (Smithills farm trip) What is a baby pig called?	sunflower, seed, bulb, broad beans, pant, water, sunlight, leaves, flowers, roots, seed, stem, soil, growth life cycle, bird, chick, chicken, duckling, duck, egg, caterpillar, cocoon, butterfly etc Farm animal names baby, child, parent
	Plant growth	Find out how plants need water, light, a suitable temperature to grow and stay healthy. -Y2 (By growing sunflower and broad beans) What does our plant need?	sunflower, seed, broad beans, pant, water, sunlight, leaves, flowers, roots, seed, stem, soil, growth
	Classification (Book: Dear zoo)	Introduce the names of a variety of animals (jungle and farm toys) What is this animal called?	Variety of animal names
	Animal growth	Name the basic needs of animals and humans. (Through vet clinic in continuous provision) What do we need to live? Discover the importance of exercise, healthy eating and hygiene. (Through Jigsaw PSHE lessons and Teddy clinic) How can we stay healthy? How do we look after our teeth?	food, water, exercise, air, breathe, healthy, hygiene, germs
	The body	Introduce parts of the human body. Where is your…?	facial features and body parts spine
	Habitats (Book: Lost and Found and Elmer)	Notice that living things live in different habitats (Bug hotel) Where does a… live?	pet, woodland , hedgehog, squirrel, insects, spider, woodlouse, snail,

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

			bee, Arctic, polar bear, frozen, camouflage
	Chemistry Properties of materials (Book: Exploring hard and soft)	Introduce a range of everyday materials, including wood, plastic, glass, metal, water and rock. - Y1 Which of these is wood? Describe a variety of everyday materials. What does it feel like?	materials, wood, plastic, fabric, metal, glass, sand soft, hard, rough, smooth, touch
	Changes (Book: Supertato and Little Red Hen)	Introduce how things undergo a change during cooking.	bread, wheat, bake, eat, cook
	Physics Sound (Book: We're going on a bear hunt)	Discriminate between different and similar sounds. Observe and name a variety of sources of sound, noticing we hear with our ears. (Through phonics)	hear, sound, ears
	Light Book: (Owl babies)	Identify that we see using our eyes and need light to do so.	mirror, see, day, night, lighter, darker
	Forces (Book: Stuck and Charlie's boat)	Experiment with pushing, pulling, floating and sinking through continuous provision station	push, pull, sink, float
	Earth and Space	Identify the current season and observe different types of weather. What are the four seasons? What is the weather like today? Identify the sun as a source of light. (By observing weather)	Season, Autumn , Winter, Spring, Summer, weather, rain, sun, wind, snow, hail, star, moon, sun
	Working Scientifically	Show curiosity and ask questions Make observations using senses	observe, watch, look closely, touch, feel, smell, listen, same, different, question, ask, explore
Reception	**Biology** Fossils	Introduce the names (and images) of dinosaurs (through play and toys) What is this dinosaur called?	Various names of dinosaurs
	Plant structure	Introduce the structure of trees - Y1 What is this part of a tree called? Introduce the names (and images) of: Wild and garden plants. - Y1 Can you name a herb? Can you name a flower?	tree, trunk, branch, bud, bulbs sunlight, water, food, air, plant dandelion, daisy, buttercup, poppy, herb

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

Love, Learn, Discover
Lewis Street Primary School

	Life cycles	Name the offspring of animals and notice the changes during the growth of animals and humans into adulthood. -Y2 (By using baby pictures) How have you changed?	grow, age, animal, human, baby, young, adult, change
	Classification	Introduce the names (and images) of insects (minibeast hotel) What kind of insect is this? Describe the structure of: birds, insects and mammals. Does a … have wings? How many legs has a… got?	Variety of insect names Variety of mammal names ie cat, dog etc legs, wings, body, arms, bird,
	Genetics	Notice how humans resemble their parents. -Y2 (Through use of pictures) How are you similar to your family?	human, parents, similarity, family
	The body	Link parts of the human body with the five senses. - Y1 What are our five senses? What do we use to smell…?	senses, sight, taste, smell, hearing, touch
	Food chains	Introduce the groups carnivore, herbivore, omnivore. - Y1 What kind of food does a carnivore eat?	carnivore, omnivore, herbivore meat, dairy, fruit, vegetables
	Habitats	Name some habitats and describe how habitats are different from one another. Where does a… live? What is it like in a desert?	habitat, wild, wildlife, ladybird desert, jungle, pet, wild animal, insect, minibeast
	Chemistry Properties of materials	Name a range of everyday materials, including wood, plastic, glass, metal, water and rock. - Y1 What is this material called? Describe the simple properties of a variety of everyday materials. -Y1 Can you describe what… is like? Distinguish between an object and the material from which it is made - Y1 What is a… made from? (e.g. table)	waterproof, recyclable, material, glass, wood, plastic, metal, fabric
	Changes	Notice how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. -Y2 (Using playdough and cornflour) Can you squash it?	stretch, squashing bending, twisting, stretching squeezing,
	Physics Sound	Discriminate between different and similar sounds. Observe and name a variety of sources of sound, noticing we hear with our ears. (Through phonics)	sound, hear, ears

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

	Light	Observe and name a variety of sources of light. (Through 'How to catch a star' story) What gives us light?	shadows, light, dark, see
	Forces	Observe how pushing and pulling an object causes it to move.	push, pull
	Electricity	Identify common appliances that run on electricity. Does this use electricity?	electricity
	Earth and Space	Identify the four seasons and name different types of weather. What are the four seasons? What kind of weather do we see in…? Identify the sun as a source of light. (By observing weather)	weather, season, Autumn, Winter, Spring, Summer, rain, snow, wind, sunshine, leaves, sun, light, dark
	Working Scientifically	Show curiosity and ask questions Make observations using senses and simple equipment Record observations by drawing, taking photos, using sorting boxes and on simple tick sheets Use observations to help answer questions Identify, sort, group and make comparisons	experience, changes, group, sort, compare, identify (name), measure, question, test, explore, magnifying glass
Year 1	**Biology** Plant structure	Introduce the names (and images) of: Evergreen and deciduous trees. Introduce the structure of trees - Y1 What does evergreen/ deciduous mean? Can you name the parts of a tree? Introduce the names (and images) of: Wild and garden plants. - Y1 Can you name some common trees and plants? Introduce the structure of flowering plants. - Y1 Can you name the parts of plants? How do the parts fit together?	evergreen, coniferous, deciduous snowdrop, bluebell, tulip, nettle dock, clover, rose seed, bulb, roots, stem, flower, petal, leaves, fruit, blossom
	Life cycles	Observe and describe how seeds and bulbs grow into mature plants. -Y2 What do plants grow from? Describe the offspring of animals and the changes during the growth of animals and humans into adulthood. -Y2 How do humans and animals change as they grow older? What is a newborn… called? (i.e. dog)	newborn, adult, life cycle, offspring, adulthood, young tadpole, frog, frogspawn, horse, foal, cow, calf, sheep, lamb

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

Love, Learn, Discover
Lewis Street Primary School

	Plant growth	Find out and describe how plants need water, light, a suitable temperature to grow and stay healthy. -Y2 What do plants need to grow/ survive?	grow, survive, temperature, water, sunlight
	Classification	Introduce the names (and images) of: birds, fish, amphibians, reptiles, mammals and invertebrates. Y1 Can you name a…?(e.g. mammal) Describe features/ observations of birds, fish, amphibians, reptiles, mammals and invertebrates. -Y1 What does a…look like?(e.g dog) Describe and compare the structure of: birds, fish, amphibians, reptiles, mammals and invertebrates. - Y1 What does a … have that a … doesn't? Identify the differences between things that are living/ dead and have never been alive. Y2 What do living things do differently to things which aren't alive?	mammals, reptiles, amphibians fish, bird invertebrate, vertebrate dead, living, alive tail, wings, body, legs, arms, teeth
	Animal growth	Investigate the basic needs of animals and humans. -Y2 What do we need to survive? Do all animals need the same basic things? MRS GREN Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. -Y2 How can we stay healthy?	oxygen, movement, respiration, breathing, nutrition, excretion, growth
	Genetics	Identify how humans resemble their parents in many features. -Y2 What similarities are there between you and your parents?	adult, offspring, similarities, parents
	The body	Name the parts of the human body and associate parts of the body with the five senses. - Y1 What are our five senses? Which body part is responsible for…?	senses, sight, taste, smell, hearing, touch, ear, eyes, skin, nose, tongue
	Food chains	Group animals as carnivores, herbivores, omnivores. - Y1 What kind of food does a … eat? Is a… a carnivore?	carnivore, omnivore, herbivore meat, dairy, fruit, vegetables, plants, grass
	Habitats	Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other. -Y2 What does habitat mean? What is a …'s habitat? (i.e. dolphin/ human)	habitat, woodland, desert, jungle, ocean, Arctic, field, pond, river, pet, wild animal, insent, minibeast
	Chemistry Properties of materials	Name a range of everyday materials, including wood, plastic, glass, metal, water and rock. - Y1 What is this material called?	properties, material, glass, metal, wood, plastic, fabric, opaque transparent, absorbent, waterproof

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

Love, Learn, Discover
Lewis Street Primary School

		Describe the simple properties of a variety of everyday materials. -Y1 Can you describe what… is like? Distinguish between an object and the material from which it is made. (and in doing so, identify and compare the uses of a variety of everyday materials.) - Y1 What is a… made from? (e.g. table)	
	Changes	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. -Y2 Can you…? (e.g. bend plastic?)	squash, bend, stretch, twist
	Comparing materials	Compare and group together a variety of everyday materials on the basis of their simple physical properties. -Y1 Can you describe what… is like? What has similar properties?	properties, group, similar, different
	Physics Sound	Discriminate between different sounds. Discriminate between similar sounds. What is this sound? What is similar/ different about these sounds? Observe and name a variety of sources of sound, noticing we hear with our ears (links to Bio senses lesson) What do we use to hear?	sound, hear, familiar, unfamiliar, similar, different, loud, quiet, high, low, ears
	Light	Observe and name a variety of sources of light. What gives us light? Explain that we see sources of light because the light travels from the source to our eyes. How do we see?	light, source, sun, torch, bulb, candle, fire, eyes
	Forces	Notice how things move, using simple comparisons such as faster and slower. Compare how different things move. What happens when you push/ pull an object? How can you make something move faster/ slower?	faster, slower, pull, push
	Electricity	Construct a simple circuit. What do we need to make a circuit? Experiment with simple series circuits What happens when we remove the battery? Name common appliances that run on electricity.	electricity, electrical, circuit, battery, wire, bulb, energy

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

		What do we use that is powered by electricity?	
	Earth and Space	Name the four seasons and observe changes in weather between them. -Y1 What are the four seasons? What kind of weather do we see in…? Identify the sun as a source of light and observe its apparent movement across the sky throughout the day? Where is the sun in the morning? Where is the sun in the afternoon?	weather, seasons, orbit, morning, afternoon, night, Autumn, Winter, Spring, Summer
	Working Scientifically	**Ask simple questions and recognise that they can be answered in different ways** While exploring the world, children ask questions and where appropriate, answer them. **Observing closely, using simple equipment** Children make careful observations to support identification, comparison and noticing change. They use appropriate senses, aided by equipment such as magnifying glasses to make their observations. **Performing simple tests** Use practical resources provided to gather evidence to answer questions generated by themselves or the teacher. **Gathering and recording data to help in answering questions** Children record their observations e.g. using photographs, videos, drawings They classify using simple prepared tables and sorting rings. **Using their observations and ideas to suggest answers to questions** Children use their experiences of the world around them to suggest appropriate answers to questions. **Identifying and classifying** Children use simple secondary sources (such as identification sheets) to name living things. They describe the characteristics they used to identify a living thing.	observe, experience, changes, group, sort, classify, compare, identify (name), measure, question, test, explore, magnifying glass, pattern, measure, test, investigate, equipment, record
Year 2	**Biology** Plant structure	Compare and contrast deciduous/ evergreen trees and different plants. -Y1 Can you name some common trees and plants? Categorise plants. Can you group plants and trees based on their similarities? Observe the structural features in a selection of (real) flowering plants. Y1 Can you name the parts of plants?	Indigenous, flowering plant non-flowering, shrub, grass algae, fern, succulent, vegetables
	Life cycles	What are the similarities and differences in the growth of seeds and bulbs? -Y2 Why do plants make seeds? Can you compare how bulbs and seeds grow? Conclude differences between adult animals / humans and their offspring. -Y2	bulb, seed growth human, offspring, animal, life cycle, young, old, adult

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

		Can you explain the differences between parent and offspring?	tadpole, frog, frogspawn, horse, foal, cow, calf, sheep, lamb
	Plant growth	Categorise a range of animals/plants according to the conditions they require. Explain categories. -Y2 Can you group living things based on what they need to survive? Plan ways to revive a range of plants (using knowledge of what a plant needs to survive). What do plants need to grow/ survive?	survive, revive, growth, requirements, sunlight, water, soil, germinate
	Classification	Illustrate the main differences between birds, fish, amphibians, reptiles, mammals and invertebrates. Y1 What does a… look like? Can you name a…?(e.g. mammal) What does a … have that a … doesn't? How are a … and … different? Compare and categorise things that are living, dead and never been alive. -Y2? Was a … ever alive? (e.g. table)	warm-blooded cold-blooded invertebrate vertebrate spine, backbone mammal, fish, bird, reptile, amphibian dead, alive
	Animal growth	Identify the different types of foods required by living things. -Y2 What are the main food groups? What food group does… belong in? Identify what is needed for offspring to grow. Y2 MRS GREN Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. -Y2 How can we stay healthy?	oxygen, exercise movement, respiration sensitivity, growth reproduction, excretion nutrition carbohydrates, protein, fats, oils
	Genetics	Make links between generations in families and animals. Present similarities and differences between parents and their children -Y2 How are a …and… similar? (e.g. chick and chicken) What similarities are there between you and your parents?	generation, similar, features
	The body	Explain why the sense of touch, smell and hearing are important to a blind person. Why are our senses important? How can touch help someone who can't see? Categorise food types and explain why each group is important to humans. -Y3 What are the 5 food groups? Which foods belong in which group?	sense, see, hear, smell, taste, feel, touch, blind, deaf, carbohydrate, protein, fruit, vegetables, fats, oils, water, energy

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

		Why do we need a balanced diet?	
	Food chains	Compare and contrast carnivores, herbivores and omnivores.-Y1 What is different about a… and a…? Explain the differences in a food chain for a herbivore and a carnivore What food does a… eat? Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. -Y2 Can you arrange a food chain?	food chain, consumer predator, producer, prey, herbivore, carnivore, omnivore
	Habitats	Identify and name a variety of plants and animals in their habitats, including microhabitats. Explain why a habitat for a plant or animal is suitable -Y2 Why does a … live in its habitat? (e.g. a) Where does a… live?	habitat, garden, rivers, ponds sea, rainforest, microhabitat, park, ocean
	Chemistry Properties of materials	Compare and contrast the different properties of materials and use this to explain why certain materials are used for particular purposes -Y2 How are… and .. different? Distinguish between an object and the material from which it is made Y1 What is a… made from?	opaque, transparent, translucent absorbent, purpose
	Changes	Experiment with changing the shape of solid objects -Y2 Can all solids be bent/ squashed? Which solids can you change the shape of and how?	change, bend, squash, twist, stretch
	Comparing materials	Group objects based on the materials they are made from. Explain groupings -Y1 Categorise materials on the basis of their properties. Explain reasons for groups. -Y1 What is similar about… and …? Why would you group … and … together?	group, classify, similar, different
	Physics Sound	Categorise sounds. Compare and contrast sounds based on your own criteria. What is this sound? What do we use to hear? What is similar/ different about these sounds? How would you group these sounds together?	sound, compare, contrast, high, low, loud, quiet, familiar, unfamiliar
	Light	Experiment with ways to block light from reaching our eyes and make shadows, demonstrating that light travels from a source to our eyes. -Y3 How is a shadow formed? What happens when light can't get to our eyes?	shadow, light, eye, see

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

Love, Learn, Discover
Lewis Street Primary School

	Forces	Notice that things require a force (push/pull) in order to move except magnets. How can we make an object move? What is a force? How can we move something without touching it? Notice that things fall down What happens when we drop something?	force, gravity, fall, push, pull
	Electricity	Modify a circuit to add more components. What happens when we add more bulbs to a circuit? What do we need to make a circuit? Experiment with broken circuits and the effect that adding more components has. What happens when there is a break in a circuit? Compare and contrast electrical appliances i.e some create heat/ light/ cold Do all electrical appliances do the same thing? Categorise electrical appliances. Explain the reasons for your categories. How can you group electrical appliances?	complete circuit appliance, heat, light
	Earth and Space	Compare and contrast weather and identify patterns in day length across the four seasons. -Y1 How is the weather different in… and … ? How does the day length change in different seasons? Identify patterns across seasons When would we need these items?	day, night, seasons
	Working Scientifically	**Ask simple questions and recognise that they can be answered in different ways** Children are shown how to use resources provided to answer questions using different types of enquiry. **Observing closely, using simple equipment** Children begin to take measurements, initially by comparisons, then using non-standard units. **Performing simple tests** Following a demonstration, children carry out: tests to classify; comparative tests; pattern seeking enquiries; and make observations over time. **Gathering and recording data to help in answering questions** Children record their observations e.g. using photographs, videos, drawings, labelled diagrams or in writing. **Using their observations and ideas to suggest answers to questions** Children are supported to relate their experiences of the world around them to their evidence e.g. observations they have made, measurements they have taken or information they have gained from secondary sources.	observe, experience, changes, group, sort, classify, compare, identify (name), measure, question, test, explore, magnifying glass, pattern, investigate, equipment, record, describe, pictograph, block graph, bar chart, label, diagram

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

Love, Learn, Discover
Lewis Street Primary School

		Using their observations and ideas to suggest answers to questions Children recognise 'biggest and smallest', 'best and worst' etc. from their data. **Identifying and classifying** Use observations and testing to compare objects, materials and living things. They sort and group these things, identifying their own criteria for sorting.	
Year 3	**Biology** Fossils	Recognise that soils are made from rocks and organic matter. -Y3 What is soil made from? Describe in simple terms how **fossils** are formed when things that have lived are trapped within rock -Y3 Was a fossil once a living thing? Can you name a living thing that lived millions of years ago?	fossils, rocks, soil, organic matter
	Plant structure	Identify and describe the functions of different parts of flowering plants: **roots, stem/trunk, leaves** and **flowers** -Y3 Can you name the parts of plants? Can you describe what each part is for?	stigma, anther, roots, petal, stem, leaves, flowers, fruit, trunk
	Life cycles	Explore the part that flowers play in the **life cycle** of flowering plants, including **pollination, seed formation** and **seed dispersal. -**Y3 Can you name the ways seeds can be dispersed? How are seeds formed?	pollination, seed dispersal, formation
	Plant growth	Recognise the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) -Y3 What do plants need to grow? Identify/describe and draw the way in which water is **transported** within plants -Y3 How do plants get water?	photosynthesis, carbon dioxide nutrients, fertiliser, pollination seed dispersal, seed formation
	Classification	Recognise that living things can be grouped in a variety of ways -Y4 Complete classification keys to help group, identify and name a variety of living things in their local and wider environment -Y4 What are amphibians/ mammals/ vertebrates etc? What makes a… a …? (e.g. What makes a chicken a bird?) Is a … a mammal or reptile?	classification classify nocturnal mammal, amphibian, fish, bird, reptile
	Animal growth	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. -Y3 What is nutrition?	nutrition, carbohydrate, protein, fats, oils, vitamins, fruit, vegetable

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

Love, Learn, Discover
Lewis Street Primary School

		What are the main food groups? Do we eat the same as other animals?	
	Genetics	Explain how plants and animals resemble their parents in many features. How are plants and animals similar to their parents?	features, characteristics, resemblance, generation
	The body	Identify the different types of teeth in humans and their simple functions -Y4 Label names and functions of teeth inc structure -Y4 Can you name the types of teeth? What is each tooth for? Identify that humans and some other animals have skeletons and muscles for support, protection and movement. -Y3 Why do we have a skeleton and muscles? Identify and label simple functions of the basic parts of the **digestive system** in humans -Y4 Which parts of our body are in the digestive system?	vertebrate, invertebrate endoskeleton, exoskeleton hydrostatic skeleton skeleton, muscles, pelvis, cartilage, tendon, spine, joint mouth, teeth, saliva oesophagus, stomach small intestine, large intestine rectum, anus, digestive system nutrients, diet
	Food chains	Arrange and illustrate food chains, identifying **producers, predators, prey, herbivore, carnivore** and **omnivore -Y4** Where in a food chain is a producer? What is a…?(e.g. predator/ herbivore) Can you organise … into a food chain?	nutrients, carnivore, omnivore, herbivore, producer, predator, prey, energy, transfer
	Habitats	Identify how different animals are suited to living in their environments in different ways What different habitats are there? How is a … suited to its habitat?	habitat, environment
	Chemistry Properties of materials	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 -Y3 (Covered in physics) What are these objects made from? What is magnetism? Is… magnetic?	magnetic, properties
	Changes	Observe that some materials change state when they are heated or cooled -Y4 What are the states of matter? How do we turn… into…? (e.g. water to ice) What happens when… is heated? Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. -Y4 What is evaporation/ condensation?	state, melt, evaporate, condense, water cycle, precipitation, transpiration

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

Love, Learn, Discover
Lewis Street Primary School

		Can you label the water cycle?	
	Comparing materials	Compare and group materials together, according to whether they are solids, liquids or gases -Y4 What are the states of matter? What are the properties of a solid/ liquid/ gas? Is … a…? (e.g. is sand a liquid?)	solid liquid gas particles
	Rocks	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties -Y3 What properties do rocks have? Do all rocks have the same properties? What is similar/ different about these rocks?	igneous, sedimentary metamorphic, magma fossils, crystals organic matter, sediment
	Physics Sound	Identify how sounds are made, associating some of them with something vibrating -Y4 How are sounds made? Recognise that vibrations from sounds travel through a medium to the ear -Y4 How do we hear? What can affect the volume of a sound?	pitch, volume, vibrating, sound
	Light	Recognise that light from the sun is dangerous and we need to protect our eyes - Y3 How can the sun damage our eyes? How can we protect our eyes from the sun? Recognise that we need light in order to see things and that dark is the absence of light -Y3 How do we see things? Recognise that shadows are formed when the light from a light source is blocked by an opaque object -Y3 What does opaque mean? How is a shadow formed? Find patterns in the way that the size of shadows change. -Y3 How do shadows change?	light, dark, shadow, opaque, mirror, reflect
	Forces	Compare how things move on different surfaces -Y3 How can the surface affect how something moves? Notice that some forces need contact between two objects, but magnetic forces can act at a distance -Y3 What are contact forces? What is a non contact force? Observe how magnets attract or repel each other and attract some materials and not others -Y3 What does attract/ repel mean?	magnetic pole attract repel contact, non-contact push, pull, distance

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

		Describe magnets as having two **poles** -Y3 Can you show me the poles? Predict whether two magnets will **attract** or **repel** each other, depending on which poles are facing. -Y3 Will these magnets attract/ repel?	
	Electricity	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers (Inc. scientific symbols) -Y4 What do we need to make a circuit? Identify common appliances that run on electricity -Y4 What do we use that is powered by electricity? Recognise some common conductors and insulators, and associate metals with being good conductors. -Y4 What are conductors/ insulators? Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit -Y4 Is this switch open/ closed? Will the bulb light up? 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 -Y4 Is the circuit complete? Will the bulb light up in this circuit?	light source conductor insulator appliance complete circuit components cell battery positive/negative wire crocodile clip bulb bright/dim
	Earth and Space	Describe the movement of the Moon relative to the Earth -Y5 How does the moon move in relation to the Earth? Describe the movement of the Earth relative to the Sun in the solar system. - Y5 How does the Earth move in relation to the sun? Can you identify the moon, sun and Earth?	Solar system, planet, moon, orbit
	Working Scientifically	**Ask relevant questions and use different types of scientific enquiries to answer them** The children answer questions posed by the teacher. Children consider prior knowledge when asking questions. Children recognise when secondary sources can be used to answer questions that cannot be answered through practical work. **Make careful observations and, where appropriate, taking accurate measurements using standard units** The children make careful observations.	enquiry, variables, fair test, investigate, measure, predict, diagram thermometer, develop, practical enquiry, comparative test, relationships, conclusion, accurate, thermometer, data logger, estimate,

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

		They use a range of equipment for measuring length, time, temperature and capacity. They use standard units for their measurements. **Setting up simple practical enquiries, comparative and fair tests** Children select from a range of practical resources to gather evidence to answer questions generated by the teacher. **Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions** Children record their measurements e.g. using tables, tally charts and bar charts (given templates, if required, to which they can add headings). They record classifications e.g. using tables, Venn diagrams, Carroll diagrams. **Use straightforward scientific evidence to answer questions or to support their findings** Children answer their own and others' questions based on observations they have made, measurements they have taken or information they have gained from secondary sources. The answers are consistent with the evidence. **Identifying differences, similarities or changes and reporting findings** Children interpret their data to generate simple comparative statements based on their evidence. They begin to identify naturally occurring patterns and causal relationships. Children use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Children communicate their findings to an audience both orally and in writing, using appropriate scientific vocabulary.	data, key (identifying), table, bar chart, results, explanation, reason, similarity, difference. evidence, findings, units As well as previous vocab: observe, experience, changes, group, sort, classify, compare, identify (name), measure, question, test, explore, magnifying glass, pattern, investigate, equipment, record, describe, pictograph, block graph, label, diagram
Year 4	**Biology** Fossils	Recognise that soils are made from rocks and organic matter. Y3 Compare and contrast different soils What is soil made from? How can soils be different? Teach others in simple terms how **fossils** are formed when things that have lived are trapped within rock -Y3 How does something get fossilised? How long does fossilisation take?	peat, sandy/chalk/clay soil palaeontology ammonite ichthyosaur plesiosaur ammonite
	Plant structure	Summarise the functions of different parts of flowering plants: **roots, stem/trunk, leaves** and **flowers** -Y3 Can you name the parts of plants? Can you describe what each part is for?	style stigma stamen
	Life cycles	Display the part that flowers play in the life cycle of flowering plants, including **pollination, seed formation** and **seed dispersal.** Y3 Can you explain how flowers help plants to pollinate? Can you name the ways seeds can be dispersed? How are seeds formed?	pollination, seed dispersal, formation
	Plant growth	Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and compare different plants. Y3	pollination chlorophyll

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

		What do plants need to grow? Is this the same for all plants? Investigate the way in which water is **transported** within plants Y3 How do plants get water? How do plants lose water?	xylem transpiration insects population
	Classification	Categorise living things in a variety of ways -Y4 Follow and use classification keys to help group, identify and name a variety of living things in their local and wider environment -Y4 What are vertebrates/ invertebrates? What makes a… a …? (e.g. What makes a chicken a bird?) Is a … a mammal or reptile?	categorise, classify, vertebrate, invertebrate, mammal, reptile, amphibian, bird, fish
	Animal growth	Explain 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- Y3 What is nutrition? What are the main food groups? Do we eat the same as other animals? Do we get our food in the same way as other animals?	reproduction, nutrition, carbohydrates, oils, fats, vitamins, water, diet, protein, fruit, vegetables
	Genetics	Explain how plants and animals resemble their parents in many features. How are plants and animals similar to their parents?	features, resemblance, characteristics, generation
	The body	Compare and contrast the different types of teeth in humans and their simple functions -Y4 Can you name the types of teeth? What is each tooth for? Summarise that humans and some other animals have skeletons and muscles for **support, protection** and **movement**. -Y3 How can humans move? Why do we have a skeleton? Describe the simple functions of the basic parts of the **digestive system** in humans -Y4 What does each part of our digestive system do?	salivary gland, molar, canine, incisor cochlea, hammer organ, pancreas, intestine bicep, tricep, femur, pelvis, ribcage Carbohydrates, proteins, dairy fats, sugars, vitamins
	Food chains	**Construct and interpret** a variety of food chains, identifying **producers, predators** and **prey. -Y4** What would a … prey on? What is a …'s predator? What does a food chain always begin with?	food chain, predators, prey herbivore, carnivore, omnivore producer, consumer, energy, transfer
	Habitats	Explain how different animals are suited to living in their environments in different ways	development

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

		Recognise that environments can change and that this can pose dangers to living things - Y4 What different habitats are there? How is a … suited to its habitat? What is causing habitats to change? What would happen if…?	deforestation litter
	Chemistry Properties of materials	Compare and contrast everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials -Y3 (Covered in physics) What are these objects made from? What is magnetism? Is… magnetic?	material, magnetic
	Changes	Infer from data 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) -Y4 At what temp does water freeze/ boil? What are the states of matter? How do we turn… into…? (e.g. water to ice) Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. -Y4 What is evaporation/ condensation? Can you label the water cycle? What speeds up evaporation?	temperature, reversible irreversible, melting freezing, condensation evaporation, energy precipitation, water vapour
	Comparing materials	Investigate whether substances are **solids, liquids** or **gases** -Y4 What are the states of matter? What are the properties of a solid/ liquid/ gas? Is … a…? (e.g. is sand a liquid?) How do you know… is a …?	matter state solid, liquid, gas
	Rocks	Categorise different kinds of rocks on the basis of their appearance and simple physical properties **(sedimentary, metamorphic** and **igneous)** -Y3 How are… rocks formed? (e.g. igneous) What properties does a…rock have? How do you know this is a … rock?	minerals, fibre, marble chalk, granite, sandstone, slate, crystals, organic matter, sediment
	Physics Sound	Illustrate how sounds are made, associating some of them with something vibrating -Y4 Recognise that vibrations from sounds travel through a medium to the ear -Y4 How do we hear? Find patterns between the volume of a sound and the strength of the vibrations that produced it. -Y4 What can affect the volume of a sound?	cochlea, hammer pitch, note volume, frequency medium, auditory transmit, sound waves vibrating, insulate

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

	Light	Recognise that we need light in order to see things and that dark is the absence of light -Y3 How do we see things? Notice that light is reflected from surfaces -Y3 What is reflection? Recognise that shadows are formed when the light from a light source is blocked by an opaque object -Y3 What does opaque mean? How is a shadow formed? Find patterns in the way that the size of shadows change. -Y3 How do shadows change?	reflection, opaque, shadow, light, dark, reflect
	Forces	Devise an investigation to show how things move on different surfaces and that some forces need contact between two objects, but magnetic forces can act at a distance -Y3 How does the surface affect how something moves? What is magnetism? Explain how magnets have two poles and Predict whether two magnets will attract or repel each other, depending on which poles are facing.-Y3 Will these magnets attract/ repel? Conclude how magnets attract or repel each other and attract some materials and not others -Y3 What kind of materials do magnets attract? What are these objects made from? Is… magnetic?	surface, magnet, magnetic, attract, repel, contact, non-contact, push, pull, distance
	Electricity	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, **switches** and buzzers -Y4 What do we need to make a circuit? Explain the importance of electricity and safety. -Y4 What dangers does electricity pose? How can we keep ourselves safe? Plan an investigation to uncover common conductors and insulators, and associate metals with being good conductors. -Y4 What are conductors/ insulators?	insulator, conductor, circuit, components, current, switch

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

		Design a switch which can be used to turn a simple circuit on and off based on knowledge of conductors and insulators.-Y4 How does a switch work? Predict 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 -Y4 Is the circuit complete? Will the bulb light up in this circuit?	
	Earth and Space	Describe the movement of the Moon relative to the Earth -Y5 How does the moon move in relation to the Earth? Describe the movement of the Earth relative to the Sun in the solar system. - Y5 How does the Earth move in relation to the sun? How does this give us seasons?	Earth, moon, orbit, season, day, night
	Working Scientifically	**Ask relevant questions and use different types of scientific enquiries to answer them, controlling variables where necessary** Children independently use a range of question stems. They identify the type of enquiry that they have chosen to help answer their question and identify different variables relevant to the enquiry. Given a range of resources, children decide for themselves how to gather evidence to answer the question. **Make systematic and careful observations and, take accurate measurements using standard units** The children systematically make careful observations using a range of equipment. **Setting up simple practical enquiries, comparative and fair tests** Children follow their plan to gather evidence to answer questions generated by themselves. They carry out: observations and tests to classify; comparative and simple fair tests (with controlled variables); observations over time; and pattern seeking. **Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions** Children sometimes decide how to record and present evidence. Children are supported to present the same data in different ways in order to help with answering the question. **Use straightforward scientific evidence to answer questions or to support their findings Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions** Children identify ways in which they adapted their method as they progressed or how they would do it differently if they repeated the enquiry.	enquiry, variables, fair test, investigate, measure, predict, diagram thermometer, develop, practical enquiry, comparative test, relationships, conclusion, accurate, thermometer, data logger, estimate, data, key (identifying), table, bar chart, results, explanation, reason, similarity, difference. evidence, findings, improve, units As well as previous vocab: observe, experience, changes, group, sort, classify, compare, identify (name), measure, question, test, explore, magnifying glass, pattern, investigate, equipment, record, describe, pictograph, block graph, label, diagram

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

Love, Learn, Discover
Lewis Street Primary School

Year 5	**Biology** Fossils	Recognise that living things have changed over time and that fossils provide information about living things which inhabited the Earth millions of years ago. -Y6 How have living things evolved? What can fossils tell us about prehistoric life? How does something get fossilised? How long does fossilisation take?	fossilisation evolution prehistoric sediment
	Plant structure	Plant reproduction Can you name the parts of the plant responsible for plant reproduction?	pollen, anther, filament, ovary carpel, pistil botanical illustration, dissection
	Life cycles	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. -Y5 Can you name the key stages in the life cycles of a…? What is metamorphosis? Describe the life process of reproduction in some plants and animals. -Y5 Explain the changes the body goes through during puberty for boys and girls. -Y5 What happens during puberty?	metamorphosis toddler, adolescence reproduction, cell, sperm, egg, embryo, foetus, gamete penis, testicles, breasts, genitals fertilisation, pregnancy, gestation puberty, menstruation
	Plant growth	Describe the ways in which nutrients and water are transported within animals, including humans. Y6 How do humans and animals transport water around their bodies? What nutrients are carried in the blood?	germination asexual/ sexual reproduction plant cuttings
	Classification	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals -Y6 What is similar/ different about a… and …? (e.g. dalmatian and terrier) What is a microorganism? Give reasons for classifying plants and animals based on specific characteristics. -Y6 Which group do these animals belong to? How do you know? How can you tell these plants belong in the same category?	microorganism characteristic category classification key classify variation
	Animal growth	Recognise the impact of diet, exercise and lifestyle on the way their bodies function -Y6 How can we stay healthy? What impact does poor diet etc have on us? Describe the changes as humans develop to old age mentally and physically. -Y5 What happens to humans as they grow older?	obese, diet, underweight, exercise, mental health, physical health

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

Love, Learn, Discover
Lewis Street Primary School

	Genetics	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents -Y6 What characteristics can be passed on?	kingdom female, male variation, inheritance, generation
	The body	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood -Y6 What are the main components of the circulatory system? What does each part do? What is transported around the body?	circulatory system blood vessel, artery, vein, lungs, heart oxygenated/ deoxygenated
	Habitats	Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution -Y6 How is a … suited to its habitat? What is evolution? How have living things evolved? How do plants adapt to their environment?	evolution, adaptation Charles Darwin
	Chemistry Properties of materials	Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, and response to magnets. -Y5 Compare everyday materials on the basis of their conductivity (electrical and thermal). -Y5 What does… mean? (e.g. soluble) Is… magnetic? What does conductor mean? Is… a conductor?	opaque, transparent, translucent, magnetic, soluble, conductor, insulator, elasticity, transparency
	Changes	Know that some materials will dissolve to form a solution and how to recover a substance from a solution. -Y5 What is dissolving? Demonstrate that dissolving, mixing and changes of state are reversible changes -Y5 How can we recover a substance which has dissolved? Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. Y5 Is… a reversible or irreversible change?	reversible, irreversible, reaction reactant, product, solute solvent, solution, dissolve evaporate, thermal rust, oxidation, burning
	Comparing materials	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating -Y5 Is … a…? (e.g. is sand a liquid?) What are the different separation techniques we can use? How would you separate… and…?	separate, solubility insoluble, filtering, sieving, melting evaporation

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

	Rocks	Fossils in Biology	organic matter, crystals, sediment, fossilisation
	Physics Sound	Correlate between the pitch of a sound and features of the object that produced it -Y4 What is pitch? How can it be changed?	pitch, frequency
	Light	Understand that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes -Y6 How do we see? Recognise that light appears to travel in straight lines. -Y6 How does light travel? Notice that light is reflected from surfaces -Y3 What is reflection? Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them -Y6 How are shadows formed?	prisms colour spectrum rainbow reflection light source shadows, opaque
	Forces	Identify the effects of friction that acts between moving surfaces -Y5 Identify the effects of water and air resistance -Y5 What is friction/ air/ water resistance? What effects do they have? What is buoyancy? Describe how unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. -Y5 What does gravity do? Recognise that some mechanisms, including gears, levers and pulleys, allow a smaller force to have a greater effect. Y5 How do gears/ levers/ pulleys work? What is their purpose?	air resistance, parachute, drag water resistance, up-thrust mechanisms, transfers levers, rotation, pulleys gears, spring, balancing force resistance force gravity, mass, weight (Newtons)
	Electricity	Use recognised symbols when representing a simple circuit in a diagram. -Y6 What symbol is this? Link electrical conductors/ insulators to thermal conductors/ insulators. What are conductors/ insulators? Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in a simple circuit. -Y6	circuit electrical components diagram symbol cell buzzer emit

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

		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 -Y6 How can we make bulbs brighter? How does a switch work? What is voltage?	voltage circuit diagram
	Earth and Space	Discover the planets in our solar system and their movement relative to the Sun. Describe the Earth and Moon are spherical bodies -Y5 Can you name the planets in order? How do the planets move in relation to the sun? What shape are the Earth & moon? Describe the movement of the moon relative to the Earth How does the moon move in relation to the Earth? Use the idea of the Earth's rotation to explain day, night and seasons and the apparent movement of the sun across the sky. -Y5 How long does it take Earth to orbit the sun? Why do we have seasons? How long does it take the moon to orbit? How long does it take the Earth to rotate? Why do we have day and night?	planet, Earth, moon, sun, star crescent moon Gibbous moon ray, astronomical lunar, spherical bodies, hemisphere, longitude, latitude satelite gravity orbit, rotate, axis, solar system, day, night, seasons
	Working Scientifically	**Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary** Children independently ask scientific questions. This may be stimulated by an experience or involve asking further questions based on their developed understanding following an enquiry. Given a wide range of resources the children plan for themselves how to gather evidence to answer a scientific question. **Take measurements, use a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate** Children select measuring equipment to give the most precise results During an enquiry, they make decisions e.g. whether they need to: take repeat readings (fair testing); increase the sample size (pattern seeking); adjust the observation period and frequency (observing over time); or check further secondary sources (researching); in order to get accurate data (closer to the true value). **Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary** Children select from a range of practical resources to gather evidence to answer their questions. They decide what observations or measurements to make over time and for how long.	variables, evidence, justify, accuracy, precision, scatter graphs, bar graphs, line graphs, argument (science), causal relationship, reliability, frequency As well as previous vocab: enquiry, variables, fair test, investigate, measure, predict, diagram thermometer, develop, practical enquiry, comparative test, conclusion, thermometer, data logger, estimate, data, key

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

		Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Children decide how to record and present evidence. They record observations e.g. using labelled diagrams, observational drawings, labelled scientific diagrams or writing. They record measurements e.g. using tables, tally charts, bar charts, line graphs and scatter graphs. They record classifications e.g. using tables, Venn diagrams, Carroll diagrams and classification keys. **Identify scientific evidence that has been used to support or refute ideas or arguments** Children talk about how their scientific ideas change due to new evidence that they have gathered. They talk about how new discoveries change scientific understanding. **Using test results to make predictions and to suggest improvements and raise further questions** Following a scientific experience, children ask further questions which can be answered by extending the same enquiry. Children use the scientific knowledge gained from enquiry work to make predictions they can investigate using comparative and fair tests. They communicate their findings to an audience using relevant scientific language and illustrations.	(identifying), table, bar chart, results, explanation, reason, similarity, difference, findings, improve, units, observe, experience, changes, group, sort, classify, compare, identify (name), measure, question, test, explore, magnifying glass, pattern, investigate, equipment, record, describe, pictograph, block graph, label, diagram
Year 6	**Biology** Fossils	Explain how living things changing over time and that fossils support the fact that living things inhabited the Earth millions of years ago -Y6 How have living things evolved? How do fossils prove prehistoric life? How does something get fossilised? How long does fossilisation take?	fossilisation, prehistoric, evolution, sediment
	Plant structure	Plant reproduction Can you identify the parts of the plant responsible for plant reproduction from a picture or real flower? How is plant reproduction similar/ different to animal reproduction?	pollen, anther, filament, ovary carpel, pistil botanical illustration, dissection
	Life cycles	Demonstrate the differences in the life cycles of a mammal, an amphibian, an insect and a bird. -Y5 How are the life cycles of different living things different/ similar? Explain artificial and natural reproduction in some plants and animals.	reproduction, artificial, natural, sexual, asexual
	Plant growth	Illustrate and compare the differences in the ways in which nutrients and water are transported within living things. Y6 Can you explain the differences between how animals and plants transport water and nutrients? What nutrients are in our bodies? What do diffusion & osmosis mean?	diffusion, osmosis, nutrients, transport, permeable, semi-permeable membrane, concentration, plant cuttings, sexual, asexual, xylem transpiration
	Classification	Organise living things by creating classification keys - common observable characteristics/ similarities and differences, including microorganisms, plants and animals. -Y6	micro-organism bacteria, monera, protista, algae

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

		Can you create a classification key to group these living things? What is similar/ different about an… and …? (e.g. elephant and a terrier) What is a microorganism? How can you tell these plants belong in the same category?	non-porous, fungi classification key Carl Linnaeus, Mary Annings William Wallace species, phylum, class, order family, genus
	Animal growth	Recognise the impact of diet, exercise and lifestyle on the way their bodies function -Y6 What impact does poor diet etc have on us? Summarise the 6 key stages of a human life and the changes which happen to humans mentally and physically as they develop to old age. -Y5 Can you explain the changes that happen in each life cycle stage?	drugs, addiction, alcohol cigarettes, stimulant depressant disease, exercise
	Genetics	Give support for how living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents -Y6 Why are offspring not an identical copy of their parents? What are genes?	adaptation evolution, inherited natural selection, generation
	The body	Demonstrate understanding of the main parts of the human circulatory system, as well as the functions of the heart, blood vessels and blood. Interpret HR data from a variety of animals -Y6 What are the main components of the circulatory system? What does each part do? What is transported around the body? What conclusions can you make about the size of an animal and its HR? Why is this?	cardiovascular, diffusion osmosis, permeable/ semi-permeable membrane pulse, chromosomes blood vessels, capillaries, atrium ventricles, gene, iris, lens, retina cornea, pupil
	Food chains	**Analyse** the consequences to changes/ disruptions to a variety of food chains, identifying **producers, predators** and **prey. -Y4** What would a … prey on? What is a …'s predator? What would happen if a … died out?	apex, primary, secondary, tertiary, predator, prey, producer, extinction, carnivore, herbivore, omnivore
	Habitats	Demonstrate how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution -Y6 How is a … suited to its habitat? What is evolution?	adaptation evolution natural selection
	Chemistry Properties of materials	Design a fair test to give reasons for the particular uses of everyday materials, including metals, wood and plastic. -Y5 Why is… used for…? (e.g. Why is wood used for tables?)	

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

	Changes	Examine irreversible changes which result in the formation of new materials, including changes associated with burning and the action of acid on bicarbonate of soda -Y5 Why are some changes irreversible? Is… a reversible or irreversible change?	reversible, irreversible, mixture, suspension, concentration colloid heterogeneous/ homogeneous burning, rusting, oxidation, reaction
	Comparing materials	Examine irreversible changes which result in the formation of new materials, including changes associated with burning and the action of acid on bicarbonate of soda -Y5 Why are some changes irreversible? Is… a reversible or irreversible change?	filter, reversible, irreversible, change, reaction, reactants, product
	Rocks	Fossils in Biology	fossilisation, organic matter, crystals, sediment
	Physics Sound	Find correlation between the volume of a sound and the strength of the vibrations that produced it and that sounds get fainter as the distance from the sound source increases. -Y4 What is pitch? How can it be changed? What can affect the volume of a sound?	pitch, vibrations, frequency, distance, volume, sound waves, decibels
	Light	Explain that we see things in colour because light travels from light sources to our eyes or from light sources to objects and then to our eyes -Y6 How do we see? Use the idea that light travels in straight lines to predict the direction of reflected light -Y6 How does light travel? What is reflection? Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. -Y6 How are shadows formed?	light, travel, light source, eye, reflection, refraction, opaque, transparent, shadow convex, concave absorb, periscope
	Forces	Investigate the effects of air, water resistance and friction, that act between moving surfaces -Y5 What is friction/ air/ water resistance? What effect do they have? What is buoyancy/ upthrust? Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object -Y5 What does gravity do? Investigate how gears allow a smaller force to have a greater effect. -Y5 Prove that some mechanisms, including levers, pulleys, allow a smaller force to have a greater effect by creating a correlation graph -Y5	streamlined, friction, resistance, balanced forces, gravity, gears, mechanisms, pulley, lever, spring, up-thrust, buoyancy, parachute, drag

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

Love, Learn, Discover
Lewis Street Primary School

		How do gears/ levers/ pulleys work? What is their purpose?	
	Electricity	Construct circuits which clearly show how the brightness of a lamp or the volume of a buzzer are affected by the number and voltage of cells used in the circuit -Y6 What do we need to make a parallel circuit? Investigate electrical conductors/ insulators and thermal conductors/ insulators within parallel circuits. What are conductors/ insulators? 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 in parallel circuits. -Y6 How can we make bulbs brighter? How does a switch work?	parallel circuit, conductor, insulator, complete circuit, switch, circuit diagram, voltage. motor turbines, generator fuses
	Earth and Space	Illustrate the movements of the Moon, Earth, and other planets, relative to the Sun in the solar system and explain how ideas of the solar system have changed over time. -Y5 How do the planets move in relation to the sun? How was this discovered? What did people think about the solar system in the past? How does the moon move in relation to the Earth What effect does this movement have on Earth? Analyse data which shows how the Earth's rotation explains day, night and seasons and the apparent movement of the sun across the sky. -Y5 What causes day and night/ seasons?	Earth, moon, planet names, star, sun axis, tides crescent moon Gibbous moon Galileo Newton lunar phase equinox solstice rotation, orbit satelite spherical bodies
	Working Scientifically	**Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary** Children choose a type of enquiry to carry out and justify their choice. **Take measurements, use a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary** While carrying out investigations, children look for patterns and relationships using a suitable sample. **Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs** Children present the same data in different ways in order to help with answering the question.	anomalies, correlation, variables, evidence, justify, accuracy, precision, scatter graphs, bar graphs, line graphs, argument (science), causal relationship, reliability, frequency As well as previous vocab:

Science Overview: Knowledge and Vocabulary from EYFS to Key Stage 2

		Identify scientific evidence that has been used to support or refute ideas or arguments Children answer their own and others' questions based on observations they have made, measurements they have taken or information they have gained from secondary sources. When doing this, they discuss whether other evidence (e.g. from other groups, secondary sources and their scientific understanding) supports or refutes their answer. **Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results** In their conclusions, children: identify causal relationships and patterns in the natural world from their evidence; identify results that do not fit the overall pattern; and explain their findings using their subject knowledge. Children evaluate, for example, the choice of method used, the control of variables, the precision and accuracy of measurements and the credibility of secondary sources used. They identify any limitations that reduce the trust they have in their data.	enquiry, variables, fair test, investigate, measure, predict, diagram thermometer, develop, practical enquiry, comparative test, conclusion, thermometer, data logger, estimate, data, key (identifying), table, bar chart, results, explanation, reason, similarity, difference, findings, improve, units, observe, experience, changes, group, sort, classify, compare, identify (name), measure, question, test, explore, magnifying glass, pattern, investigate, equipment, record, describe, pictograph, block graph, label, diagram