SCIENCE OVERVIEW						
Year R	**Autumn**		**Spring**		**Summer**	
Enquiry question	**How are we the same and different?**	**What changes happen in winter?**	**What can we discover about our world?**	**What changes can we see in spring?**	**What grows in a garden?**	**What lives in the ocean?**
Key vocabulary	human, body, face, eyes, ears, nose, autumn, leaf, grow, change	winter, cold, frost, ice, snow, weather, season, Arctic, habitat, melt	world, country, habitat, animal, hot, cold, healthy, compare, climate, explore	spring, blossom, flower, plant, grow, chick, lamb, observe, change, season	seed, root, stem, leaf, flower, soil, insect, caterpillar, butterfly, pollen	ocean, sea, fish, turtle, habitat, float, sink, recycle, pollution, protect
Learning objectives	Talk about similarities and differences. Name parts of the body. Use senses to explore. Observe signs of autumn. Notice how people grow and change.	Observe winter weather. Explore ice and snow. Talk about seasonal change. Compare hot and cold places. Find out about animals in cold habitats.	Explore different places around the world. Compare animals from different habitats. Talk about how to stay healthy. Observe similarities and differences. Ask questions about the world around us.	Observe signs of spring. Notice plants growing. Explore baby animals. Compare changes over time. Talk about what they observe.	Observe plants growing. Explore lifecycles. Identify common insects. Notice changes over time. Care for living things.	Explore sea creatures. Compare ocean habitats. Investigate floating and sinking. Talk about caring for the environment. Describe what they know about the natural world.

SCIENCE OVERVIEW						
Year 1	**Autumn**		**Spring**		**Summer**	
Topic title	Animals - Humans	Seasonal Changes	Material Properties – everyday materials	Plants	Animals – other animals	
Enquiry question	**How do our bodies help us find out about the world?**	**How does the world around us change throughout the year?**	**How can we identify and sort materials?**	**What plants can we find around us?**	**How are animals the same and different?**	**What do animals need to survive?**
Key vocabulary	human, body, head, arm, leg, eyes, ears, nose, mouth, senses	season, spring, summer, autumn, winter, weather, temperature, daylight, observe, compare	material, object, wood, plastic, metal, glass, waterproof, transparent, rough, smooth	plant, wild, garden, deciduous, evergreen, flower, leaf, root, stem, trunk	mammal, bird, fish, amphibian, reptile, feathers, fur, scales, tail, classify	herbivore, carnivore, omnivore, senses, survive, healthy, food, shelter, offspring, reproduce
Learning objectives	Identify, name and label the basic parts of the human body. Recognise that humans are animals. Identify the body parts associated with each of the five senses. Use our senses to observe and describe objects and materials. Compare and describe similarities and	Identify and name the four seasons. Describe the weather associated with each season. Observe and record daily weather patterns. Compare how the environment changes across the seasons.	Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials. Describe the simple physical properties of different materials. Compare materials using their observable properties.	Identify and name a variety of common wild plants. Identify and name a variety of common garden plants. Identify and compare deciduous and evergreen trees. Identify and label the basic parts of a flowering plant. Identify and label the basic parts of a tree.	Identify and name common mammals and birds. Identify and name common fish, amphibians and reptiles. Describe the features of different animal groups. Compare the structures of different animals.	Identify animals that are herbivores, carnivores and omnivores. Describe what different animals eat. Explain how animals use their senses to explore the world around them. Recognise that animals are living things that grow, move and reproduce.

	differences between people. Recognise that humans have many features in common.	Explore how day length changes throughout the year. Explain how temperature varies in different seasons.	Group materials according to their properties. Explain why materials can be sorted in different ways.	Explain how the different parts of a plant help it grow.	Group animals according to their features. Explain how animals are similar and different.	Describe what animals need to stay alive and healthy. Explain how animals should be treated with care and sensitivity.

SCIENCE OVERVIEW						
Year 2	**Autumn**		**Spring**		**Summer**	
Topic title	Plants – Plant growth	Material properties – Uses of materials	Health - how we grow and stay healthy	Animals – Survival and growth	Environments - Living things and their habitats	
Enquiry question	What do plants need to grow and stay healthy?	Why are some materials better for certain jobs than others?	What do humans need to grow, stay healthy and survive?	How do animals grow and survive?	How do habitats help living things survive?	How do living things depend on each other?
Key vocabulary	seed, bulb, germinate, shoot, root, stem, mature, healthy, temperature, growth	material, property, suitable, unsuitable, natural, man-made, flexible, rigid, waterproof, force	offspring, baby, toddler, child, teenager, adult, survive, nutrition, hygiene, medicine	offspring, grow, adult, survive, life cycle, hatch, caterpillar, pupa, tadpole, habitat	living, dead, never alive, habitat, microhabitat, environment, survive, shelter, local, woodland	living, dead, habitat, microhabitat, food chain, food source, shelter, survive, predator, prey, producer, consumer
Learning Objectives	Identify and compare seeds and bulbs. Observe and describe how a seed begins to grow. Observe and describe how a bulb begins to grow. Record changes in plants over time.	Identify a range of everyday materials and whether they are natural or man-made. Describe the properties of everyday materials. Compare materials and explain why they are used for particular objects. select suitable materials for different purposes.	Identify the stages of human growth from baby to adult. Describe how humans change as they grow and develop. Explain why water, food and air are essential for survival. Explore the different types of food needed to keep our bodies healthy.	Identify the offspring of different animals. Describe how animals change as they grow into adults. Compare the life stages of different animals. Explain why animals need water, food and air to survive.	Identify whether something is living, dead or has never been alive. Describe the characteristics of living things. Explain what a habitat is and why living things need one. Identify and name plants and animals	Compare different habitats and the plants and animals that live there. Explain why different plants and animals are suited to different habitats. Describe how plants and animals depend on each other within a habitat.

SCIENCE OVERVIEW						
Year 2	**Autumn**		**Spring**		**Summer**	
	Investigate the importance of water for plant growth. Investigate how light and temperature affect plant growth and health.	Investigate how some materials can be changed by squashing, bending, twisting and stretching. Explain how the properties of a material affect its use.	Explain the importance of exercise and hygiene for good health. Describe how medicines can help us when we are ill and how to use them safely.	Explain how animals get the food, water and air they need to survive.	found in local habitats. Explore and describe microhabitats and the living things found there. Explain how habitats provide living things with what they need to survive.	Identify different sources of food for animals. Construct and describe simple food chains. Observe and compare living things in habitats during seasonal changes.

SCIENCE OVERVIEW						
Year 3	**Autumn**		**Spring**		**Summer**	
Topic title	Material Properties - Rocks	Animals including humans – health and Movement	Forces and Magnets	Light and Astronomy – reflections and shadows	Plants – functions and parts of a plant	
Enquiry question	**How do rocks, fossils and soils help us understand the Earth?**	**How do food, bones and muscles help our bodies stay healthy and move?**	**How do forces and magnets affect the movement of objects?**	**How does light help us to see the world around us?**	**How do the parts of a plant help it survive and grow?**	**How do flowering plants reproduce and continue their life cycle?**
Key vocabulary	igneous, sedimentary, metamorphic, rock, fossil, soil, organic matter, crystal, grain, hardness	nutrition, nutrient, carbohydrate, protein, fat, balanced diet, skeleton, muscle, vertebrate, movement	force, push, pull, friction, surface, magnet, magnetic, attract, repel, pole	light, light source, dark, reflection, reflect, surface, shadow, opaque, transparent, translucent	root, stem, leaf, flower, nutrient, soil, water transport, growth, anchor, photosynthesis	pollination, pollen, insect, seed, seed dispersal, fertilisation, fruit, life cycle, reproduce, flowering plant
Learning Objectives	Recognise and describe the features of different rocks. Compare and group rocks by their appearance and physical properties. Investigate the hardness and permeability of different rocks. Recognise fossils as evidence of plants and	Recognise that animals, including humans, need nutrition to stay healthy and cannot make their own food. Identify the nutrients needed for a healthy and balanced diet. Explain how an adequate and varied diet, water and air	Recognise that forces act when objects push or pull each other. Compare how objects move across different surfaces. Identify that some forces require contact between objects, whilst magnetic	Recognise that light is needed to see and that darkness is the absence of light. Recognise that light is reflected from surfaces. Recognise that sunlight can be dangerous and explain how to	Identify the main parts of a flowering plant and describe their functions. Explain how roots, stems and leaves help plants survive. Recognise that plants need water, light, air, nutrients and space to grow.	Recognise the role of flowers in the life cycle of a flowering plant. Describe how pollination occurs. Explain how seeds are formed after pollination.

SCIENCE OVERVIEW						
Year 3	**Autumn**		**Spring**		**Summer**	
	animals that lived long ago. Describe how fossils are formed within sedimentary rock. Recognise that soils are made from rocks and organic matter and compare soils from different environments.	contribute to good health. Recognise that humans and other vertebrates have skeletons for support, protection and movement. Identify the main bones in the human skeleton and explain how they protect vital organs. Recognise that muscles work with bones to help the body move. Explain how regular exercise contributes to a healthy body.	forces can act at a distance. Recognise that magnets attract some materials but not others. Compare and group materials according to whether they are magnetic. Describe magnets as having poles and predict whether magnets will attract or repel.	protect the eyes from the Sun. Explain how shadows are formed when light is blocked by a solid object. Investigate how changing the position of a light source affects the size of a shadow. Identify patterns in the way shadows change and use evidence to explain findings.	Compare the requirements of different plants for growth. Investigate how water is transported through a plant. Use evidence to explain how a plant's structure supports its growth and survival.	Identify and compare different methods of seed dispersal. Investigate which seed dispersal method is most effective. Explain the life cycle of a flowering plant from pollination to seed dispersal.

SCIENCE OVERVIEW						
Year 4	**Autumn**		**Spring**		**Summer**	
Topic title	Electricity	Materials, Properties and Changes - States of matter	States of matter	Sound	Animals - teeth, eating and digestion	Environment - Living things and their habitats
Enquiry question	**How does electricity travel through a circuit to make things work?**	**How can we identify and classify solids, liquids and gases?**	**How does temperature affect changes of state in the water cycle?**	**How are sounds made, heard and changed?**	**How does the food we eat help our bodies survive and grow?**	**How can we identify, group and protect living things in our environment?**
Key vocabulary	electricity, circuit, cell, battery, wire, bulb, switch, conductor, insulator, appliance	solid, liquid, gas, properties, particle, shape, volume, flow, compress, material	melting, freezing, evaporation, vapour condensation, celsius, temperature, degrees water cycle	sound, vibration, volume, pitch, medium, frequency, source, muffling, insulation, distance	digestive system, digestion, oesophagus, stomach, intestine, incisor, canine, molar, predator, prey	classification, habitat, vertebrate, invertebrate, flowering, non-flowering, environment, species, conservation
Learning Objectives	Identify common appliances that use electricity and recognise that electricity can be supplied by mains or batteries. Construct a simple series circuit and identify its main components. Investigate how a complete circuit allows	Compare and group materials according to whether they are solids, liquids or gases. Investigate the properties of solids, liquids and gases through observation and testing. Identify and explain the differences	Observe evaporation over time in everyday situations. Investigate how temperature affects the rate of evaporation using a fair test. Observe and explain condensation in everyday contexts.	Identify how sounds are made and recognise that sounds are caused by vibrations. Investigate how vibrations travel through different materials to the ear. Find patterns between the volume of a sound and the strength of the	Identify the main parts of the human digestive system and describe their functions. Model and explain the journey food takes through the digestive system. Identify the different types of human teeth	Recognise that living things can be grouped in a variety of ways. Observe and identify living things in the local environment. Explore and use classification keys to identify and group living things.

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Year 4	**Autumn**		**Spring**		**Summer**	
	electricity to flow and power a bulb or buzzer. Explore how switches open and close circuits and observe their effect on electrical components. Develop and test methods for finding and fixing faults in simple circuits. Investigate and classify materials as conductors or insulators using evidence from a fair test.	between solids, liquids and gases. Observe how materials change state when they are heated or cooled. Measure and record temperatures during melting and freezing using thermometers or data loggers. Use evidence from observations and investigations to explain changes of state.	Describe and model the stages of the water cycle. Explain how evaporation and condensation drive the water cycle.	vibrations that produce it. Investigate how distance affects the loudness of a sound. Find patterns between the pitch of a sound and the features of the object producing it. Investigate how materials can muffle, block or reduce the transmission of sound.	and explain their functions. Compare the teeth of carnivores, herbivores and omnivores and identify patterns. Research and explain how to care for teeth and maintain oral health. Construct and interpret food chains, identifying producers, predators and prey.	Create and use identification keys for plants and animals. Classify plants and animals using observable characteristics. Investigate how environments change and explain how these changes can affect living things.

SCIENCE OVERVIEW						
Year 5	**Autumn**		**Spring**		**Summer**	
Topic title	Material Properties – Testing Material properties	Material Changes – Reversible and irreversible changes	Light and Astronomy – Earth and Space	Environment – Observing life cycles	Animals – Human life cycles	Forces – Effects on movement
Enquiry question	**What are the properties of everyday materials?**	**What are reversible and irreversible changes?**	**How do the earth moon and sun affect us?**	**How are plan and animal life cycles different?**	**How do change though our lives?**	**What are forces?**
Key vocabulary	Thermal/electrical insulator/conductor soluble, transparent, flexible, hard	change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible, irreversible	earth, sun, moon, planet, orbit, year, phase, waxing, waning, crescent, axis, spherical, rotation, day, night	amphibian, metamorphosis stigma, stamen, petal, sepal, pollen, ovary, germination, pollination	infant, toddler child, adolescent adult, elderly respiration, excretion, movement, senses	gravity, force, air resistance, friction, mechanisms, levers, pulleys, gears
Learning objectives	Identify and describe the properties of materials. Group materials according to their properties. Compare materials based on their properties. Explore how material properties affect their uses. Plan and carry out a fair test.	Explore how materials dissolve to form solutions. Recover substances from solutions. Separate mixtures using different methods. Investigate filtering, sieving and evaporation. Identify reversible changes caused by	Explore the shape and size of the Sun, Earth and Moon. Identify the bodies within our solar system. Describe the movement of planets around the Sun. Describe the movement of the Moon around the Earth.	Explore the life cycle of a mammal. Describe the life cycles of amphibians, insects and birds. Compare the life cycles of different animals. Explain the process of reproduction in animals. Name and describe the functions of flower parts.	Describe the changes as humans develop from infancy to old age. Explain that animals are alive; they move, feed, grow, use their senses, reproduce, breathe/respire and excrete. Compare growth and development at different stages of the human life cycle.	Describe how gravity causes unsupported objects to fall towards the Earth. Identify and compare push, pull and friction forces. Investigate the effects of friction between moving surfaces. Investigate how air resistance affects moving objects.

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Year 5	**Autumn**		**Spring**		**Summer**	
	Use evidence from investigations to explain findings.	dissolving, mixing and changes of state. Explain the difference between reversible and irreversible changes.	Explain how the Earth's rotation causes day and night. Use the Earth's movement to explain the Sun's apparent movement across the sky.	Explain the process of reproduction in flowering plants.	Compare the gestation periods of different mammals. Describe and compare the life cycles of different mammals.	Investigate how water resistance affects moving objects. Recognise that levers, pulleys and gears allow a smaller force to have a greater effect.

SCIENCE OVERVIEW						
Year 6	**Autumn**		**Spring**		**Summer**	
Topic title	Electricity	Living things and their habitats - Classification	Animals - Exercise, health and the circulatory system	Living things and their habitats - Evolution and inheritance	Living things and their habitats - Evolution and inheritance	Light and astronomy – How light travels
Enquiry question	How can changing a circuit affect how well electrical components work?	How can we use characteristics to classify living things?	How do our circulatory system and lifestyle choices help to keep us healthy?	How have living things changed over time to survive in their environments?		How does light help us to see the world around us?
Key vocabulary	electricity, electrical circuit, cell, battery, voltage, buzzer, switch, motor, component, brightness, electrical symbol, conductor, insulator	classification, characteristics, vertebrate, invertebrate, micro-organism, mammal, amphibian	heart, blood, blood vessels, pulse, oxygen, nutrients, circulation, exercise, diet, drugs	evolution, inheritance, adaptation, fossil, offspring, variation, species, extinct, environment, characteristics		light, light source, reflect, reflection, shadow, opaque, transparent, translucent, ray, straight line
Learning objectives	Identify and construct a complete electrical circuit. Investigate how the number of cells affects the brightness of a bulb and the volume of a buzzer. Compare and explain variations in the	Identify how living things can be grouped into micro-organisms, plants and animals. Observe and compare the growth of micro-organisms and identify conditions that help them grow.	Identify and describe the main parts of the human circulatory system. Explain how the heart, blood and blood vessels work together to transport substances around the body.	Recognise that living things have changed over time and that fossils provide evidence of this change. Explore how fossils provide information about organisms that lived millions of years ago. Recognise that offspring are similar to their parents but are not identical.		Recognise that light travels in straight lines. Explain that objects are seen because they emit or reflect light into the eye. Investigate how light travels from a light

SCIENCE OVERVIEW					
Year 6	**Autumn**		**Spring**		**Summer**
	brightness of bulbs in different circuits. Compare and explain variations in the loudness of buzzers and the operation of switches in circuits. Use recognised electrical symbols to represent simple circuits in diagrams. Interpret and construct circuits from circuit diagrams, predicting whether they will work and explaining why.	Classify vertebrates into fish, amphibians, reptiles, birds and mammals using observable characteristics. Classify invertebrates into groups including insects, spiders, worms and molluscs. Classify plants using observable characteristics, including flowering and non-flowering plants. Use scientific evidence to create and justify classification systems for living things.	Investigate how exercise affects heart rate, breathing rate and pulse. Describe how nutrients and water are transported within animals, including humans. Recognise the importance of a balanced diet and its role in maintaining good health. Recognise the impact of drugs, alcohol, tobacco and lifestyle choices on the way the body functions.	Identify and explain variation within a species. Describe how plants and animals are adapted to suit their environments. Explain how adaptations over time may lead to evolution.	source to an object and then to the eye. Use diagrams to represent how light travels and how we see objects. Investigate how shadows are formed when light is blocked by opaque objects. Explain why shadows have the same shape as the objects that cast them using the idea that light travels in straight lines.