SCIENCE

	Autumn	Spring	Summer
YEAR 1	**How can we identify different types of plants and understand what they need to grow and stay healthy?** As scientists, by the end of Year 1, we will know: • The names of some common wild and garden plants and trees • How to tell whether a tree is evergreen or deciduous • The names for the parts of a flowering plant and how to describe their structure • How seeds and bulbs grow into mature plants • What plants need to stay healthy, such as water, light, and warmth **How does electricity flow through circuits to power appliances?** As scientists, by the end of Year 1, we will know: • How to identify sources of electricity • How to name appliances that use electricity • How to build simple circuits and describe their parts **How do we hear sounds and where do they come from?** As scientists, by the end of Year 1, we will know: • How to name different sources of sound • How to recognise sounds • How our ears help us hear **How does light travel from sources to help us see?** As scientists, by the end of Year 1, we will know: • How to name different sources of light and be able to show how light travels to our eye **How does pushing, pulling, and magnets make things move?** As scientists, by the end of Year 1, we will know: • What happens when objects are pushed or pulled • How to observe and describe how different things move, including magnets	**How can we identify animals and humans and understand what they need to survive and stay healthy?** As scientists, by the end of Year 1, we will know: • How to name and group common animals • How to compare the structures of different animals • How to describe what animals eat • The names of parts of the human body and senses • How to match offspring to their adult animals • What animals and humans need to stay healthy **How do the sun, weather, and day length change through the day and year?** As scientists, by the end of Year 1, we will know: • How to identify times of day and seasons • How to observe the sun's position and weather changes • How to describe the key features of each season • How day length changes	**How do humans resemble their parents?** As scientists, by the end of Year 1, we will know: • That humans resemble their parents in many features. **How can we find out where living things live, what they need, and how they depend on each other for food?** As scientists, by the end of Year 1, we will know: • How to describe and sort things as living, dead, or never alive • How to match animals and plants to their habitats • How to explain how animals and plants are suited to their environments • How to describe what different animals eat • How to draw simple food chains **How can we use the properties of materials to decide what they are best used for?** As scientists, by the end of Year 1, we will know: • How to identify everyday materials • How to describe the properties of materials • How to group materials based on their properties • How to observe how materials change shape • How to explain why certain materials are used for specific purposes

YEAR 2	**How does light travel and how does its brightness and obstacles affect what we see?** As scientists, by the end of Year 2, we will know: • How to understand how light travels from sources to our eyes • How to explore how blocking light affects what we see • How to investigate how brightness affects visibility **How are different materials used based on their properties, and how can objects be changed by squashing, bending, or twisting?** As scientists, by the end of Year 2, we will know: • Objects are made from a range of different materials and can be understood in terms of how they are made • Different materials have properties suitable for their uses and can be compared • Objects can be changed when they are squashed, bent, or twisted **How do plants grow, what do they need and how they can stay healthy?** As scientists, by the end of Year 2, we will know: • How to compare different types of plants • Ways to group plants based on their characteristics • How plants grow and what they need to survive • Methods to test and improve plant health	**How can we compare animals and humans and find out what helps them survive, grow, and stay healthy?** As scientists, by the end of Year 2, we will know: • How to compare different groups of animals • Ways to explain what animals eat and how they live • How to describe the differences between animals and their offspring • How humans use their senses • Why diet, clean water, and exercise help us stay healthy **How are humans similar and different to their parents?** As scientists, by the end of Year 2, we will know: • Humans resemble their parents in many features, with both similarities and differences	**How can we use the sun and seasons to understand time, weather, and plan our activities?** As scientists, by the end of Year 2, we will know: • How to estimate the time of day by the sun's position • Ways to categorise seasonal changes • How to compare weather and day length across seasons • How to plan activities suited to each season **How can we show how living things survive in their habitats and how food chains connect them?** As scientists, by the end of Year 2, we will know: • How to group things as living, dead, or never alive • Ways to compare animals and plants by their needs • How to explain why animals and plants live where they do • How to design suitable habitats • How to explore how food chains work **How do force, surface, and weight affect how things move?** As scientists, by the end of Year 2, we will know: • How the strength of a push affects movement • Ways to slow down rolling objects • How to compare different types of movement • How weight influences motion **How can we understand, improve, and fix electrical circuits and appliances?** As scientists, by the end of Year 2, we will know: • How to group and compare electrical appliances • Ways to understand their power sources • How adding components affects circuits • How to diagnose and fix broken circuits **How can we understand and protect ourselves from different sounds?** As scientists, by the end of Year 2, we will know: • How to group sounds • Ways to compare how sounds are different or similar • How to suggest ways to protect our ears from loud noises

YEAR 3	**How do flowering plants grow, reproduce, and spread their seeds?** As scientists, by the end of Year 3, we will know: • The parts and functions of flowering plants • How to observe plant growth • How water is transported in plants • How pollination leads to seed formation • Ways seeds are dispersed **How does light behave to help us see things and create shadows?** As scientists, by the end of Year 3 we will know: • How light helps us see • How light reflects and creates shadows • How shadows change depending on how light is blocked or moved **How do surfaces, friction and magnetic forces affect the movement and interaction of objects?** As scientists, by the end of Year 3, we will know: • How different surfaces and forces, including friction and magnetism, affect the movement of objects • How magnets attract or repel certain materials	**How do living things inherit traits and adapt to survive in their environments over time?** As scientists, by the end of Year 3, we will know: • How offspring resemble their parents • Ways to explore plant and animal fossils • How living things adapt to their environments **How do circuits and materials help control how electricity powers appliances?** As scientists, by the end of Year 3, we will know: • How appliances use electricity from different sources • How to build and label simple circuits • Ways to test how materials conduct or insulate electricity **How do the movements of the Earth and Moon help us explain changes we see on Earth?** As scientists, by the end of Year 3, we will know: • How the Earth moves in relation to the Sun and Moon • How this movement causes day, night, and seasonal changes • How to describe and label the parts of our solar system	**How do we classify living things, and why is it important to protect their habitats?** As scientists, by the end of Year 3, we will know: • How to classify animals and plants into groups • Ways to identify species in different habitats • How environmental changes threaten habitats **How do humans and animals get energy, move, and stay healthy?** As scientists, by the end of Year 3, we will know: • About human and animal nutrition • How to understand food chains and energy flow • Ways to explore the skeleton, muscles, and movement • How to study the digestive system and dental care **How do sounds travel from their sources to our ears?** As scientists, by the end of Year 3, we will know: • How to explore different sounds • Ways to identify their sources • How vibrations travel through mediums to reach our ears **How do rocks, soils, materials, and water move and change to shape the world around us?** As scientists, by the end of Year 3, we will know: • How to identify and describe rocks, soils, and fossils • Ways to explore the properties and changes of solids, liquids, and gases • How to understand the water cycle, with a focus on evaporation
YEAR 4	**How do the way circuits are built and the materials we use affect how electricity flows and powers things?** As scientists, by the end of Year 4, we will know: • How different appliances and lightbulbs use electricity • How to build and test series circuits with various components • Ways to investigate switches • How to compare how materials conduct or resist electricity **How do plants grow, reproduce, and interact with their environment?** As scientists, by the end of Year 4, we will know: • How leaves make food • How roots and water transport support plant growth • Ways to compare different plant growth conditions • How pollination leads to reproduction • How flowering plants interact with animals **How can we use properties and processes to understand rocks, soils, fossils, and the changing states of matter?** As scientists, by the end of Year 4, we will know: • How to compare and group rocks and soils • How to learn about fossils and how they form • How to classify solids, liquids, and gases • How to investigate how temperature affects matter and evaporation	**How do inheritance, adaptation, and human actions shape life on Earth?** As scientists, by the end of Year 4, we will know: • About inheritance • How fossils are formed • How plants and animals adapt to their environments • The impact of fossil fuels on Earth's climate **How do the movements of the Earth and Moon affect life on Earth?** As scientists, by the end of Year 4, we will know: • How the Earth's and Moon's movements create seasons • How time zones are formed • How tides and the Moon's phases occur • How these patterns help measure time and organise daily life **How does the behaviour of light help us see, stay safe, and understand shadows?** As scientists, by the end of Year 4, we will know: • How light helps us see • How light reflects from different surfaces • Why shadows form and change • How to use this knowledge to stay safe and make predictions	**How can we classify living things and protect their habitats from change?** As scientists, by the end of Year 4, we will know: • How to compare and classify animals and plants by their features • Ways to use and create classification keys • How habitat changes affect conservation efforts **How do nutrition, energy flow, and bodily systems affect health and survival in humans and plants?** As scientists, by the end of Year 4, we will know: • How humans and plants obtain food • Ways to explore nutrients and malnutrition • How energy flows in food chains • How to study muscle movement and exercise • How to compare digestion and dental health in humans and animals **How do vibrations, pitch, and mediums affect the sounds we hear?** As scientists, by the end of Year 4, we will know: • How vibrations create sounds • Ways to explore how pitch and volume are made • How different mediums transmit sound **How can our understanding of friction and magnetic forces help us explain, predict and use these forces in the world around us?** As scientists, by the end of Year 4, we will know: • How friction and magnetism work in real-world contexts • How magnetic fields act through materials • How understanding these forces helps explain everyday phenomena and create practical solutions

YEAR 5	**How do living things adapt to their environment, and what life processes do they all have in common?** As scientists, by the end of Year 5, we will know: • How plants and animals change over time through adaptation • The basic life processes shared by all living things **How do the number and voltage of cells and the arrangement of components affect the performance of a series circuit?** As scientists, by the end of Year 5, we will know: • How changing the number and voltage of cells affects the brightness of bulbs or the sound of buzzers in a series circuit • How adding more components impacts the circuit • How to use standard symbols to represent components in circuit diagrams **How do the characteristics of sound—such as pitch, volume, and distance—relate to the way sounds are produced and travel?** As scientists, by the end of Year 5, we will know: • How the pitch of a sound depends on the object producing it • How the volume of a sound relates to the strength of vibrations • How distance affects the way we hear sounds **How can we test and describe materials and understand which changes can be reversed or not?** As scientists, by the end of Year 5, we will know: • How to observe and test materials for hardness, solubility, conductivity, and magnetism • Ways to group materials based on their properties • How to explore reversible changes such as mixing and dissolving • How to understand irreversible changes like burning and oxidisation	**How do different forces affect how things move and how can we use them to make work easier?** As scientists, by the end of Year 5, we will know: • How magnets interact • How forces such as gravity, friction, air resistance, and water resistance affect movement • How simple machines like gears, pulleys, levers, and springs can change the size and direction of forces to help us move or lift things more easily **How do the Earth, Sun and Moon move and how do these movements affect us?** As scientists, by the end of Year 5, we will know: • How the Earth moves around the Sun • How this movement causes day, night, and seasons • How the Moon moves as it orbits Earth and the resulting phases of the Moon	**How do living things grow, reproduce and get grouped into categories?** As scientists, by the end of Year 5, we will know: • How to describe and compare the life cycles and reproduction of mammals, amphibians, insects, birds, and plants • How to use classification keys to identify and group living things based on their characteristics **How do lifestyle choices and bodily systems work together to keep us healthy through life?** As scientists, by the end of Year 5, we will know: • How to describe and compare the life cycles and reproduction of mammals, amphibians, insects, birds, and plants • How to use classification keys to identify and group living things based on their characteristics **How do fossils and adaptations help us understand the history of life and the process of evolution?** As scientists, by the end of Year 5, we will know: • How to identify fossils and describe the ancient conditions in which they lived • How to observe variation in living things and their offspring • How animals and plants are adapted to their environments, leading to an understanding of the theory of evolution **How does light help us see and create shadows?** As scientists, by the end of Year 5 we will know: • How light travels • How light helps us see objects • How shadows are created and change size depending on the position of the light source

YEAR 6	**How do adaptations and life processes vary among plants and animals, and what does this tell us about evolution and survival in different environments?** As scientists, by the end of Year 6, we will know: • How to compare how different plants and animals adapt to their environments • How these adaptations relate to human evolution • How life processes vary among living things **How can we test and explain the properties and changes of materials in everyday life?** As scientists, by the end of Year 6 we will know: • How to design and modify tests to explore material properties • How to understand solutions and methods of separation • How to investigate reversible and irreversible changes • How to explain real-life uses of materials **How do magnets and forces help us understand, explain and use movement in the world around us?** As scientists, by the end of Year 6, we will know: • How magnets work and their connection to Earth • How forces like gravity, friction, and drag affect movement • How simple machines help us explain and control movement	**How do the movements of the Earth, Moon and Sun help us measure time and understand natural changes on Earth?** As scientists, by the end of Year 6, we will know: • How the Earth's and Moon's movements create seasons, time zones, and tides • How the Moon's phases occur • How this knowledge helps us measure time and understand our place in the solar system **How does changing voltage and adding components affect the brightness of bulbs and the functioning of circuits, and how can we represent these circuits using standard symbols?** As scientists, by the end of Year 6, we will know: • How the voltage of cells influences the brightness of bulbs • Why increasing voltage might cause components to stop working • How different components affect circuit behaviour through resistance • How to accurately represent circuits using standard symbols that reflect their functions **How does light behave and what happens when it meets different objects?** As scientists, by the end of Year 6, we will know: • How light travels, reflects, bends, and is blocked • How these behaviours help us see and create shadows • How light explains effects such as periscopes, refraction, and the phases of the Moon	**How and why do scientists classify living things, and what can life cycles tell us about the connections between plants and animals?** As scientists, by the end of Year 6, we will know: • How to compare and explain the similarities and differences in the life cycles and reproduction of mammals, amphibians, insects, birds, and plants • How to use and create classification keys by proposing and applying scientific criteria **How do our bodies grow and stay healthy through life, and what role do diet, exercise, and circulation play in this?** As scientists, by the end of Year 6, we will know: • How humans change physically from childhood to adulthood • How the circulatory system works • How lifestyle affects blood pressure and heart health • Why water and nutrients are vital for the body **How do fossils, variation, and adaptation explain the survival and evolution of species?** As scientists, by the end of Year 6, we will know: • How to classify fossils and explain how they form • How to investigate ancient Earth conditions • How living things and their offspring vary • How adaptations lead to evolution **How do the physical characteristics of sound sources and the distance from the source affect the pitch and volume of the sounds we hear?** As scientists, by the end of Year 6, we will know: • How the pitch of a sound changes depending on the features of the object producing it • How volume varies with the strength of vibrations and distance from the source • How musicians use these principles to create different sounds