Bladon C of E Primary School

WHOLE SCHOOL SCIENCE TEACHING PROGRESSION DOCUMENT

WHAT WE DO WHEN						
	AUTUMN 1	**AUTUMN 2**	**SPRING 1**	**SPRING 2**	**SUMMER 1**	**SUMMER 2**
ACORN (EYFS/Y1) **CYCLE A**	**Weather and seasons (EYFS) - cover season specific foci over year** • Learn about rain, ice and water • Describe why the air moves • Know about snow and melting • Learn about rainbows in the sky • Learn about the seasonal changes that happen in Spring, Summer, Autumn and Winter **Seasonal changes (Y1) - cover season specific foci over year** • Observe changes across the four seasons • Observe and describe weather associated with the seasons and how day length varies • *Perform simple tests* • *Identify and classify* • *Using their observations and ideas to suggest answers to questions* • *Gather and record data to help in answering questions*		**Animals (EYFS)** • Learn about living things which are animals • Know where animals live and what they need • Know where birds live and what they need • Learn about which animals live on a farm • Know about dinosaurs which roamed the Earth • Learn all about bears **Animals, including humans (all about animals) (Y1)** • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) • Identify and name a variety of common animals that are carnivores, herbivores and omnivores • *Asking simple questions and recognise that they can be answered in different ways* • *Observe closely, using simple equipment* • *Identify and classify* • *Using their observations and ideas to suggest answers to questions* • *Gather and record data to help in answering questions*		**Plants (EYFS)** • Learn about living things which are plants • Learn about plants and where they come from • Learn about how to look after plants **Plants (Y1)** • Become familiar with common names of flowers and plant structures including seeds • Identify and describe the basic structure of a variety of common flowering plants, including trees • Identify and name a variety of common wild and garden plants • Understand how plants change over time • Observe the growth of planted flowers • Become familiar with plant structures • Keep records of how plants change over time • *Asking simple questions and recognise that they can be answered in different ways* • *Observe closely, using simple equipment* • *Identify and classify* • *Using their observations and ideas to suggest answers to questions* • *Gather and record data to help in answering questions*	
Any changes/notes?	*Also cover weather and seasons (Autumn) - Y1*		*Also cover weather and seasons (Winter) - Y1*	*Also cover weather and seasons (Spring) - Y1*		*Also cover weather and seasons (Summer) - Y1*

ACORN (EYFS/Y1) **CYCLE B**	**Our body (EYFS)** • Learn about your body parts: arms, legs, chest, hands, feet, eyes, nose, mouth and hair • Learn about changes in your body since you were a baby • Know that we have similarities and differences but we are all unique **Animals, including humans (all about me) (Y1)** • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense • *Perform simple tests* • *Identify and classify* • *Using their observations and ideas to suggest answers to questions* • *Gather and record data to help in answering questions*		**Materials (EYFS)** • Know that things can change shape • Know about melting • Learn about where your knitted jumper comes from • Understand the usefulness of wool, and what happens to wool when it gets wet • Know about materials which act like a mirror • Know how water changes **Exploring everyday materials 1 (Y1)** • Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock • Distinguish between an object and the material it is made from • Describe the simple physical properties of a variety of everyday materials • Compare and group together a variety of everyday materials on the basis of their simple physical properties • *Perform simple tests* • *Identify and classify* • *Using their observations and ideas to suggest answers to questions* • *Gather and record data to help in answering questions*		**Forces (EYFS)** • Know what happens when you push or pull something • Know which things sink or swim (float) **Exploring everyday materials 2 (Y1)** • Describe the simple physical properties of everyday materials • Compare and group together a variety of everyday materials on the basis of their simple physical properties • *Perform simple tests* • *Identify and classify* • *Using their observations and ideas to suggest answers to questions*	
Any changes/notes?						

CHESTNUT (Y2/Y3) **CYCLE A**	**Uses of Everyday Materials (Y2)** • Identify and compare the suitability of a variety of everyday materials • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching • *Using their observations and ideas to suggest answers to questions* • *Performing simple tests* • *Gathering and recording data to help in answering questions*	**Forces and Magnets (Y3)** • Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance • Compare how things move on different surfaces • Describe magnets as having 2 poles Predict whether 2 magnets will attract or repel each other, depending on which poles are facing • 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 • *Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions* • *Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers* • *Setting up simple practical enquiries, comparative and fair tests* • *Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables*	**Rocks (Y3)** • Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • Explore how and why [rocks] might have changed over time (non-statutory) • Describe in simple terms how fossils are formed when things that have lived are trapped within rock • Recognise that soils are made from rocks and organic matter • *Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions* • *Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions* • *Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers* • *Identifying differences, similarities or changes related to simple scientific ideas and processes*	**Light (Y3)** • Recognise that they need light in order to see things and that dark is the absence of light • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes • Notice that light is reflected from surfaces • Recognise that shadows are formed when the light from a light source is blocked by an opaque object • Find patterns in the way that the size of shadows change • *Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions* • *Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables* • *Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions* • *Identifying differences, similarities or changes related to simple scientific ideas and processes*	**Animals, Including Humans - Life Cycles (Y2)** • Notice that animals, including humans, have offspring which grow into adults • *Identifying and classifying* • *Using their observations and ideas to suggest answers to questions* • *Gathering and recording data to help in answering questions* • *Asking simple questions and recognise that they can be answered in different ways*	**Scientific Enquiry (Y3)** • *Asking relevant questions and using different types of scientific enquiries to answer them* • *Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers* • *Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables* • *Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions* • *Identifying differences, similarities or changes related to simple scientific ideas and processes* • *Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions* • *Setting up simple practical enquiries, comparative and fair tests* • *Using 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*
Any changes/notes?						

CHESTNUT (Y2/Y3) **CYCLE B**	**Living Things and their Habitats (Y2)** • Explore and compare the differences between things that are living, dead, and things that have never been alive • Identify and name a variety of plants and animals in their habitats, including microhabitats • Describe how animals obtain their food from plants and other animals • Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain • Identify and name different sources of food • *Identifying and classifying* • *Observing closely, using simple equipment* • *Using their observations and ideas to suggest answers to questions* • *Asking simple questions and recognising that they can be answered in different ways*	**Living Things and their Habitats – Around the World (Y2)** • 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 • Identify and name a variety of plants and animals in their habitats, including microhabitats • *Identifying and classifying* • *Using their observations and ideas to suggest answers to questions* • *Gathering and recording data to help in answering questions* • *Asking simple questions and recognising that they can be answered in different ways*	**Animals, Including Humans – Growth (Y2)** • Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • Describe the importance of exercise, eating the right amounts of different types of food and hygiene for humans • *Performing simple tests* • *Using their observations and ideas to suggest answers to questions* • *Identifying and classifying*	**Animals, Including Humans (Y3)** • Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat • Identify that humans and some other animals have skeletons and muscles for support, protection and movement • *Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions* • *Using straightforward scientific evidence to answer questions or to support their findings* • *Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions* • *Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables* • *Identifying differences, similarities or changes related to simple scientific ideas and processes*	**Plants (Y2)** • Observe and describe how seeds and bulbs grow into mature plants • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy • Understand the requirements of plants for germination, growth and survival, as well as, the processes of reproduction and growth in plants • *Identifying and classifying* • *Observing closely, using simple equipment* • *Asking simple questions and recognising that they can be answered in different ways* • *Performing simple tests* • *Using their observations and ideas to suggest answers to questions* • *Gathering and recording data to help in answering questions*	**Plants (Y3)** • Explore the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) and how they vary from plant to plant • Identify and describe the functions of different parts of a flowering plant • Investigate the way in which water is transported within plants • Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal • *Asking relevant questions and using different types of scientific enquiries to answer them* • *Setting up simple practical enquiries, comparative and fair tests* • *Making systematic and careful observations* • *Reporting on findings from enquiries, including oral and written explanations* • *Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables* • *Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions* • *Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions*
Any changes/notes?						

MAPLE (Y4/Y5) CYCLE A	Living Things and their Habitats (Y4) • Recognise that living things can be grouped in a variety of ways. • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. • Recognise that environments can change and that this can sometimes pose dangers to living things. • *Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.* • *Gather, record, classify and present data in a variety of ways to help in answering questions.* • *Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.* • *Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.* • *Use straightforward scientific evidence to answer questions or to support their findings.*	Animals, Including Humans (Y4) • Describe the simple functions of the basic parts of the digestive system in humans Identify the different types of teeth in humans and their simple functions. • Construct and interpret a variety of food chains, identifying producers, predators and prey. • *Gather, record, classify and present data in a variety of ways to help in answering questions.* • *Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.* • *Identify differences, similarities or changes related to simple scientific ideas and processes.*	States of Matter (Y4) • Compare and group materials together, according to whether they are solids, liquids or gases. • Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. • *Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.* • *Gather, record, classify and present data in a variety of ways to help in answering questions.* • *Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.* • *Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.* • *Use straightforward scientific evidence to answer questions or to support their findings.*	Materials (Y5) • Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. • Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. • Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. • Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. • Demonstrate that dissolving, mixing and changes of state are reversible changes. • Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. • *Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.* • *Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.* • *Use test results to make predictions to set up further comparative and fair tests.* • *Identify scientific evidence that has been used to support or refute ideas or arguments.*	Sound (Y4) • Identify how sounds are made, associating some of them with something vibrating. • Recognise that vibrations from sounds travel through a medium to the ear. • Find patterns between the pitch of a sound and features of the object that produced it. • Find patterns between the volume of a sound and the strength of the vibrations that produced it. • Recognise that sounds get fainter as the distance from the sound source increases. • *Set up simple practical enquiries, comparative and fair tests.* • *Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.* • *Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.* • *Identify differences, similarities or changes related to simple scientific ideas and processes.*
Any changes/notes?					

MAPLE (Y4/Y5) CYCLE B	**Electricity (Y4)** • Identify common appliances that run on electricity. • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. • Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. • Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. • Recognise some common conductors and insulators, and associate metals with being good conductor. • Identify how sounds are made, associating some of them with something vibrating. • Recognise that vibrations from sounds travel through a medium to the ear. • Find patterns between the pitch of a sound and features of the object that produced it. • Find patterns between the volume of a sound and the strength of the vibrations that produced it • Recognise that sounds get fainter as the distance from the sound source • *Ask relevant questions and using different types of scientific enquiries to answer them.* • *Set up simple practical enquiries, comparative and fair tests.* • *Make systematic and careful observations and,*	**Living Things and their Habitats (Y5)** • Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals. • *Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.* • *Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.* • *Identify scientific evidence that has been used to support or refute ideas or arguments*	**Animals, Including Humans (Y5)** • Describe the changes as humans develop to old age. • *Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.* • *Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.* • *Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.* • *Identify scientific evidence that has been used to support or refute ideas or arguments.*	**Forces (Y5)** • Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. • Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect. • *Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.* • *Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.* • *Identify scientific evidence that has been used to support or refute ideas or arguments.*	**Earth and Space (Y5)** • Describe the movement of the Earth and other planets relative to the sun in the solar system. • Describe the movement of the moon relative to the Earth. • Describe the sun, Earth and moon as approximately spherical bodies • Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. • *Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.* • *Use test results to make predictions to set up further comparative and fair tests.* • *Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.* • *Identify scientific evidence that has been used to support or refute ideas or arguments*

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Any changes/notes?						
ORCHARD (Y6) **CYCLE A & B**	**Electricity (Y6)** • associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit • compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches • use recognised symbols when representing a simple circuit in a diagram. • *recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs* • *Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary* • *Reporting and presenting findings from enquiries, including conclusions,*	**Light (Y6)** • recognise that light appears to travel in straight lines • use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye • explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes • use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. • *Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs* • *Identifying scientific evidence that has been used to support or refute ideas or arguments*	**Living things and their habitats (classification) (Y6)** • 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 • give reasons for classifying plants and animals based on specific characteristics • *Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs and bar and line graphs* • *Identifying scientific evidence that has been used to support or refute ideas or arguments* • *Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary*	**Animals including humans (healthy bodies) (Y6)** • identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • describe the ways in which nutrients and water are transported within animals, including humans. • *Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs* • *Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate* • *Identifying scientific evidence that has been*	**Evolution and inheritance (Y6)** • recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution • *Reporting and presenting findings from enquiries - including conclusions, causal relationships and explanations of and a degree of trust in results - in oral and written forms such as displays and other presentations* • *Identifying scientific evidence that has been used to support or refute ideas or arguments*	**Looking after our environment (Y6)** • Learn about climate change • Explore ways to reduce how much rubbish is sent to landfill • Explore ways to reduce energy consumption • Explore what happens when fuels are burnt • Explore the outcomes of COP26 • Compare data associated with the weather • *Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs* • *Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations* • *Identifying scientific evidence that has been*

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