Science LTP

KEY STAGE 1

Whittington CE Primary School

Year	Autumn	Spring	Summer
EYFS **Understanding of the World**	**Key Components of Science Learning** **Exploration and Inquiry:** Children learn about scientific concepts by engaging in activities that promote curiosity and exploration. This includes observing natural phenomena, experimenting with materials, and discussing their findings. **Integration with Other Areas:** Science learning is interconnected with other areas of the EYFS curriculum, such as personal, social, and emotional development, as well as communication and language. This holistic approach helps children make connections between different concepts and enhances their overall learning experience. **Practical Activities:** Engaging in hands-on activities is crucial for science learning in EYFS. Activities such as planting seeds, observing minibeasts, and conducting simple experiments (like the "float or sink" investigation) allow children to apply their knowledge and develop critical thinking skills.		
1	**1. Naming and grouping animals** This unit focuses on asking simple questions, identifying and classifying common animals, and gathering data. It includes identifying animals like fish, amphibians, reptiles, birds, and mammals, categorising them as carnivores, herbivores, or omnivores, and comparing their structures. **3. Human body parts** This unit focuses on identifying, naming, and labelling the basic parts of the human body, linking each part to its associated sense. It emphasises closely observing using simple equipment, classifying findings, gathering and recording data, and using observations to suggest answers to questions.	**6. Everyday materials** This unit focuses on distinguishing objects from the materials they are made of, identifying common materials like wood, plastic, and metal, and describing their physical properties. It involves comparing and grouping materials, performing simple tests, and using observations to answer questions. **4. Identifying plants and their basic parts** This unit focuses on identifying and naming common wild and garden plants, including deciduous and evergreen trees. It covers the basic structure of flowering plants and trees. Emphasis is on asking questions, observing closely,	**5. Seasonal changes: spring and summer** This unit explores observing changes across spring and summer, including weather patterns and variations in day length. It emphasises asking questions, using simple equipment for observations, identifying and classifying, gathering data, and using observations to answer questions. **2. Seasonal changes: autumn and winter** This unit explores observing changes across autumn and winter, including weather patterns and variations in day length. It emphasises asking questions, using simple equipment for observations, identifying and classifying, gathering data, and using observations to answer questions.

		classifying, and gathering data to suggest answers to questions.	
2	**1. Uses of everyday materials** This unit explores identifying and comparing the suitability of everyday materials like wood, metal, and plastic for specific uses. It examines how solid objects' shapes can change by squashing, bending, twisting, and stretching. The focus is on simple tests, and using data to answer questions. **2. Introduction to food chains** This unit covers how animals obtain food from plants and other animals using simple food chains. It includes identifying and naming different food sources, asking questions, classifying, and gathering and recording data to answer questions about animal diets and food chains.	**3. Living things and where they live** This unit explores the differences between living, dead, and non-living things and examines how habitats support the needs of various plants and animals. It involves identifying and naming plants and animals in different habitats, using observations to classify, gather data, and answer questions. **4. New life** This unit explores how animals, including humans, have offspring that grow into adults and examines their basic survival needs, such as water, food, and air. It focuses on asking questions, observing closely, identifying and classifying, and using observations to suggest answers to questions.	**5. Growing plants** This unit covers observing and describing how seeds and bulbs grow into mature plants, and understanding how water, light, and temperature affect plant growth and health. It involves performing simple tests, using observations to answer questions, and gathering data to explore plant needs. **6. Healthy me** This unit covers the importance of exercise, balanced nutrition, and hygiene for humans. It involves performing simple tests, observing closely, and identifying and classifying information. Emphasis is on asking questions, using observations to suggest answers, and gathering and recording data.

KEY STAGE 2

Year	Autumn	Spring	Summer
3	**1. Rocks and soils** This unit covers comparing and grouping rocks based on appearance and physical properties, understanding fossil formation, and recognising that soils are made from rocks and organic matter. It involves setting up practical enquiries, making observations, and using evidence to answer questions. **2. Introduction to light and shadows** This unit explores the nature of light, recognising that light is needed to see and that dark is the absence of light. It covers how light reflects and shadow formation. The unit emphasises practical tests, observations, accurate measuring, and using evidence to support findings.	**3. Simple forces including magnets** This unit explores how objects move on different surfaces and examines magnetic forces, including attraction, repulsion, and magnetic materials. It covers identifying magnetic poles and predicting interactions and emphasizes practical tests, observations, and presenting findings. **4. What plants do and what they need** This unit explores the functions of different parts of flowering plants, including roots, stems, leaves, and flowers. It investigates plant requirements for growth and the role of flowers in pollination, seed formation, and dispersal. Emphasis is on practical enquiries, and data presentation.	**5. Introduction to the human skeleton and muscles** This unit explores the role of skeletons and muscles in humans and other animals for support, protection, and movement. It involves setting up practical enquiries, making observations, measuring accurately, recording findings, and using results to draw conclusions and suggest improvements. **6. Healthy eating** This unit covers how animals, including humans, obtain nutrition from their diet, emphasising the need for the right types and amounts of food. It involves asking questions, gathering and presenting data, using scientific language, and interpreting evidence to answer questions and support findings.
4	**1. Introduction to the human digestive system** This unit covers the basic functions of the human digestive system and identifies different types of teeth and their functions. It focuses on asking questions, gathering and presenting data, recording findings with diagrams and charts, and reporting results through written and oral presentations. **5. Living things and the environment** This unit focuses on grouping living things and using classification keys to identify and name them in various environments. It explores how environmental changes can pose dangers to	**4. Introduction to sound** This unit explores how sounds are made through vibrations, how they travel through mediums, and how pitch and volume relate to vibration strength. It also covers why sounds get fainter with distance. The emphasis is on practical enquiries, observations, and using results to draw conclusions. **3. Simple electrical circuits** This unit covers constructing simple series electrical circuits, identifying parts like cells, wires, and switches, and recognising conductors and insulators. It also explores how circuits work	**2. Introduction to states of matter and changing states** This unit explores the properties of solids, liquids, and gases, and how materials change state when heated or cooled. It covers evaporation, condensation, and the water cycle, with a focus on practical enquiries, careful observations, accurate measurements, and presenting findings.

	organisms. Emphasis is on asking questions, collecting data, and using evidence to support conclusions. **6. More about food chains** This unit involves constructing and interpreting food chains and identifying producers, predators, and prey. It focuses on asking questions, gathering and presenting data, recording findings with diagrams and charts, and using scientific evidence to answer questions and support findings.	with lamps and switches. The emphasis is on practical enquiries, making observations, and presenting data. **2. Introduction to states of matter and changing states** This unit explores the properties of solids, liquids, and gases, and how materials change state when heated or cooled. It covers evaporation, condensation, and the water cycle, with a focus on practical enquiries, careful observations, accurate measurements, and presenting findings.	
5	**1. Properties, changes and separating materials** This unit explores the properties of everyday materials, including hardness, solubility, and conductivity. It covers reversible changes like dissolving and mixing, and irreversible changes such as burning. Emphasis is on scientific enquiries, data recording, and presenting findings with evidence.	**2. Forces including simple machines** This unit covers the effects of gravity, air resistance, water resistance, and friction on objects. It explores how mechanisms like levers, pulleys, and gears magnify forces. Emphasis is on taking precise measurements, recording complex data, and presenting findings. **3. Earth, Sun and Moon** This unit covers the movement of the Earth, moon, and planets, describing them as spherical bodies. It explains Earth's rotation, causing day and night, and the sun's apparent movement. Emphasis is on recording complex data, presenting findings, and evaluating scientific evidence.	**5. Reproduction and life cycles: plants & animals** This unit explores the life cycles of mammals, amphibians, insects, and birds, and the reproduction process in plants and animals. It focuses on recording data, presenting findings with conclusions, and evaluating scientific evidence to support or refute ideas in various presentation formats. **6. Human development** This unit describes the changes humans undergo from birth to old age. It involves planning scientific enquiries, measuring accurately, recording complex data, and presenting findings. Emphasis is on identifying evidence to support or refute ideas, drawing conclusions, and explaining results.

6	**1. The human circulatory system** This unit explores the human circulatory system, identifying the heart, blood vessels, and blood functions. It examines how diet, exercise, drugs, and lifestyle affect body function and details nutrient and water transport in animals. Emphasis is on data recording and presenting findings. **Keeping healthy** This unit examines how diet, exercise, drugs, and lifestyle impact body function. It focuses on planning scientific enquiries, controlling variables, taking precise measurements, and recording complex data. Emphasis is on presenting findings, drawing conclusions, and evaluating scientific evidence. **2. Why we group and classify living things** This unit covers the classification of living things, including micro-organisms, plants, and animals, based on observable characteristics. It explores reasons for classification and focuses on planning scientific enquiries, recording data, presenting findings, and evaluating scientific evidence.	**3. Light and how it travels** This unit explores how light travels in straight lines, explaining how we see objects and why shadows form the shape of the object casting them. It focuses on planning scientific enquiries, taking precise measurements, making predictions, and evaluating evidence to present findings.	**4. Evolution and inheritance** This unit explores how living things have changed over time, using fossils as evidence of past life. It covers how offspring vary from parents and how adaptation leads to evolution. Emphasis is on planning scientific enquiries, recording data, and evaluating scientific evidence. **5. Changing circuits** This unit explores how circuit components like lamps and buzzers function, including the effect of cell number and voltage. It covers using symbols in circuit diagrams, planning scientific enquiries, taking precise measurements, recording data, and presenting findings with evidence and conclusions.