LKS2 Cycle A

Working Scientifically

Scientific enquiry	Practical investigation	Communicating	Interpreting evidence
Responds to suggestions of how to answer questions about the world around them, and begins to raise their own relevant questions. Is able to use suggested methods of enquiry. With support recognises when and how secondary sources should be used. Raises their own relevant questions about the world around them. Uses different types of scientific enquiry to answer they raise. Recognises when and how secondary sources should be used.	With support, discusses the most appropriate type of scientific enquiry they might use to answer questions. Understands what a simple fair test is, and with support helps to set it up. Begins to look for patterns and with help decides what data to collect to identify them. With support helps to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Learns how to use new equipment, such as data loggers, appropriately. With help collects data from their own observations and measurements using notes, simple tables and standard units. Starts to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions. Recognises when a simple fair test is necessary and helps to decide how to set it up. Begins to look for patterns and decides what data to collect to identify them. Makes some decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Uses a range of equipment, including thermometers and data loggers appropriately. Collect data from their own observations and measurements using notes, simple tables and standard units.	Talks about how the data may be recorded. With support talks about criteria for grouping, sorting and classifying. Uses simple keys. Beginning to use scientific language to discuss their ideas and communicate their findings. With support is beginning to use some of the following methods to record their findings; drawings, labelled diagrams, keys, bar charts and tables. Beginning to report findings using basic oral and written explanations, displays or presentations of results. Beginning to draw and express some conclusions. Helps to make decisions about how to record and analyse the data. Gathers, records, classifies and presents data in a variety of ways to help in answering questions. Uses relevant scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences. Records findings using a range of methods including drawings, labelled diagrams, keys, bar charts and tables. Reports on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	With help, looks for straightforward changes, patterns, similarities and differences in their data in order to draw simple conclusions. With support, begins to identify new questions arising from the data. With help makes predictions for new values with or beyond the data they have collected. With support discusses the success of their working methods. With help looks for changes, patterns, similarities and differences in their data in order to draw simple conclusions. Uses straightforward scientific evidence to answer questions and support their findings. With support, identifies new questions arising from the data, and makes predictions for new values within or beyond the data they have collected. Finds ways of improving what they have already done.

LKS2 Cycle A

Knowledge and Understanding

Stone Age (Autumn 1 & 2)	Memorable Monarchs (Spring 1 & 2)	Enchanting Egypt (Summer 1 & 2)
Sound	**States of matter**	**Plants**
Identifies how sounds are made, associating some of them with something vibrating. Recognises that vibrations from sounds travel through a medium to the ear. Finds patterns between the pitch of a sound and features of the object that produced it. Finds patterns between the volume of a sound and the strength of the vibrations that produced it. Recognises that sounds get fainter as the distance from the sound source increases. *Could work scientifically by: finding patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses.*	Compares and groups materials together, according to whether they are solids, liquids or gases. Observes that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius. *Could work scientifically by: grouping and classifying a variety of different materials; exploring the effect of temperature on substances such as chocolate, butter, cream etc.* Identifies the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	Identifies and describes the functions of different parts of flowering plants; roots, stem/trunk, leaves and flowers. Explores 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. Investigates the way in which water is transported within plants. Explores the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. *Could work scientifically by: comparing the effect of different factors on plant growth, for example the amount of light, the amount of fertiliser etc.*
Light		
Recognise that they need light in order to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the Sun can be dangerous and that there are ways to protect their eyes. 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.		