Year 5 Long Term Science Plan

Year 5	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Science Topic	**Properties and Changes of Materials**		**Earth & Space**	**Living Things & Their Habitats (animal lifecycles)**	**Living Things & Their Habitats (plant lifecycles)**	**Forces (Movement)**
Science Substantive Knowledge	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.		Describe the movement of the Earth, and other planets, relative to the Sun and each other in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun/Earth/Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night.	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.	Describe the life process of reproduction in some plants and animals. Name, locate and Describe the functions of the main parts of reproductive system of plants (stigma, stamen, petal, sepal, pollen, ovary) **Human Life Cycles** Describe the changes as humans develop to old age.	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(causing things to slow down) Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

Plan		Do		Review	
Ask questions and plan an enquiry	**Set up an enquiry**	**Observe and measure**	**Record**	**Interpret and report**	**Evaluate**
Plan different types of scientific enquiries* to answer their own questions, including recognising and controlling variables where necessary.	Use test results to make predictions to set up further comparative and fair tests.	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 and causal relationships, in oral and written forms such as displays and other presentations, using appropriate scientific language.	Explain degree of trust in results. Identify and evaluate scientific evidence (their own and others') that has been used to support or refute ideas or arguments.