Year 5 Science - The Aims of Our Curriculum

1. Enable children to retain and apply this essential knowledge. 2. Inspire children to become life-long learners. 3. Create a culture of high aspiration through challenging content and therefore pride in achievement. 4. Promote the spiritual, moral, social and cultural development of children, including fundamental British values of democracy, the rule of law, individual liberty, mutual respect and tolerance for those with different faiths and beliefs and for those without faith. 5. Provide opportunities for developing self-confidence, self-awareness, independence, creativity, respect and resilience in children. 6. Promote knowledge and understanding of how children can keep themselves safe and healthy. 7. Develop children's numeracy, literacy and oracy, including the sustained expansion of their vocabulary. 8. Promote reading as a life skill and enable our children to become life-long readers.

Year 5	Areas	Term 1	Term 2	Term 3
	Content	**Earth and space** Pupils investigate the development of the heliocentric model of the solar system. They then apply their understanding to explain day and night and the seasons. Pupils work scientifically to produce shadow clocks and simple models of the solar system. • 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 **Forces** Pupils explore falling objects to discover the effect of gravity and air resistance.	**Properties and changes of materials** Pupils build upon understanding about material properties from year 3 and 4. They develop a more systematic understanding of materials by exploring a wide range of materials. Pupils also investigate reversible changes including evaporating, sieving, melting and dissolving. • 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 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	**Living things and their habitat** Pupils will study their local environment, observing life-cycle changes (such as amphibians and insects) in addition to plants. They will find out about different types of reproduction, including sexual and asexual reproduction in plants and sexual reproduction in animals. • 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 **Animals including humans** Pupils should draw a timeline to indicate stages in the growth and development of humans. • Describe the changes as humans develop to old age

		They study the effect of water resistance and friction through investigations and begin to investigate simple machines including levers and pulleys. • 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	• 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 king of change in not usually reversible	
	Literacy link	• Key vocabulary. • Forces project write up.	• Key vocabulary. • Command words (e.g. describe, explain, predict)	• Key vocabulary. • Forces project write up.
	Assessment	• Baseline assessment. • Earth and space assessment. • Forces assessment. • Forces project.	• Properties and changes of materials project. • Properties and changes of materials end of topic assessment.	• Living things project. • Animals including humans and living things end of topic assessment.
	Cross curricular links	• Maths (scale and measurements, recording data and constructing graphs) • Art (creating models) • RE (development of the geocentric model of the solar system and discussions eg Stonehenge as an astronomical clock)	• Maths (measurements and recording data) • Humanities (evaporation and condensation in the water cycle)	• Maths (recording data and constructing graphs)