

SCIENCE Long Term Planning – Summary of YEAR 5 Units

AUTUMN 1	AUTUMN 2
<p style="text-align: center;">Earth & Space</p> <ul style="list-style-type: none"> - Name the eight planets of the solar system - Describe the position and movement of the Earth and other planets relative to the sun in the solar system - Explain how the Earth's 'position' affects day length - Describe what a moon is, how they maintain an orbit around a planet and which planets in our solar system have them - Describe the sun, Earth and moon as approximately spherical bodies and describe the key force responsible for planets being spherical - Explain day and night using the Earth's rotation, correct terminology and a model - Research and compare the theories of famous scientists including Ptolomy, Nicolaus Copernicus and Galileo Galilei in relation to our understanding of space <p>(Continued in Autumn 2)</p>	<p style="text-align: center;">Earth & Space</p> <ul style="list-style-type: none"> - Name the eight planets of the solar system - Describe the position and movement of the Earth and other planets relative to the sun in the solar system - Explain how the Earth's 'position' affects day length - Describe what a moon is, how they maintain an orbit around a planet and which planets in our solar system have them - Describe the sun, Earth and moon as approximately spherical bodies and describe the key force responsible for planets being spherical - Explain day and night using the Earth's rotation, correct terminology and a model - Research and compare the theories of famous scientists including Ptolomy, Nicolaus Copernicus and Galileo Galilei in relation to our understanding of space
SPRING 1	SPRING 2
<p>Properties & Changes of Materials</p> <ul style="list-style-type: none"> - 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 form a solution, and describe how to recover a substance from a solution - Classify and group mixtures according to how they can be separated, including filtering, sieving and evaporating - Provide evidence and reasons why a material has been chosen for a specific use. - Scientifically and systematically compare the functionality of a range of materials to perform a specific function. - Identify a wide range of reversible changes (including dissolving, mixing and changes of state) and irreversible changes that are in use in everyday life - 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. - Compare reversible with irreversible change, using flow diagrams / equations to show which materials are added, what is made and 	<p>Animals including humans</p> <ul style="list-style-type: none"> - Identify and present in an appropriate way, the key stages in human growth and development from birth to old age - Make informed choices to maintain their health and well-being, explaining reasons for these choices - Describe the key physical changes in the male and female human body during puberty

indicating if the reaction can be reversed	
SUMMER 1	SUMMER 2
Forces <ul style="list-style-type: none"> - Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. - Research the work of scientists such as Galileo and Newton - Identify and define the opposing forces that act upon objects moving through air, water or along a surface (air resistance, water resistance and friction) - Make predictions, supported by scientific reasoning, to test the effects of friction on movement and distance travelled - Compare the speed with which objects of different shapes and surface area fall through air or water, and explain the reason for any differences in terms of the forces acting upon the objects - Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect - Relate our current understanding of forces to the work of Isaac Newton 	Living Things & Their Habitats <ul style="list-style-type: none"> - Describe the process of sexual reproduction in a familiar animal and why it is important for species survival - Draw the life cycle of an insect, an amphibian, a bird and a mammal, highlighting the key differences and similarities - Compare key facts about mammalian gestation and birth and suggest reasons for variation within a species (eg typical gestation in humans being between 37-42 weeks) - Describe the process of plant reproduction using the correct scientific language - Observe / comment upon / record plant life cycles - Make comparisons between asexual and sexual reproduction in plants, suggesting reasons why plants may reproduce in different ways - Conduct research into the work of famous scientists including David Attenborough and Jane Goodall