

Upper KS2 - Progression of Science Skills

Year A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	World War 1 (History Focus)		Space (Science Focus)		Skegness Coastal Locality (Geography Focus)	
Working scientifically	Planning different scientific enquiries, recognising and controlling variables where necessary. Taking measurements, using a range of scientific equipment with increasing accuracy and precision, taking repeat readings where appropriate. Recording data and results with increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bars and line graphs Using test results to predict and set up further tests. Reporting and presenting findings from enquiries. Identifying scientific evidence to support or refute ideas and arguments					
Living things and their habitats					Y5 – living things, life cycles and plants, reproduction, describe the changes as humans develop to old age. Link to coastal topic and marine lifeforms and fossils	
Animals, including humans, evolution, and inheritance (Y6)	Y6: Identify and name the main parts of the human circulatory system and describe functions of heart, blood vessels and blood. Impact of diet and exercise Describe how nutrients and water are transported. Link to medical advances e.g. in transfusion and treatment on the front in history topic		.		Y6 – classification based on similarities and differences of observable characteristics. Explore how animals and plants have adapted to suit the coastal environment and that adaptation may lead to evolution. Link to marine habitat and fossils	
Properties and changes in materials	Y5 – Compare and group materials on basis of properties. Dissolving, filtering, sieving, evaporating. Properties of materials Reversible and irreversible changes				Y5/6: Study of materials with reference to erosion and irreversible changes, properties of rocks	
Earth and space			Y5/6 : Describe movement of Earth and other planets relative to the sun. Describe the movement the moon relative to the Earth. Sun Earth and Moon are spherical bodies. Earth’s rotation Day and night. Science focus runs through whole topic			
Forces			Y5 Explain that unsupported objects fall to Earth because of the force of gravity. Effects of air resistance, water resistance and friction. Recognise that mechanisms including levers, pulleys and gears, allowing a small force to have a greater effect. Science focus runs through topic			
Light			Y6: Recognise that light travels in straight lines. Objects are seen because they are reflecting light. Light sources travel to our eyes or to objects then our eyes. Shadows (Link to seasons and relative positions of sun and moon)			
Electricity	Y6 associate changes of cells with brightness/ loudness etc. Give reasons for variations in how components function. Switches Use recognised symbols in circuit diagrams.					
Enrichment opportunities	Nurse visit		Explorer Dome		Coastal trip	
Global goals	Global Goal 9 Industry and Innovation - Ensure all developing countries have access to the internet. Support small businesses. Protect the environment. Improve technology. Global Goal 3 Good Health and Wellbeing - Make sure everyone has the right to health care. End some disease. Educate people about mental health. Prevent deaths of babies and young children.		Global Goals 9 Industry and innovation increasing access to internet. Global Goal 13 – Climate action. Using satellites to monitor climate change		Global Goal 13 – Climate action with reference to the increased threat to the coasts from rising sea levels and lack of marine food due to plastic and algae impacting on food chains. Global Goal 14 – Ocean pollution and its impact. Global goal 15 Protect ecosystems.	
SIAMS	2a: meeting the needs of children through the curriculum.		2a: meeting the needs of children through the curriculum. 3b ask big questions		2a: meeting the needs of children through the curriculum. 3c ethical activity and social action	
KS3	<ul style="list-style-type: none"> • Builds on the ideas that use practical evidence to answer scientific questions, developing into the specific equipment used in a science laboratory and how we can effectively analyse our data collected. • Builds on the ideas of classifying plants and animals, developing into what living organisms are made from and how the parts of living cells all have different functions. • Builds on the ideas of properties of materials and states of matter, developing into what the particles look like in a solid, liquid and gas, and linking these arrangements to the properties they have. 					

Year B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Industrial Revolution (History Focus)		Rainforest (Geography Focus)		Greece, Ancient and Modern (History Focus)	
Working scientifically	Planning different scientific enquiries, recognising and controlling variables where necessary. Taking measurements, using a range of scientific equipment with increasing accuracy and precision, taking repeat readings where appropriate. Recording data and results with increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bars and line graphs. Using test results to predict and set up further tests. Reporting and presenting findings from enquiries. Identifying scientific evidence to support or refute ideas and arguments					
Living things and their habitats	Y6: Identify and name the main parts of the human circulatory system and describe functions of heart, blood vessels and blood. Impact of diet and exercise. Link to conditions for workers in terms of sanitation, diet and housing. Describe how nutrients and water are transported		Y5 – living things, life cycles and plants, (link to rainforest flora) reproduction, describe the changes as humans develop to old age. Link to rainforest habitat			
Animals, including humans, evolution and inheritance (Y6)			Y6 – classification based on similarities and differences of observable characteristics. Link to rainforest habitat Explore how animals and plants have adapted to suit the rainforest environment and that adaptation may lead to evolution.			
Properties and changes in materials	Y5 – Compare and group materials on basis of properties. Dissolving, filtering, sieving, evaporating. Properties of materials. Reversible and irreversible changes. Link to advances in the industrial revolution e.g. engineering, fireproofing					
Earth and space						
Forces	Y5 and 6 forces Recognise that mechanisms including levers, pulleys and gears, allowing a small force to have a greater effect understanding the principles behind waterpower and advances in the cotton industry link to Arkwright and Strutt (local history topic)				Y5 Explain that unsupported objects fall to Earth because of the force of Gravity. Effects of air resistance, water resistance and friction. Recognise that mechanisms including levers, pulleys and gears, allowing a small force to have a greater effect.	
Light			Y6: Recognise that light travels in straight lines. Objects are seen because they are reflecting light. Light sources travel to our eyes or to objects then our eyes. Shadows - Link to seasons and relative position of sun causing equatorial seasons.			
Electricity	Y6 associate changes of cells with brightness/ loudness etc. Give reasons for variations in how components function. Switches - Use recognised symbols in circuit diagrams. Link to further development of potential for power generation					
Enrichment opportunities	Cromford Trip – engineering and simulation of earlier mill		Nurse visit		Fieldwork - Coastal trip	
Global goals	Global Goal 6 Clean water and sanitation - Everyone has safe water and sanitation. Improve healthy hygiene habits. Link to Victorian housing, Bazalgette and sewers/ John Snow and Typhoid. Global Goal 7 Clean Energy - By 2023 all developing countries have renewable energy. Increase use of renewable energy sources. Development of power in the industrial revolution and its impact on the environment still being felt. Global Goal 2 – Reduce Poverty – the importance of nutrition		Global Goal 7 – clean energy. Global Goal 12 – responsible use and production. Global Goal 13 – Climate action. Global Goal 15 Protect Ecosystems		Global Goal 3 Good Health and Wellbeing - Make sure everyone has the right to health care. End some disease. Olympic games e.g.the Pythagoreans – (not available for all and gender issues)	
KS3	<ul style="list-style-type: none"> Builds on the ideas that use practical evidence to answer scientific questions, developing into the specific equipment used in a science laboratory and how we can effectively analyse our data collected. Builds on the ideas of classifying plants and animals, developing into what living organisms are made from and how the parts of living cells all have different functions. Builds on the ideas of properties of materials and states of matter, developing into what the particles look like in a solid, liquid and gas, and linking these arrangements to the properties they have. 					