

SCIENCE



Overview: Long term Year A

Class / Year groups: Class 4 – Year 5 and 6

Year A

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Theme / Topic	PHYSICS: Forces (Gravity, Resistance & Friction)	PHYSICS: Earth & Space	PHYSICS: Electricity (Changing Circuits)	BIOLOGY: Living Things & Their Habitats (Classifying Plants & Animals)	BIOLOGY: Animals Inc Humans (Circulatory System, Nutrients & Healthy Lifestyle)	
Main Enquiry	What goes up must come down... why?	Is there anybody out there?	How can I see without streetlights?	What's the same, what's different?	Why is the heart the most important pump we own?	
Coverage	Gravity, water resistance, Air resistance, Friction	Our Solar System, day & night	Changing circuits & measuring electricity	Classifying plants and animals	Circulatory system, nutrients & healthy lifestyle	
Key Knowledge	<p>Explain that objects fall towards the Earth because of the force of gravity.</p> <p>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.</p>	<p>Describe the movement of the Earth, and other planets.</p> <p>Describe the movement of the Moon.</p> <p>Use the idea of the Earth's rotation to explain day and night.</p> <p>Identifying scientific evidence that has been used to support or refute ideas or arguments.</p>	<p>Link brightness of a lamp or volume of a buzzer with number and voltage of cells used in the circuit.</p> <p>Compare and give reasons for variations in how components function, including the brightness, loudness and on/off position of switches.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p> <p>Know about two of the most important scientific inventors in the field of electricity – Thomas Edison and Nikola Tesla.</p>	<p>Sort and group animals based on their features.</p> <p>Describe Carl Linnaeus and his development of his classification system.</p> <p>Place animals into given groups based on certain characteristics.</p> <p>Name types of microorganism.</p> <p>Set up an investigation into harmful micro-organisms.</p>	<p>Identify the main parts of the circulatory system.</p> <p>Explain the main functions of the heart, lungs and blood vessels in the circulatory system.</p> <p>State how the digestive system breaks down nutrients.</p> <p>Explain what constitutes a healthy lifestyle.</p> <p>Describe how drugs and alcohol can impact negatively on the body.</p> <p>Take accurate measures of the pulse rate.</p> <p>Record results and write a report which includes a conclusion.</p>	

SCIENCE



Overview: Long term Year B

Class / Year groups: Class 4 – Year 5 and 6

Year B

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Theme / Topic	BIOLOGY: Living Things & Their Habitats (Life Cycles inc Reproduction of Plants & Animals)	CHEMISTRY: Materials (Properties & Changes of Materials)	PHYSICS: Light (How Light Travels)	BIOLOGY: Animals inc Humans (Changes in Humans from Birth to Old Age)	BIOLOGY: Evolution & Inheritance (Adaptation, Inheritance & Evolution)	
Main Enquiry	Do all living things start life as an egg?	Can you unscramble an egg?	How can you see round a corner?	What will I look like when I'm as old as my grandparents?	Have we always looked like this?	
Coverage	Life cycles of plants & animals	Reversible & Irreversible changes	How light travels	Changes in humans from birth to old age	Adaptation, Inheritance & Evolution	
Key Knowledge	<p>Know the life cycle of different living things e.g. mammal, amphibian, insect & bird.</p> <p>Know the differences between different life cycles.</p> <p>Know the process of reproduction in plants.</p> <p>Know the process of reproduction in animals.</p>	<p>Know and explain how a material dissolves to form a solution.</p> <p>Know and show how to recover a substance from a solution.</p> <p>Know and demonstrate how some materials can be separated (e.g. through filtering, sieving and evaporating).</p> <p>Know and demonstrate that some changes are reversible and some are not.</p> <p>Know how some changes result in the formation of a new material and that this is usually irreversible.</p>	<p>Know how light travels</p> <p>Know and demonstrate how we see objects.</p> <p>Know why shadows have the same shape as the object that casts them.</p> <p>Know how simple optical instruments work e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.</p>	<p>Describe the changes as humans develop to old age.</p> <p>Know the stages in the growth & development of humans.</p> <p>Know the differences in capabilities of newly born humans e.g. in movement, feeding.</p> <p>Recognise the length of time humans are dependent upon parents.</p>	<p>Know how the Earth and living things have changed over time.</p> <p>Know how fossils can be used to find out about the past.</p> <p>Know about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents).</p> <p>Know how animals and plants are adapted to suit their environment.</p> <p>Link adaptation over time to evolution.</p> <p>Know about evolution and can explain what it is.</p>	

Revised: Feb 2023

