



National Curriculum Requirements of Science at KS2

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word-reading and spelling knowledge.

Working scientifically

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments

Our Intent

At Stanley Park Junior School, we recognise the important role science plays in our everyday lives, today and for the future. Children have a natural curiosity about the world around them and we endeavour to develop skills associated with scientific enquiry in order to foster these interests. These include questioning, research, observation and evaluation.

Our science lessons involve children getting hands-on with experiments and investigations to ensure they are not only fulfilling their own curiosities and questions, but also enjoying their learning and increasing their enthusiasm for the subject and their own findings. The children are constantly encouraged to use scientific vocabulary that is built upon as topics are revisited during their primary school experience. This increases their confidence and prepares them for their next stage of education and life experiences.

All children will have equal opportunity to reach their full potential across the science curriculum regardless of their race, gender, cultural background, ability or of any physical or sensory disability.

		Autumn Term		Spring Term		Summer Term
	Main Theme Of Learning	LIVING THINGS	EVOLUTION & INHERITANCE	ELECTRICITY	LIGHT	ANIMALS INCLUDING HUMANS
Disciplinary Knowledge	Working Scientifically	<ul style="list-style-type: none"> recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Report and present findings based on evidence 	<ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations Recording data and results using classification tables and graphs identifying scientific evidence that has been used to support or refute ideas or arguments 	<ul style="list-style-type: none"> Planning different types of enquiries to answer using test results to make predictions to set up further comparative and fair tests Recording data and results Controlling variables 	<ul style="list-style-type: none"> Taking measurements using a range of scientific equipment using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions 	<ul style="list-style-type: none"> Planning different types of enquiry recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
	Biology	<ul style="list-style-type: none"> Describe how living things are classified into broad groups according to common observable characteristics and based on 	<ul style="list-style-type: none"> Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago 			<ul style="list-style-type: none"> Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies
Substantive Knowledge						

		<p>similarities and differences, including micro-organisms, plants and animals</p> <ul style="list-style-type: none"> • Give reasons for classifying plants and animals based on specific characteristics. 	<ul style="list-style-type: none"> • Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution 			<p>function</p> <ul style="list-style-type: none"> • Describe the ways in which nutrients and water are transported within animals, including humans.
	Chemistry					
	Physics			<p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</p> <p>Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>	<ul style="list-style-type: none"> • Recognise that light appears to travel in straight lines; • Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye • Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our 	

					<p>eyes</p> <ul style="list-style-type: none"> Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. 	
Snap Science	Lesson topic and numbers	The Nature Library 3 - Grouping vertebrates and invertebrates. 7 - Growing micro-organisms 9 - When scientists disagree.	Everything Changes 6 - How do living things survive? 7 - Extinction 8 - What does it take to survive? Evolution and reporting findings.	Danger! Low Voltage. 1 - Simple circuits recap 2 - What does a switch do? (Should be recap from Y4) 5, 6 - Investigation using bulbs.	Light up your World 3 - Can light go round corners? 2 - reflections 4 - Making a camera box. What can you see? 5, 6 - Shadows	Body Pump 1, 2 - Circulatory system and the heart 4, 5 - Blood 5 - Valves and blood vessels Body Health 1 - Being healthy. 4 - Diets 7, 8 - Smoking and drugs 5, 6 - Benefits of sports and exercise
Vocabulary	New Vocabulary	Year 6		Year 6		Year 6
		Organism, Micro-organism, Fungus, Virus, Bacteria, Arachnid, Insect, Mammal, Amphibian, Reptile, Respiration	Evolution, offspring, fossil, adaption, inherit, variation, mutation, natural selection	Electricity , Electrical circuit, Components, Battery, Conductor, Insulator, Voltage, Current, Resistance	Light, Light source, Dark/darkness, Shadow, Opaque, Translucent, Transparent, Reflection, Travels, Periscope, Spectrum	Circulatory system. Heart. Blood. Blood vessels. Pumps. Lungs. Nutrients. Diet
	Review of Previously Learnt Vocabulary	Review Year 5		Review Year 5		Review Year 5
		Life-cycle, Reproduction, Pollination, Fertilisation, Germination, Mammal, Amphibian, Insect, Bird	<u>All new vocabulary</u>	<u>Electricity Year 4</u> appliance, circuit, battery, bulb, switch, buzzer, motor, conductor, insulator	<u>Light Year 3</u> Light, Dark, Shadow, Transparent, Opaque, Translucent, Material, Light source, Straight	<u>Puberty</u> Growth. Development. Changes. Experiences. Puberty. Gestation