

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

Animals Including Humans	Living Things and their Habitats	Evolution and Inheritance	Light	
<ul> <li>I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</li> <li>I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</li> <li>I can describe the ways in which nutrients and water are transported within animals, including humans.</li> </ul>	<ul> <li>I can describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro- organisms, plants and animals</li> <li>I can give reasons for classifying plants and animals based on specific characteristics.</li> </ul>	<ul> <li>I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</li> <li>I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</li> <li>I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</li> </ul>	<ul> <li>I can recognise that light appears to travel in straight lines</li> <li>I can 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</li> <li>I can explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes</li> <li>I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</li> </ul>	

## Guidance

Animals Including Humans	Living Things and their Habitats	Evolution and Inheritance	Light	
Pupils should build on their learning from years 3	Pupils should build on their learning about	Building on what they learned about fossils in the	Pupils should build on the work on light in year	E
and 4 about the main body parts and internal	grouping living things in year 4 by looking at the	topic on rocks in year 3, pupils should find out	3, exploring the way that light behaves, including	¢
organs (skeletal, muscular and digestive system)	classification system in more detail. They should	more about how living things on earth have	light sources, reflection and shadows. They	0
to explore and answer questions that help them	be introduced to the idea that broad groupings,	changed over time. They should be introduced to	should talk about what happens and make	t
to understand how the circulatory system enables	such as micro-organisms, plants and animals can	the idea that characteristics are passed from	predictions.	ł
the body to function.	be subdivided. Through direct observations where	parents to their offspring, for instance by		t
	possible, they should classify animals into	considering different breeds of dogs, and what		r
Pupils should learn how to keep their bodies	commonly found invertebrates (such as insects,	happens when, for example, labradors are crossed		
healthy and how their bodies might be damaged	spiders, snails, worms) and vertebrates (fish,	with poodles. They should also appreciate that		
– including how some drugs and other substances	amphibians, reptiles, birds and mammals). They	variation in offspring over time can make animals		S
can be harmful to the human body.	should discuss reasons why living things are	more or less able to survive in particular		ł
	placed in one group and not another.	environments, for example, by exploring how		١
		giraffes' necks got longer, or the development of		
	Pupils might find out about the significance of the	insulating fur on the arctic fox. Pupils might find		
	work of scientists such as Carl Linnaeus, a pioneer	out about the work of palaeontologists such as		
	of classification.	Mary Anning and about how Charles Darwin and		
		Alfred Wallace developed their ideas on		
		evolution.		
		<b>Note:</b> At this stage, pupils are not expected to		
		understand how genes and chromosomes work.		





the UNIQUENESS of each individual

"I Am Fearfully And Wonderfully Made" – Psalms 139 v14

## Electricity

- I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
- I can 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
- I can use recognised symbols when representing a simple circuit in a diagram.

## Forces

Building on their work in year 4, pupils should construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors. They should learn how to represent a simple circuit in a diagram using recognised symbols.

**Note:** Pupils are expected to learn only about series circuits, not parallel circuits. Pupils should be taught to take the necessary precautions for working safely with electricity.

	Working Scientifically					
Pupils might work scientifically by: exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.	Pupils might work scientifically by: using classification systems and keys to identify some animals and plants in the immediate environment. They could research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.	Pupils might work scientifically by: observing and raising questions about local animals and how they are adapted to their environment; comparing how some living things are adapted to survive in extreme conditions, for example, cactuses, penguins and camels. They might analyse the advantages and disadvantages of specific adaptations, such as being on two feet rather than four, having a long or a short beak, having gills or lungs, tendrils on climbing plants, brightly coloured and scented flowers.	Pupils might work scientifically by: deciding where to place rear-view mirrors on cars; designing and making a periscope and using the idea that light appears to travel in straight lines to explain how it works. They might investigate the relationship between light sources, objects and shadows by using shadow puppets. They could extend their experience of light by looking a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water and coloured filters (they do not need to explain why these phenomena occur).	F id c u		



Pupils might work scientifically by: systematically identifying the effect of changing one component at a time in a circuit; designing and making a set of traffic lights, a burglar alarm or some other useful circuit.