



- 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.

Investing in
the UNIQUENESS
of each individual

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

Animals Including Humans	Living Things and their Habitats	Evolution and Inheritance	Light	Electricity
<ul style="list-style-type: none"> • I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • I can describe the ways in which nutrients and water are transported within animals, including humans. 	<ul style="list-style-type: none"> • 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 • I can give reasons for classifying plants and animals based on specific characteristics. 	<ul style="list-style-type: none"> • 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 • I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • I can identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. 	<ul style="list-style-type: none"> • I can recognise that light appears to travel in straight lines • 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 • 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 • 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. 	<ul style="list-style-type: none"> • 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.

Guidance

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

