



Year 6 Science

Science Unit	Substantive Knowledge Objectives	Vocabulary	Disciplinary Knowledge: Working scientifically
Electricity <u>Key Scientists</u> Alessandro Volta(Electrical Battery)Nicola Tesla(Alternating Currents)	<ul style="list-style-type: none"> associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit 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 use recognised symbols when representing a simple circuit in a diagram <p>Lewis Latimer: inventor of the carbon light bulb filter https://www.pbs.org/education/blog/ten-black-scientists-that-science-teachers-should-know-about-and-free-resources</p>	Electricity, appliance, device, electrical circuit, complete circuit, circuit diagram, circuit symbol, components, cell, battery, positive, negative, terminal, connection, short circuit, wire, crocodile clip, bulb, bright/dim, switch, buzzer, volume, motor, conductor, insulator, voltage, current, resistance,	<ul style="list-style-type: none"> (WS) Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs (WS) Identifying scientific evidence that has been used to support or refute ideas or arguments. (WS) Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary (WS) Using test results to make predictions to set up further comparative and fair tests (WS) Reporting and presenting 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 (WS) Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
Light <u>Key Scientists</u> Lewis LatimerThomas Young(Wave Theory of Light)Ibn al-Haytham (Alhazen)(Light and our Eyes)Percy Shaw(The Cats Eye)	<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 eyes use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them 	Light, light source, darkness, reflect, reflective, shadow, block, absorb, direction, transparent, opaque, translucent	<ul style="list-style-type: none"> (WS) Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs (WS) Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary (WS) Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
Living things and their habitats <u>Key Scientists</u> Carl Linnaeus (Identifying, Naming and Classifying Organisms)	<ul style="list-style-type: none"> 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 give reasons for classifying plants and animals based on specific characteristics 	Organism, micro-organism, fungus, mushrooms, classification keys, environment, fish, amphibians, reptiles, birds, mammals, vertebrates, invertebrates, name some of these, arachnid, mollusc, insect, crustacean	<ul style="list-style-type: none"> (WS) Identifying scientific evidence that has been used to support or refute ideas or arguments. (WS) Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate (WS) Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs (WS) Reporting and presenting 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 (WS) Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary (WS) Using test results to make predictions to set up further comparative and fair tests
Animals including humans <u>Key Scientists</u> Sir Richard Doll(Linking Smoking and Health Problems)Leonardo Da Vinci(Anatomy)	<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 function describe the ways in which nutrients and water are transported within animals, including humans 	Circulatory system, blood vessels, drugs, lifestyle, atriums, William Harvey, cardiovascular, ultrasound, cardiologists, capillaries, pulse, ventricles, oxygen, carbon dioxide, nutrients	<ul style="list-style-type: none"> (WS) Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary (WS) Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate (WS) Reporting and presenting 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
Evolution and Inheritance <u>Key Scientists</u> Charles Darwin and Alfred Russel Wallace(Theory of Evolution by Natural Selection)Jane Goodall(Chimpanzees)	<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 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 	Offspring, adaptation, evolution, inheritance, palaeontologist, Charles Darwin, genes, chromosomes, syndrome, genotype	<ul style="list-style-type: none"> (WS) Identifying scientific evidence that has been used to support or refute ideas or arguments. (WS) Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary (WS) Reporting and presenting 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