













Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6
LO: I can compare and give reasons for variations in how components function.	LO: I can use recognised symbols when representing a simple circuit in a diagram.	LO: I can compare and give reasons for variations in how components function.	LO: I can associate the volume of a buzzer with the number and voltage of cells used in a circuit.	LO: I can design and construct simple electrical circuits for a purpose.	LO: I can use recognised symbols when representing a simple circuit in a diagram.
					
					

Vocabulary

circuit
cell
battery
bulb
buzzer
motor
switch
voltage
electron

Knowledge

- Electricity is a type of energy where electrons flow through a circuit.
- Electrons are tiny particles with an electrical charge.
- Voltage provided by a battery/cell pushes electrons around a circuit.
- Electrical current is how much charge passes a point in a second.
- Cells and batteries convert chemical energy into electrical energy. A cell is one device, a battery is more than one device.
- Brightness of a bulb/speed of a motor/volume of a buzzer is increased with fewer wires/less resistance, increased voltage/more batteries, fewer components.
- Brightness of a bulb/speed of a motor/volume of a buzzer is decreased with more wires/more resistance, less voltage/fewer batteries, more components.
- Know the electrical symbols for: cell, battery, wire, open switch, closed switch, push switch, bulb, motor, buzzer.

Science Capital















Volta Faraday
Inventor of the electric battery.

Electrician

Installs, inspects and tests electrical equipment, to ensure it is working properly and safely.



ELECTRICITY

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6
LO: I can recognise that light appears to travel in straight lines.	LO: I can explain that objects are seen because they give out or reflect light into the eye.	LO: I explain that objects are seen because they give out or reflect light into the eye.	LO: I can explain why shadows have the same shape as the objects that cast them.	LO: I explain that objects are seen because they give out or reflect light into the eye.	LO: I explain that objects are seen because they give out or reflect light into the eye.
					
					

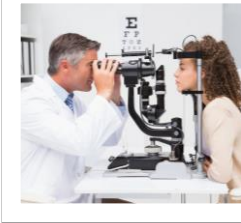
Vocabulary

transparent
translucent
opaque
energy
reflection
refraction
shadow
medium
lux

Knowledge

- Light is a type of energy measured in lux.
- Light travels in straight lines.
- We see things when light hits an object and is reflected into our eye.
- Light reflects off mirrors according to the law of reflection (angle of incidence = angle of reflection). This is how periscopes work.
- White light is made up of a spectrum of colours with different wavelengths: red, orange, yellow, green, blue, indigo and violet. When white light hits transparent and flat surfaces, it splits the light into its 7 colours.
- Light is refracted (bent) when passing through 2 different mediums.
- When an object passes in front of a beam of light, the light can be blocked making a shadow.
- The closer an object is to the light source the bigger the shadow.
- The eye is made up of the pupil, retina, cornea, optic nerve, iris and lens.

Science Capital



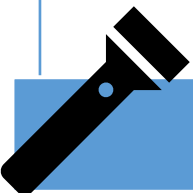
Optician
Fits glasses or contact lenses by filling a refractive prescription.


Linked texts

A Place Called Perfect
Pathways to Read



LIGHT



Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6
LO: I can describe how living things are classified based on observable characteristics.	LO: I can describe how living things are classified based on observable characteristics.	LO: I can give reasons for classifying plants and animals based on specific characteristics.	LO: I can give reasons for classifying plants and animals based on specific characteristics.	LO: I can describe how living things are classified based on observable characteristics.	LO: I can describe how living things are classified based on observable characteristics.
	 				
					

Vocabulary

vertebrates
 invertebrates
 flowering
 non-flowering
 micro-organisms
 fish
 amphibians
 reptiles
 mammals
 insects

Knowledge

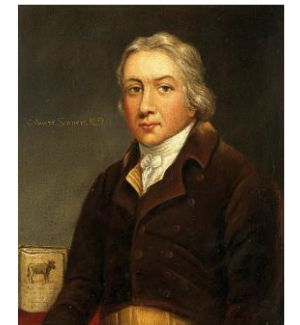
- The Linnaeus system of classification has seven levels: Kingdom, Phylum, Class, Order, Family, Genus, Species.
- Vertebrates can be further divided into 5 groups, (mammals, birds, reptiles, amphibians, fish) animals in each group share certain features.
- Mammals are warm-blooded, give birth to live young, grow hair or fur and have lungs to breathe.
- Birds are warm-blooded, have 2 wings, lay eggs, have 2 legs and have feathers.
- Reptiles have dry, scaly skin, are cold-blooded, usually lay eggs.
- Amphibians have moist, scaleless skin, are cold-blooded, lay eggs and live on land and in water.
- Fish are cold-blooded, breathe underwater and live underwater.

Science Capital



Carl Linnaeus
 Founder of the modern system of naming organisms (binomial system).

Edward Jenner
 Creator of the first vaccine to fight smallpox.



Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6
LO: I can understand that fossils provide information about living things from millions of years ago.	LO: I can understand that living things produce offspring of the same kind which normally vary.	LO: I can understand that living things produce offspring of the same kind which normally vary.	LO: I can identify how plants and animals are adapted to their environments and adaptations may lead to evolution.	LO: I can identify how plants and animals are adapted to their environments and adaptations may lead to evolution.	LO: I can recognise that offspring normally vary and are not identical to their parents.
					
					

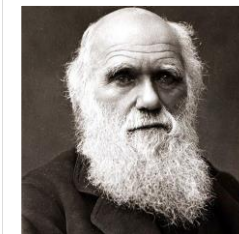
Vocabulary

offspring
 reproduce
 variation
 characteristics
 adapted
 suited
 environment
 inherited
 gene

Knowledge

- Fossils provide information about living things from millions of years ago.
- Through the process of evolution, living things have changed and adapted over time to live all over our planet.
- Natural selection suggests that organisms which have traits which are better suited to the environment in which they live are more likely to survive. These individuals then pass the desirable traits to their offspring and over time these become more common within the population.
- Offspring can inherit characteristics from their parents through genetics.

Science Capital



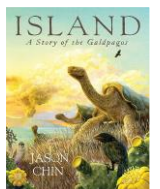
Charles Darwin

Proposed how species form and change over time – theory of natural selection.













Linked texts

Island

Pathways to Write



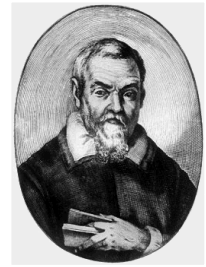
EVOLUTION AND INHERITANCE

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6
LO: I can identify main parts of the human circulatory system and describe the function of the heart, blood vessels and blood.	LO: I can identify main parts of the human circulatory system and describe the function of the heart, blood vessels and blood.	LO: I can identify main parts of the human circulatory system and describe the function of the heart, blood vessels and blood.	LO: I can describe how nutrients and water are transported within animals including humans.	LO: I can recognise the impact of diet, exercise, drugs and lifestyle on the way the body functions.	LO: I can recognise the impact of diet, exercise, drugs and lifestyle on the way the body functions.
					
					

Vocabulary

pulse
 blood
 blood vessels
 oxygen
 oxygenated
 deoxygenated
 artery
 vein
 capillaries
 nutrients

Science Capital



Santorio Santorio
 Inventor of several medical devices to measure pulse.

Biomedical scientist
 Conducts tests to help diagnose and treat diseases.



Knowledge

- The heart is a muscle which pumps blood around the body.
- Our pulse rate is the number of beats per minute.
- Our blood transports oxygen to the muscles/where it is needed.
- The heart has four chambers and 4 main blood vessels: aorta, vena cava, pulmonary vein, pulmonary artery.
- Arteries carry blood away from the heart; veins carry blood towards the heart.
- Nutrients are absorbed in the stomach and small intestine and into the blood stream through the capillaries.
- Water is absorbed in the small intestine and into the blood stream via the capillaries.
- Exercise causes our pulse to increase because our muscles are working harder and so need more oxygen faster.
- A balanced diet and healthy lifestyle help to protect our heart.

