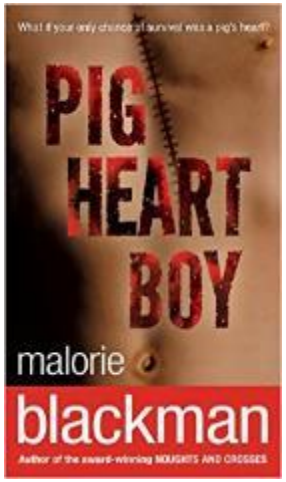
Year 6: Circulatory System

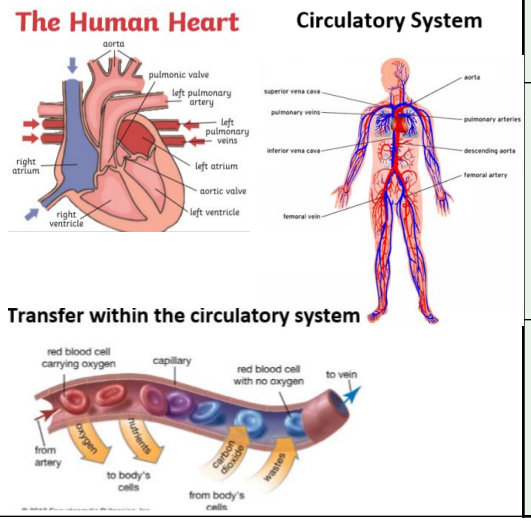
Subject Specific Vocabulary

blood vessels	Blood vessels are a series of tubes inside your body. They move blood to and from your heart.
drugs	A drug is a chemical that is not food and that affects your body. Some drugs are given to people by doctors to make them healthy.
atriums	The atriums are the two uppermost chambers of the heart. Blood is pushed from the atriums to the ventricles.
William Harvey	He was the first person to accurately describe the function of the heart and the circulation of blood around the body.
cardiovascular	The blood circulatory system (cardiovascular system) delivers nutrients and oxygen to all cells in the body.
ultrasound	An ultrasound machine uses sound waves to take pictures of the inside of the body.
cardiologists	A cardiologist is a doctor with special training and skill in finding, treating and preventing diseases of the heart and blood vessels.
capillaries	Capillaries are very thin blood vessels. They bring nutrients and oxygen to tissues and remove waste products.
pulse	Your heart has to push so much blood through your body that you can feel a little thump in your arteries each time the heart beats.
ventricles	The ventricles are the two lower chambers in the heart.

Interesting Book



Important facts to know by the end of the circulatory system topic:



Sticky Knowledge about the circulatory system

- ❑ Your heart will beat about 115,000 times each day. Your heart pumps about 2,000 gallons of blood every day.
- ❑ The entire trip around your body only takes blood about 20 seconds in total. Blood is what is used to transport oxygen, waste, nutrients, and more throughout the body.
- ❑ The circulatory system includes the heart, blood vessels and blood, and is vital for fighting diseases and maintaining proper temperature.
- ❑ Because your heart is crucial to your survival, it's important to keep it healthy with a well-balanced diet and exercise, and avoiding things that can damage it, like smoking.
- ❑ Your heart affects every part of your body. That also means that diet, lifestyle, and your emotional well-being can affect your heart.

Year 6: Living Things and their Habitats

Subject Specific Vocabulary

micro-organism	Micro-organisms are tiny. They are so small they can only be seen with a microscope.
vertebrates	A vertebrate animal is one that has a backbone.
invertebrates	An invertebrate animal does not have a backbone and 97% of creatures belong to this group.
species	This is the grouping together of similar types of plants, animals and other organisms that can reproduce with each other.
fungi	Fungi are a classification or group of living organisms. This means they are not animals, plants, or bacteria.
monera	The whole organism is made up of just one cell. This cell is more basic than cells of other organisms.
bacteria	Bacteria are tiny little organisms that are everywhere around us.
protista	Protists are not animals, plants, fungi, or bacteria. Many protists are so small that people can see them only through a microscope.
algae	Algae is a single or multi-cellular organism that has no roots, stems or leaves and is often found in water.
Carl Linnaeus	Carl Linnaeus is famous for his work in Taxonomy, the science of identifying, naming and classifying organisms (plants, animals, bacteria, fungi etc.).

Interesting Books

Important facts to know by the end of the animals including humans topic:

- Be able to classify living things into broad groups according to observable characteristics and based on similarities and differences.
- Know how living things have been classified.
- Give reasons for classifying plants and animals based on specific characteristics.

Sticky Knowledge about Classification of animals

- ❑ The largest vertebrate is the blue whale, which can grow to 25m long and weighs 140,000kg.
- ❑ The smallest vertebrate is thought to be a tiny frog called the Paedophryne amauensis. It only grows to about 8mm in length.
- ❑ Vertebrates tend to be much more intelligent than invertebrates.
- ❑ Vertebrate animals can be either warm or cold-blooded. A cold-blooded animal cannot maintain a constant body temperature. The temperature of their body is determined by the outside surroundings.
- ❑ An invertebrate is an animal that does not have a backbone. 97% of all animal species are invertebrates.
- ❑ Frogs can breathe through their skin.
- ❑ There are a wide variety of interesting ocean animals that are invertebrates. These include sponges, corals, jellyfish, anemones, and starfish.

Year 6: Electricity

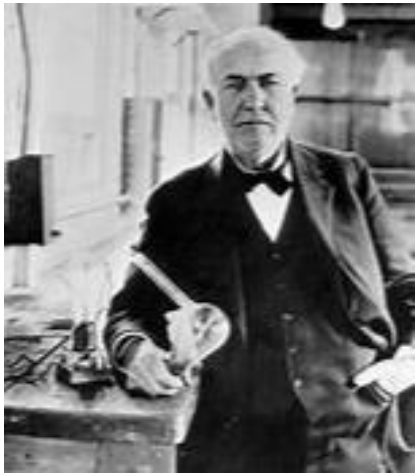
Subject Specific Vocabulary

conductor	Some materials let electricity pass through them easily. These materials are known as electrical conductors.
insulator	Plastic, wood, glass and rubber are good electrical insulators.
socket	A socket is a safe device to plug your electrical items into at home. Almost every room at home will have at least one socket.
series circuits	A series circuit is one that has more than one resistor, but only one path through which the electricity (electrons) flows.
cells	An electrical cell is a device that is used to generate electricity, or one that is used to make chemical reactions possible by applying electricity.
volts	Voltage is an electrical potential difference, the difference in electric potential between two places.
generator	A machine that converts energy into electricity.
turbine	A machine that creates continuous power in which a wheel, or something similar, moves round and round by fast moving water, steam, gas or air.
fuses	These are safety devices. A fuse is a strip of wire that melts and breaks an electric circuit if it goes over a safe level.
Thomas Edison	He was a great inventor that came up with a way of making the electric light bulb accessible for homes, industry and outside in the streets.

Electrical symbols

Component	Symbol	Purpose
Cell (Battery)		Provides electrical energy
Power supply		Alternative to using cells
Wire		Allows current to travel
Bulb/light		Converts electrical energy into heat and light
Motor		Converts electrical energy into movement energy
Buzzer		Converts electrical energy into sound energy
Switch		Allows circuit to be opened or closed

Thomas Edison



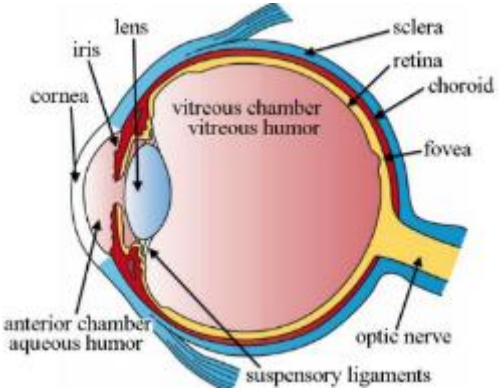
Sticky Knowledge about Electricity

- ❑ Electricity travels at the speed of light. That's more than 186,000 miles per second!
- ❑ Electricity comes from the power station, the wind, the sun, water and even an animal's poo!
- ❑ Electricity is a type of energy that builds up in one place (static), or flows from one place to another (current electricity).
- ❑ Coal is the biggest source of energy for producing electricity. Coal is burned in furnaces that boil water and create steam.
- ❑ A popular way of generating electricity is through hydropower. This is a process where electricity is made by water which spins turbines attached to generators. Renewable resources are becoming a more climate-friendly way to source electricity.
- ❑ A bolt of lightning can measure up to 3,000,000 volts, and lasts less than one second!
- ❑ Electric fields work in a similar way to gravity. Whereas gravity always attracts, electric fields can either attract or repulse.

Year 6: Light

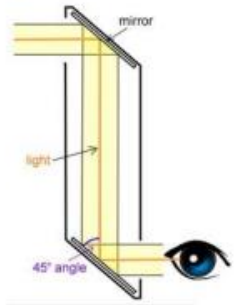
Subject Specific Vocabulary

light wave	One of the characteristics of light is that it behaves like a wave. Light can be defined by its wavelength and frequency. The frequency is how fast the waves vibrate up and down.
light source	Light, or illumination, is a form of energy that travels in waves, like sound. You can find different sources of light, such as a candle or the sun.
concave	Is a lens that curves inwards and reflects light differently as a result.
convex	Is a lens that curves outwards and reflects light differently as a result.
filters	A filter is a transparent material that absorbs some colours and allows others to pass through.
lens	A lens is a curved piece of glass or plastic designed to refract light in a specific way.
retina	The retina is at the back of your eye and it has light-sensitive cells called rods and cones.
cornea	The cornea is thin, clear and covers your eye. It's important because it helps you see by focusing light as it enters the eye.
iris	By opening and closing the pupil, the iris can control the amount of light that enters the eye.
pupil	The pupil can be compared with the shutter of a camera. It is surrounded by the iris which is the coloured part of the eye.

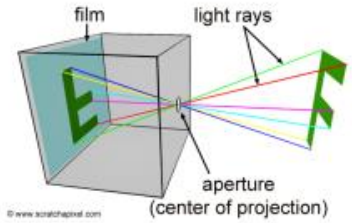


Important facts to know by the end of the light topic:

Ray diagram of a periscope



Ray diagram of a pinhole camera



Sticky Knowledge about Light

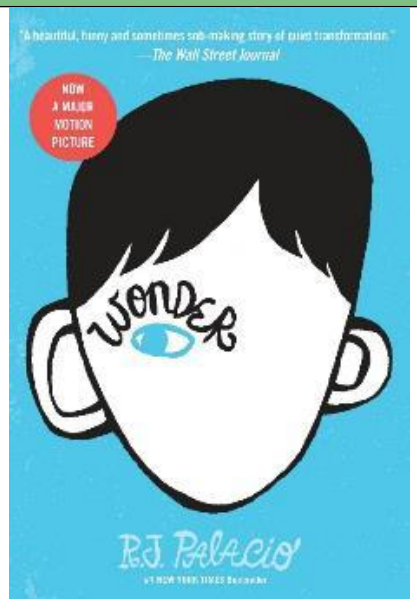
- ❑ Light will travel in a completely straight line until it hits an object that will reflect it. Because light travels in straight lines, objects are seen because they give out or reflect light into the eye.
- ❑ Space does not have any light. We can see things in space due to light bouncing off of the objects in space.
- ❑ Light doesn't travel as fast when it has to pass through mediums that are different, such as air, water or glass.
- ❑ The light that we see from the sun actually left the sun ten minutes before we see it.
- ❑ Light can be controlled and produced in so many ways. A camera can control the amount of light that comes into the camera lens. We also use light in televisions, medical systems, copy machines, telescopes and satellites.
- ❑ We see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.

Year 6: Evolution & Inheritance

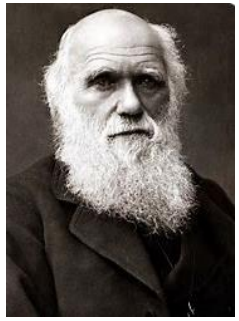
Subject Specific Vocabulary

off-spring	When living things reproduce they pass on characteristics to their offspring. All living things produce offspring of the same kind, but normally offspring are not identical to their parents
adaptation	Adaptation is the process by which animals, plants and other living things have changed so that they better suit their habitat.
evolution	Evolution is the theory that all the kinds of living things that exist today developed from earlier types.
inheritance	When living things reproduce they pass on characteristics to their offspring. This is known as inheritance.
palaeontologist	A palaeontologist is someone studying the life of past geological periods, as known from fossil remains.
Charles Darwin	Charles Darwin was an English scientist who studied nature. He is known for his theory of evolution.
genes	Genes that are passed on to you determine many of your traits, such as your hair colour and skin colour.
chromosomes	Chromosomes are tiny structures inside cells made from DNA and protein.
syndrome	A syndrome is a genetic condition which can affect learning and physical features.
genotype	A genotype refers to a particular gene or set of genes carried by an individual.

Interesting Book



Charles Darwin



Sticky Knowledge about Evolution & Inheritance

- ❑ Evolution is a scientific theory used by biologists. It explains how living things changed over a long time, and how they have come to be the way they are.
- ❑ We know that living things have changed over time, because we can see their remains in the rocks.
- ❑ We know that the animals and plants of today are different from those of long ago.
- ❑ Evolutionary questions are still being actively researched by biologists.

Evolutionary family tree of Allosauroidea