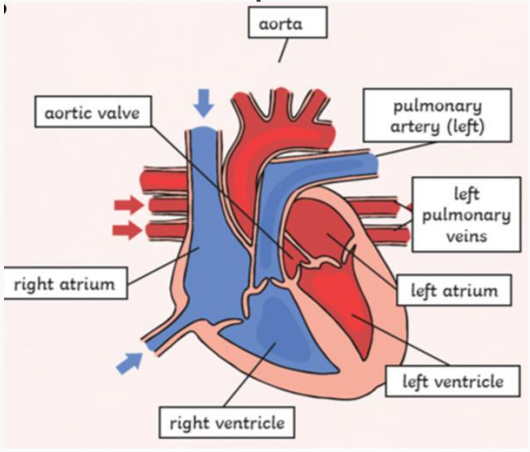
Science Sticky Knowledge

The circulatory system

Describe the functions of the heart, blood vessels and blood.
The heart pumps oxygenated and deoxygenated blood on different sides
The blood vessels transport blood around the body
The blood transports oxygen and nutrients

Label the different parts of the human heart.



Describe how water and nutrients pass from the arteries, through capillaries, to veins.
Arteries are the large vessels that carry blood through the heart, around to every part of your body.

The blood that arteries carry from the lungs is full of oxygen.

As they get closer to the surface or into smaller spaces, blood is transferred into microscopic vessels called capilliaries.

When the blood has released its oxygen, it returns back to the lungs and heart through veins.

Plants and Animals

Draw and Describe the life cycle of a mammal, amphibian, insect, bird.
Mammal – embryo, young, adult
Amphibian – Frog – egg mass/frogspawn, tadpole, young, adult
Insect – Egg, lava, pupa, adult
Bird – egg, young, adult

Explain the similarities and differences in the life cycles of a mammal, an amphibian, an insect and a bird.
e.g Similarities – they all begin with birth and end in death but the cycle carries on due to reproduction and the offspring being born.
e.g Difference – mammals give birth to life young/birds lay eggs.
Or ambphibians e.g frogs go through a metamorphosis – they change in structure – tadpole – frog whereas a baby just gets bigger.

Evolution and Inheritance

Describe the conditions in which the fossils once lived.
For a soft-bodied animal to be fossilized, its body must be protected from decomposition. The body is usually exposed to air and water with a lot of oxygen, so it decomposes rapidly. The animal is likely to be fossilized only if it is buried soon after it dies

Explain the process of the formation of fossils.
Stage 1: A dinosaur dies and is buried before the remains are completely destroyed.

Stage 2: Over time, layers of sediment build up and press down on the buried remains.

Stage 3: Dissolved minerals fill tiny spaces in the bones. The combination of pressure, chemical reactions and time eventually turns the sediments into rock and the bones into mineralised fossils.

Stage 4: The fossils remain within the rock until uncovered through erosion or excavation.

Explain why adaptation may lead to evolution.

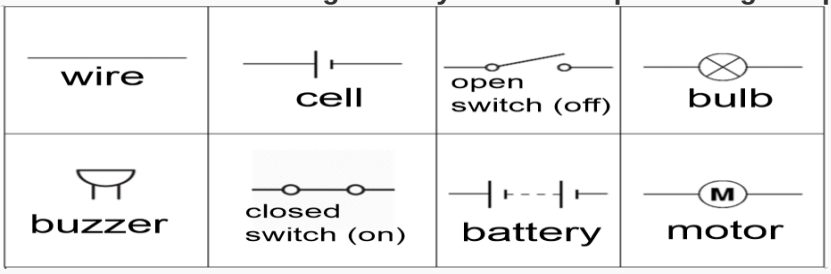
Survival of the fittest – such as the Galapogus finches – had to change their beaks because the seeds were a different shape so they had to be able to pick them up to eat.

Describe how plants and animals may evolve through adaptation to their environment.

Climate and habitat changes can lead to adaptation to ensure that they survive – survival of the fittest.

Electricity

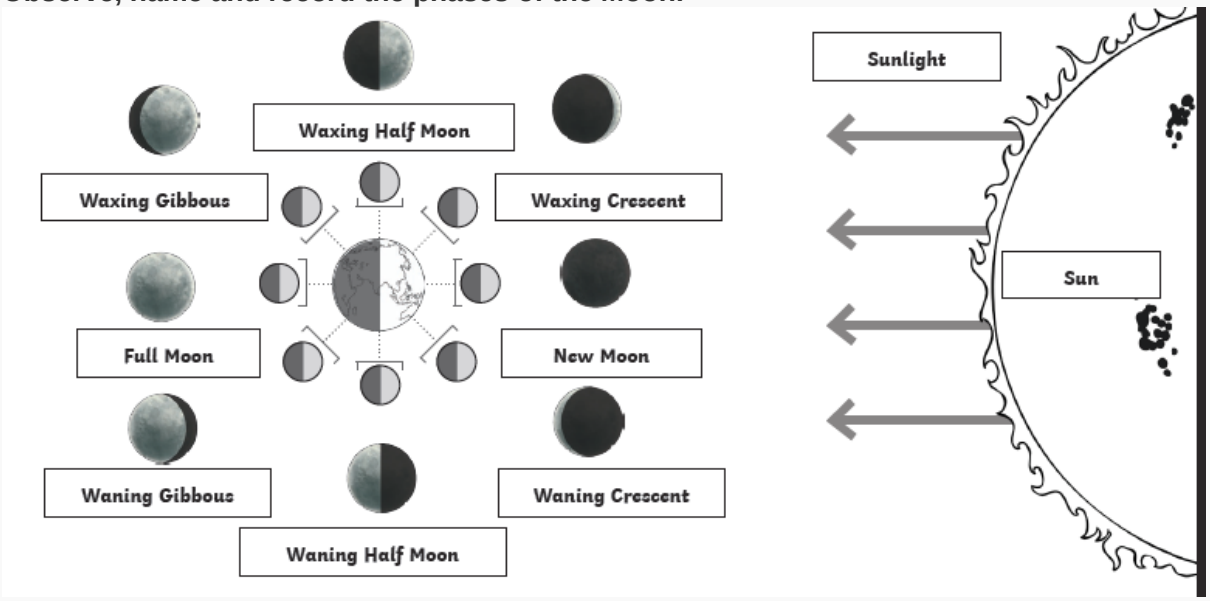
Label and learn the recognised symbols for representing components in a circuit diagram.



Make circuits then represent them in circuit diagrams and applying component symbols appropriately.

Earth and Space

Observe, name and record the phases of the Moon.



Describe the movement of the Earth relative to the Sun. Label and describe our solar system.

My Very Easy Method Just Speeds Up Naming Planets
Mercury, Venus Earth, Mars, Jupitar, Saturn, Uranus, Neptune, Pluto
Sun is the centre of the solar system, the earth orbits the sun, the moon orbits the earth.

Living Things

Describe the life processes common to all living things.
Mrs Gren
Movement, respiration, sensitivity, growth, reproduction, excretion, nutrition

Draw and describe the process of reproduction in some plants and animals.

Self-pollination, wind pollination, insect pollination - Describe what they mean.