

# Science - Year 6 – Autumn - How does the circulatory system work?

## What I already know:

There are different systems within the body. The digestive system breaks food down and absorbs nutrients for energy and growth. The reproductive system enables animals, including humans, to have babies or offspring.

The body has many organs which are considered to be vital for survival. These include the heart, brain, kidneys, liver and lungs.

Carrying out physical activity increases heart rate.

It is important to eat a balance of different types of food in order to maintain a healthy body.

## What I need to know:

Blood is made up of four components: plasma, platelets, red blood cells and white blood cells. Each component has a different purpose within the circulatory system.

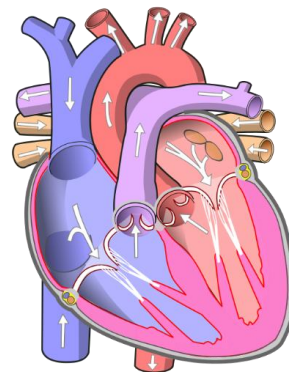
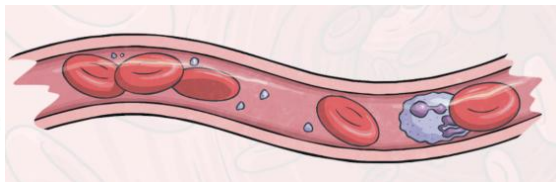
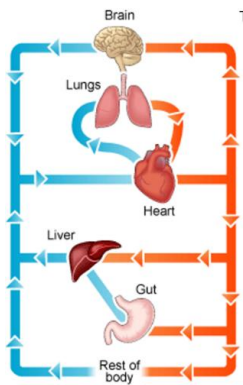
The blood travels through vessels – veins, arteries and capillaries.

The heart is a pump, split into four chambers. The heart pumps blood to the lungs and around the body.

The circulatory system is made up of the blood vessels, blood and the heart.

Nutrients and water are transported in different ways within animals. Some circulatory systems are closed, meaning the blood flows through vessels, and are double systems, meaning the blood flows through the heart twice. Other animals have open circulatory systems and single circuits of blood flow.

Different lifestyle choices can impact the way the body functions. Some lifestyle choices can have positive impacts, such as a balanced diet and regular exercise. Other choices, such as alcohol consumption and smoking, can negatively impact on the body.



## SDG Link:

Good Health and Wellbeing – Lesson 6 – To explain the impact of lifestyle choices on the body.

3 GOOD HEALTH AND WELL-BEING



## Vocabulary Focus:

### Tier 2:

**heart** – the organ that pumps blood through the body.

**lungs** – organs used for breathing, bringing oxygen to the body and getting rid of carbon dioxide.

**continuous** – going on without pausing or stopping.

**pump** – a way of moving a liquid or gas from one place to another.

**system** – a group of related things that work together as a whole.

**exercise** – activity done to keep the body or mind strong/stronger.

**heart rate** – the number of times the hearts beats in one minute.

**intensity** – the strength or energy of thought or action.

**alcohol** – a liquid that can be made from certain grains or fruits, present in drinks, medicines and chemicals.

**drugs** – a substance used to cure or heal; can cause a chemical change in the body.

**smoking** - the act of inhaling tobacco.

**lifestyle** – the way of life on a person.

### Tier 3:

**circulatory system** – a system made up of the heart, blood and vessels which carries blood around the body.

**plasma** – the clear, liquid part of blood.

**red blood cells** – cells in the body which carry oxygen.

**white blood cells** – cells with no colour which help protect the body against infections and bacteria.

**platelets** – a blood component associated with clotting.

**blood vessels** – tubes through which blood moves in the body.

**veins** – a type of blood vessel taking blood to the heart.

**arteries** – a type of blood vessel taking blood away from the heart.

**oxygenate** – to combine with oxygen.

**deoxygenate** – to remove or lack oxygen.

**atrium** – either of the two upper chambers of the heart.

**ventricle** – either of the two lower chambers of the heart.

**valves** – flaps that control the flow of liquid in the body.

**pulmonary** – linked to or affecting the lungs.

**nutrient** – something in food that helps living things to grow.