

Key Knowledge:

Blood is pumped around the body through blood vessels: arteries (carry blood away from the heart); veins (carry blood back towards the heart); and capillaries (tiny blood vessels that carry blood to the individual cells – they join the arteries to the veins). Blood has many functions: it transports oxygen, hormones, nutrients and water to the cells; transports waste away from the cells; helps the body to fight infection; and keeps the body at a certain temperature. Blood contains red and white blood cells, platelets and plasma.

The heart is an organ made of powerful muscles and blood vessels that pumps blood around the body to give it oxygen and energy. It is divided into four chambers. The average adults pumps between 60-90ml per beat. The more exercise that a person does, the stronger the heart muscle becomes.

Humans have a double circulatory system which means that the heart pumps blood to the lungs and then back again to get rid of carbon dioxide and to pick up oxygen before pumping the oxygenated blood around the body.

Nutrients come from our food and water. They are broken down and absorbed through the walls of the intestines by a process called diffusion. Water moves between membranes through a process of diffusion called osmosis.

Possible Experiments:

- Investigating pulse rate after exercise. Fair-testing. Make predictions and draw conclusions.
- Investigation into heart fitness. Raise further questions which could be investigated.

Key Vocabulary:

nutrition – the act or process of eating and using the nutrients for living and growing.

digestion – the process by which the stomach and intestines change food into a form which the body can use as energy.

protein –

carbohydrates – a compound used by the body to produce and store energy.

fats – an oily substance made from carbon, hydrogen and oxygen.

vitamins – a substance needed for the healthy working of the body.

digestive system – the parts of the body which work together to break down food in the body so that it can be used as energy.

molars – a large grinding tooth at the back of the mouth.

incisors – one of four sharp teeth located at the front of the mouth.

canines – a pointed tooth.

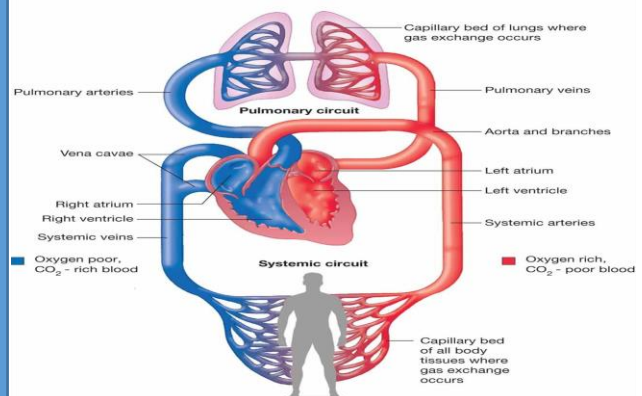
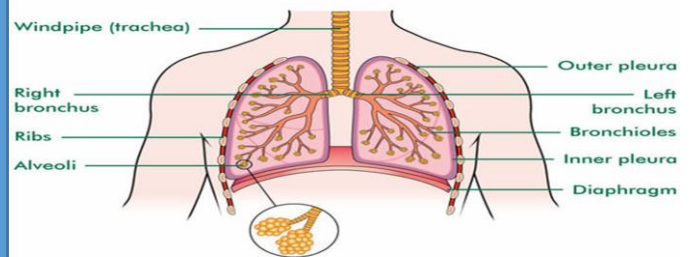
stomach – the organ in the body that receives food and begins to digest it.

energy – the power or ability to make someone active.

circulatory system – a system in the body that carries blood and lymph around the body.

blood – red liquid containing oxygen and nutrients which is pumped around the body.

Diagrams and Symbols:



Key Knowledge:

To keep ourselves fit and healthy it is important to: eat healthily; exercise; clean teeth and hands; and get enough sleep. A balanced diet involves eating the appropriate amounts from each of the food groups: proteins, carbohydrates, vitamins and minerals, dairy, and fats.



Key Vocabulary:

heart – an organ that pumps blood through the body of an animal.

artery – a blood vessel that carries blood away from the heart.

capillary – a tiny blood vessel joining the end of an artery to the beginning of a vein.

vein – a small vessel that carries blood to the heart.

lung – one of two organs in the chest that are used for breathing.

pulse – the regular beating of the arteries caused by the beating of heart.

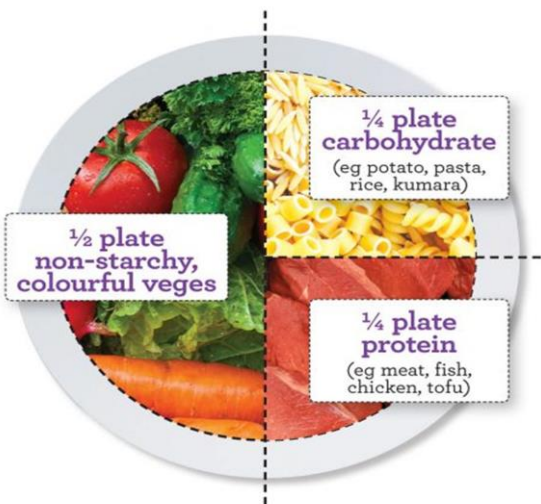
valve – a flap that controls the flow of liquid in the body.

aorta – the main artery of the body.

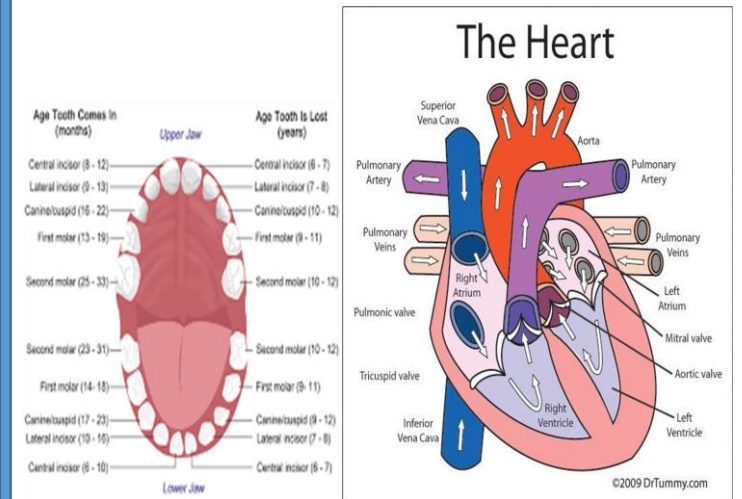
plasma – the clear, liquid part of blood.

atrium – either of the two upper compartments of the heart.

ventricle – either of the two lower compartments of the heart.



Diagrams and Symbols:



Possible Experiments:

- Investigation into breathing rates. Drawing bar graphs.
- Designing own investigation into breathing rates.