

In this unit: Pupils will explore the structure of the heart and lungs and the composition of blood. They will investigate the effect of exercise on heart rate and explore the effects of common drugs on the heart and body. Pupils will then create a working model of the circulatory system.

Children should already know:

- that some things are living and some are not.
- that animals can be classified into groups.
- that animals have offspring that grow into adults.
- that the basic needs of animals for survival are water, food and air.
- the importance of exercise, hygiene and a balanced diet.
- animals get nutrition from what they eat.
- the basic parts of the digestive system.
- the different types of teeth in humans.
- the life cycle of a human and how we change as we grow.

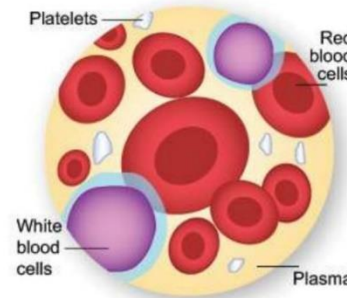
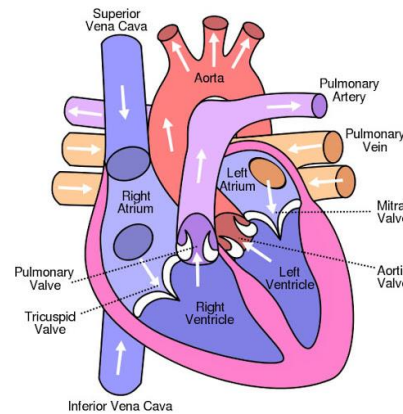
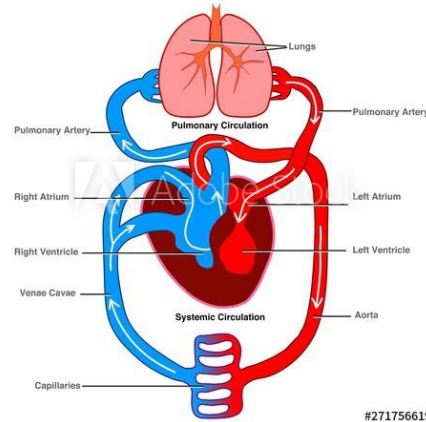
At the end of this unit, children will know:

- that the circulatory system is made of the heart, lungs and blood vessels.
- that arteries carry oxygenated blood from the heart to the rest of the body.
- that veins carry deoxygenated blood from the body to the heart.
- that nutrients, oxygen and carbon dioxide are exchanged via the capillaries.
- that some lifestyle choices such as smoking and drinking alcohol can be harmful to our health.
- that exercise is important because can increase fitness, reduce fat, strengthen the heart, improve lung function and improve skin.

Pupils could investigate:

- how our pulse rate changes with exercise.
- which exercise produces the fastest pulse.
- the structure of the heart.
- the structure of the lungs.
- how and why oxygen is transported around our bodies.
- the function and make up of blood.

Heart and Blood Circulation System



Key Vocabulary

aorta	the main artery through which oxygenated blood leaves the heart to the rest of the body
artery	a tube that carries oxygenated blood from the heart to the body
atrium	one of the chambers of the heart
blood	the red liquid that circulates around the body carrying oxygen and carbon dioxide
blood vessel	a narrow tube which blood flows; arteries, veins and capillaries are all examples of this
capillaries	tiny blood vessels which oxygen and nutrients are exchanged in the body
circulatory system	the system which transports blood, oxygen and nutrients through to body and removes waste products such as carbon dioxide and lactic acid
deoxygenated	blood that does not contain oxygen
drugs	a medicine or other substance that has an effect on the body
heart	the organ responsible for pumping blood around the body
lactic acid	a waste product created by the muscles when exercising
lifestyle	the way in which a person lives
lungs	the organs which fill with air when you breathe and oxygenate the blood and remove carbon dioxide from it
oxygenated	blood that contains oxygen
plasma	a yellow liquid in blood that allows blood to flow
platelets	tiny parts of cells that allow blood to clot and stop bleeding
pulse	the regular beating of the blood through your body
red blood cells	gives blood its red colour and transport blood around the body
respiration	the act of breathing
transported	to take or carry from one place to another
vein	a tube that carries deoxygenated blood from the body to the heart
vena cava	the large vein through which deoxygenated blood re-enters the heart from the body
ventricle	one of the chambers of the heart
white blood cells	a colourless cell which travels in the blood fighting infection and disease in the body

Key Questions:

- what is the circulatory system?
- why is exercise so important?
- what is the function of the heart and lungs?
- how does oxygen get transported around the body to where it is needed?
- why and how does the body use oxygen?
- what makes up the blood?