Year: 6	Driver: Science 	**Key Question**: How do the main parts of the circulatory system and the lungs work together to keep us alive? What effect does exercise have on the heart?	**Key Knowledge:** The main parts of the human circulatory system are the heart, blood vessels and blood The heart is a major organ and is made of muscle. The heart pumps blood around the body through vessels and this can be felt as a pulse. The heart pumps blood through the lungs in order to obtain a supply of oxygen Blood carries oxygen and other essential materials, such as water and nutrients, to different parts of the body. During exercise muscles need more oxygen so the heart beats faster and our breathing and pulse rates increase. An adequate, varied and balanced diet is needed to help us grow and repair our bodies.

Previous knowledge:

There are different food groups and different foods can be found in each group

Each different food group provides the body with different nutritional benefits

Humans cannot make their own food but must get their nutrition from what they eat

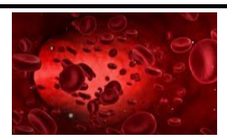
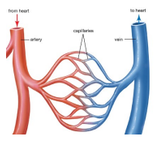
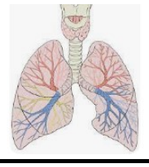
Some animals, including humans, have skeletons for support, protection and movement

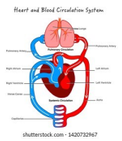
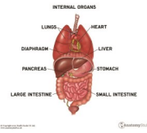
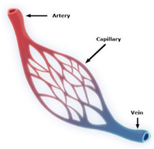
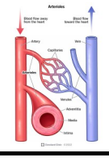
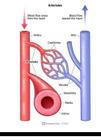
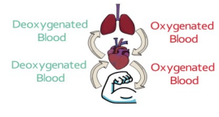
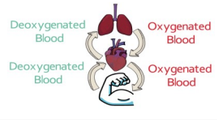
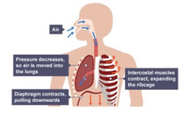
Different parts of the skeleton protect different, vital organs

There is another important system in the body – the digestive system

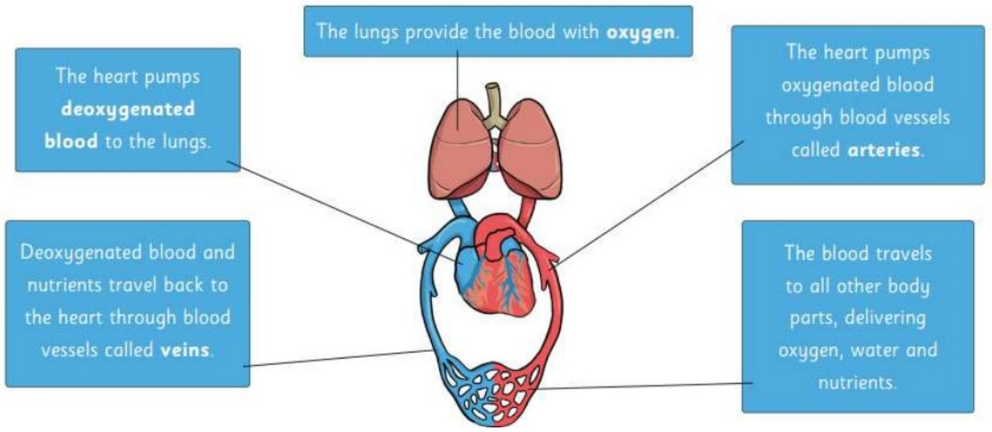
Different systems have different functions and these systems must work
together to keep the body working correctly

Key Vocabulary:

heart		The heart is a muscle in your chest that pumps blood around your body.	
pulse		Your pulse is the rhythm of your heartbeat that you can feel in your wrist or neck.	
blood		Blood is a red liquid that flows through your body and carries oxygen and nutrients.	
blood vessels		Blood vessels are tubes that carry blood around your body. There are three types: arteries, veins, and capillaries.	
lungs		The lungs are two organs in your chest that help you breathe.	
oxygen		Oxygen is a gas that is in the air you breathe and is used by your body to make energy.	
Carbon dioxide		Carbon dioxide is a gas that is produced by your body and is released when you breathe out.	
nutrients		Nutrients are substances that your body needs to function properly, such as vitamins and minerals.	
muscles		Muscles are tissues in your body that help you move.	

Cycle		A cycle is a series of events that happen in a regular repetitive sequence.
Circulatory system		The circulatory system is the system in your body that is responsible for circulating blood and nutrients.
organ		An organ is a part of your body that has a specific function, such as the heart or lungs.
capillaries		Capillaries are the smallest blood vessels in your body.
veins		Veins are blood vessels that carry deoxygenated blood back to the heart.
arteries		Arteries are blood vessels that carry oxygenated blood away from the heart.
oxygenated		Oxygenated refers to blood that has oxygen in it.
deoxygenated		Deoxygenated refers to blood that does not have oxygen in it.
respiration		Respiration is the process of breathing in oxygen and breathing out carbon dioxide.

The parts of the circulatory system



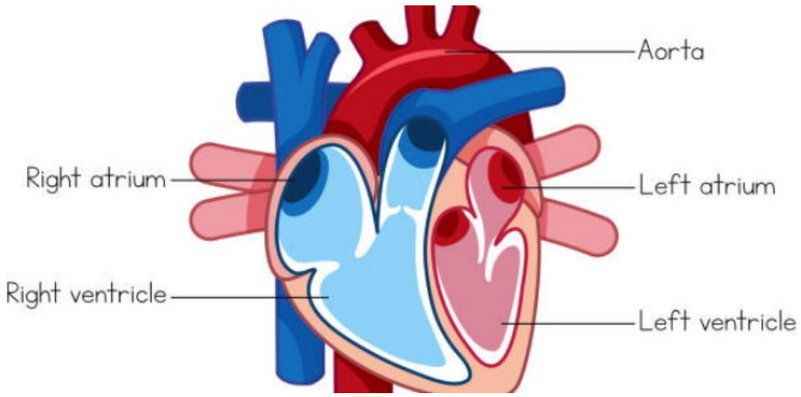
Main parts of the circulatory system and their functions:

Blood—a liquid which circulates around the body carrying food, water, oxygen and waste.

Blood vessel—tubes that blood flows through

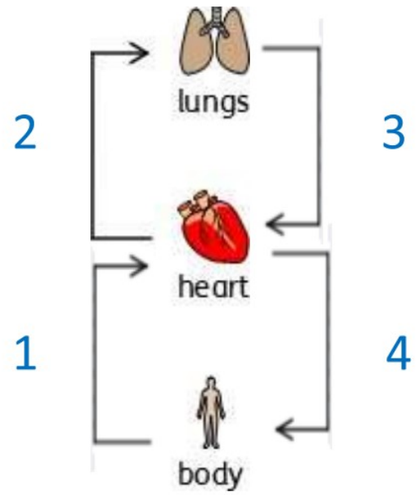
Heart—vital organ made of muscle which pumps blood through the body. vessels.

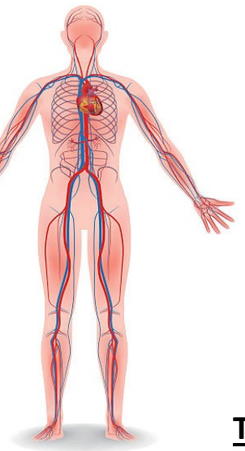
The parts of the heart



The heart pumps blood to the lungs in order to obtain a sup-ply of oxygen which is then transported around the body.

The circulatory system

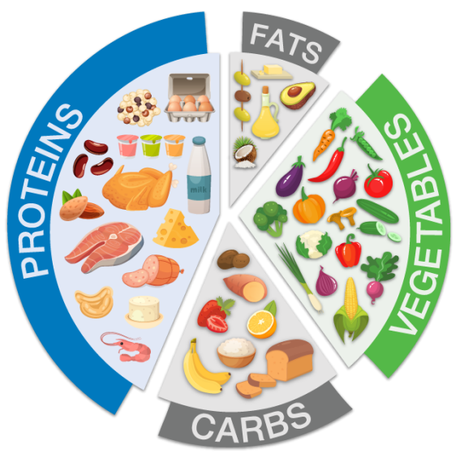




Pulse rate can be measured by placing your fingers on your wrist, just below the base of your thumb.

Use a clock or timer and count the number of times you feel your pulse move in 30 seconds.

Your pulse rate tells you how fast your heart is beating..



Diet impacts the way bodies func-tion.

Blood carries nutrients and water from diet around the body.

This graph shows how heart rate changes during exercise.

