

Key questions:		
		<ul style="list-style-type: none"> Can you identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood? Can you recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function? Can you describe the ways in which nutrients and water are transported within animals, including humans?
Key Information		
heart	The heart is a large organ about the size of your fist. It sits in your rib cage just to the left of the centre of your chest. The heart is made of a lot of muscle that pumps blood through our bodies. Veins bring blood to the heart to pump back out again on arteries. The main artery leaving the heart is called the aorta. In order for blood not to go backwards, there are valves to make sure the blood only gets pumped in the correct direction. There are four sets of valves in the heart.	
blood vessels	Blood vessels are tubes throughout our body that carry the blood. There are two main types of blood vessels: arteries and veins. Arteries carry blood from the heart to the rest of the body. Arteries have to be thick and strong as there is more pressure on them from the heart. When you feel your pulse, this is from an artery. Veins carry used blood back to the heart. They don't need to be as thick.	
blood	Over half of blood is made up of red blood cells carrying oxygen. This is why blood looks red. There are also white blood cells which kill germs and keep the blood clean. Blood also has something called platelets which help the blood to clot when you get a cut. Finally, all these cells float in a watery substance called plasma .	
red blood cells	A red blood cell contains the pigment haemoglobin, which gives the red colour to blood, and transport oxygen and carbon dioxide to and from the tissues.	
white blood cells	A white blood cell is a colourless cell which circulates in the blood and body fluids and is involved in fighting foreign substances and disease.	
platelets	A platelet is a small colourless disc-shaped cell fragment, found in large numbers in blood and involved in clotting.	
plasma	Plasma is the colourless fluid part of blood, in which fat globules are suspended.	
circulation	Blood circulates constantly through our entire body. As it passes through our body it picks up nutrients from our food and drops them off to cells that need them. It also picks up oxygen from our lungs and drops it off at cells to be used for energy. The blood then picks up waste carbon dioxide from the cells and drops it off at the lungs for us to breathe back out.	
Myths!		
		<ul style="list-style-type: none"> We shouldn't eat any fat – wrong! We need to eat 'good' fats like those found in nuts, avocado and oily fish. Low fat food versions are always better – wrong! Manufacturers of such foods often compensate the impact on flavour by lowering the fat with additional sugar. Always check the ingredients! Fruit juice is good for us – right and wrong! The form that juice takes means that the fruit sugar has been released and can contribute towards tooth decay. It does contain vitamins though. Eating too much fat is the only dietary cause of heart disease – wrong! Scientists have suggested that sugar is also a huge contributing factor to heart disease. As long as I do lots of exercise it doesn't matter what I eat – wrong! A poor diet will never be compensated by exercise. You need to do both. If it's a prescription, it must be safe; you can't get addicted to something your doctor prescribes – wrong! Although many medications are perfectly safe, prolonged use can be dangerous and even addictive. Legal drugs (cigarettes, alcohol etc.) are not harmful – wrong! They are harmful AND addictive!



UKS2 Science Knowledge Organiser

Topic: Animals inc. Humans – The Art of Being Human

Key vocabulary or people		
<ul style="list-style-type: none">• heart• blood vessels• blood	<ul style="list-style-type: none">• red blood cells• white blood cells• platelets	<ul style="list-style-type: none">• plasma• circulation•