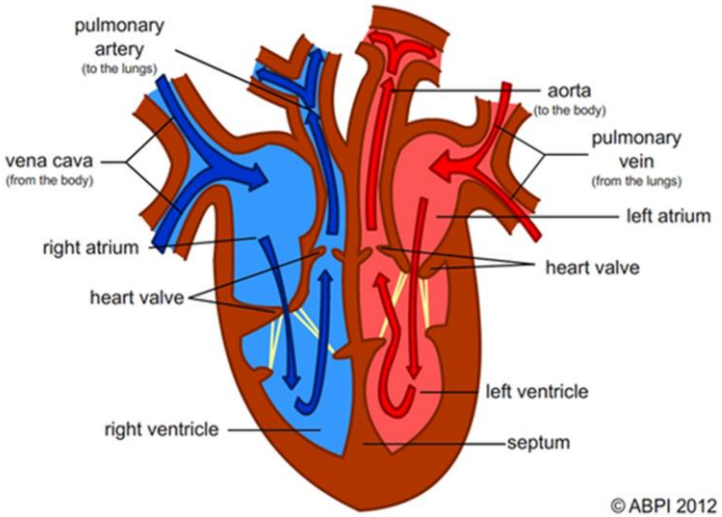
SURVIVAL OF THE FITTEST KNOWLEDGE ORGANISER

KEY PEOPLE	
William Harvey (1578-1657)	Physician who discovered and published the first accurate description of the human circulatory system.
Joseph Murray (1919-2012)	American plastic surgeon who performed the first human kidney transplant in 1954.
Christiaan Barnard (1922-2001)	South African cardiac surgeon who performed the first human-to-human heart transplant in 1967.
Terence English (1932 -)	Pioneering the first successful heart transplant programme in the UK.

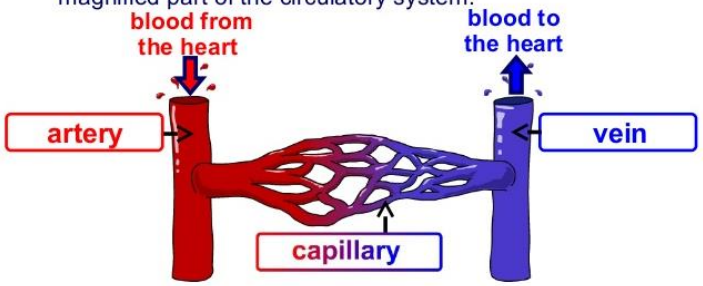
WHY DO WE NEED TO KNOW?

- The **circulatory system** is one of the most important systems in the body. Made up of the **heart, blood and blood vessels**, the circulatory system is your body's delivery system.
- Your heart keeps all the **blood** in your circulatory system flowing. Blood carries the **oxygen and nutrients** around your body.
- It **delivers nutrients, water, and oxygen** to your billions of body cells and **carries away wastes** such as carbon dioxide that body cells produce.
- It is an amazing highway that travels through your entire body connecting all your body cells.
- Knowing how it works can help us learn to stay fit and healthy.
- Doctors and surgeons will know how to treat or operate on our bodies if they stop working properly.

THE HEART



There are **three types** of **blood vessels**, as shown in this magnified part of the circulatory system.

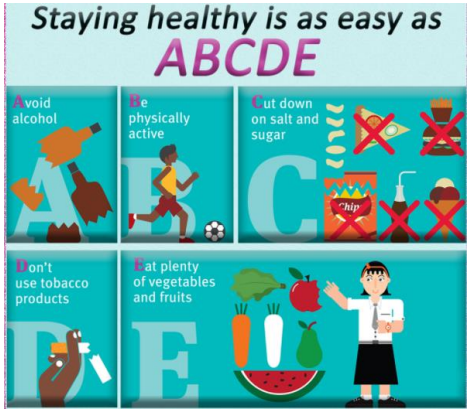


ARTERIES = AWAY
VEINS = IN

DID YOU KNOW?

- An average-sized adult carries about 5 litres (9 pints) of blood.
- The heart beats about 3 billion times during an average lifetime.
- It takes about 20 seconds for blood to circulate the entire human body.

KEY VOCABULARY	
Arteries	Blood vessels that carry oxygenated blood away from the heart.
blood cells	Red blood cells carry oxygen through your body White blood cells fight infection when you're sick.
blood vessels	Tube-like structures that carry blood through the tissues and organs.
Capillaries	Narrow thin-walled blood vessels that connect arteries with veins.
carbon dioxide	A heavy, colourless, odourless gas.
circulatory	Relating to the circulation of blood.
Nutrient	A substance providing nourishment.
Plasma	The liquid part of blood containing water and protein.
Platelets	Help you to stop bleeding when you get hurt.
Pulse	The regular expansion and contraction of an artery, caused by the heart pumping blood.
Veins	Blood vessels that carry deoxygenated blood towards the heart.


Staying healthy is as easy as
ABCDE
Avoid alcohol
Be physically active
Cut down on salt and sugar
Chip
Don't use tobacco products
Eat plenty of vegetables and fruits