

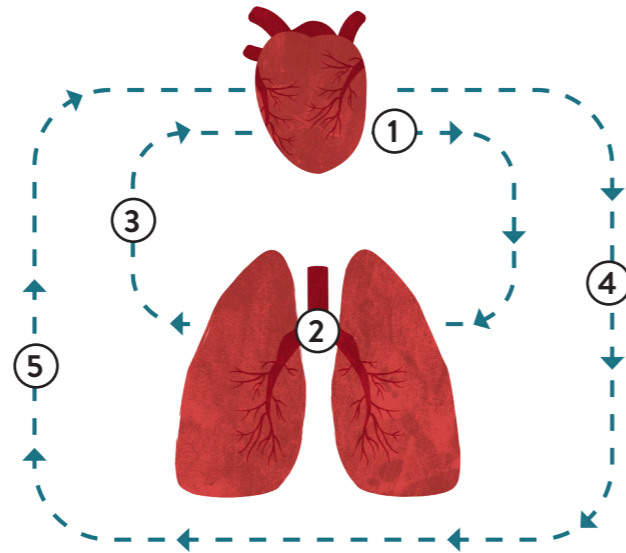
THE CIRCULATORY SYSTEM, DIET AND EXERCISE

KEY FACTS

- The circulatory system is the system that carries blood around the body.
- It is made up of the heart, blood and the blood vessels.

HEART

- The heart is a muscle which keeps all the blood in the circulatory system flowing.
- 1 The heart pumps blood to the lungs.
 - 2 In the lungs the blood picks up oxygen from the air that has been breathed in.
 - 3 The blood (carrying oxygen) then travels back to the heart.
 - 4 The heart gives the blood a second push and sends it all around the body to the organs and muscles.
 - 5 The blood travels back to the heart and the cycle begins again.



BLOOD

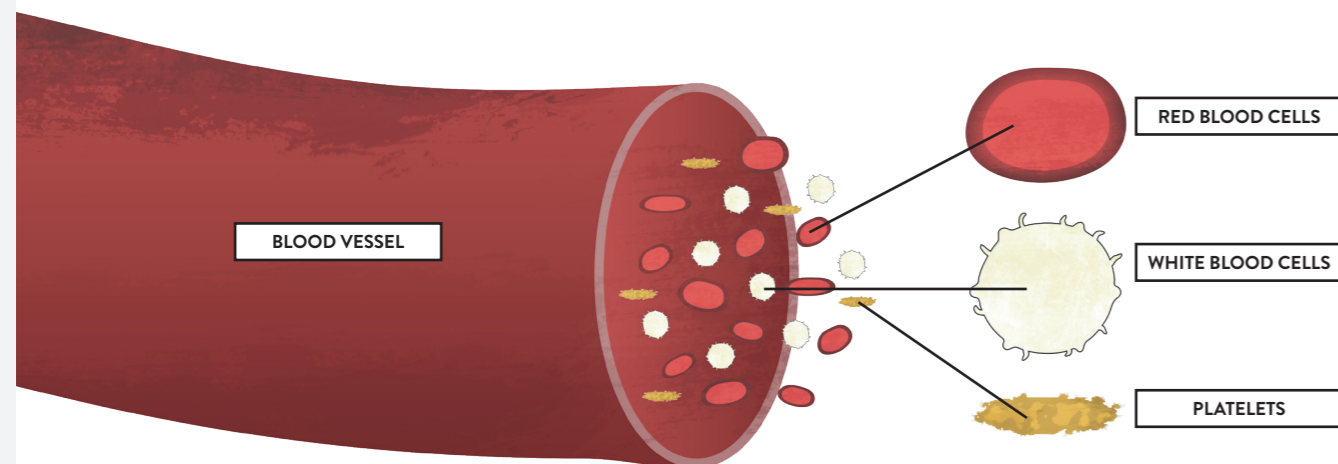
- The blood transports oxygen and nutrients to the parts of the body that need them.

Blood is made up of:

- Red blood cells** which transport oxygen.
- White blood cells** which protect against disease.
- Blood platelets** which help the blood to clot and repair a cut.
- Plasma** which is a liquid that carries these cells. It also transports important nutrients

BLOOD VESSELS

- Blood** vessels move blood to and from your heart. There are three types of blood vessels:
- Arteries** carry blood away from the heart and transport oxygen and useful nutrients to the body's cells.
- Veins** take the blood back to the heart after the oxygen has been used up. The blood is then pumped to the lungs to pick up new oxygen and the cycle starts over again.
- Capillaries** are tiny blood vessels which link veins and arteries



HOW OUR LIFESTYLES AFFECT OUR HEALTH

EXERCISE

- During exercise the breathing rate increases to take more oxygen into our lungs.
- Our hearts beat faster to pump oxygen-rich blood to our muscles and to remove carbon-dioxide.
- This increase in activity strengthens our hearts and lungs and reduces the risk of disease
- Exercise also:
 - strengthens our muscles
 - keeps us flexible
 - is good for our mental health.

A HEALTHY DIET

- A healthy diet is made up of fresh fruit and vegetables, protein, carbohydrates, dairy produce and a small amount of fat and sugar.
- Specific vitamins are important to maintain health. For example
 - Vitamin C helps our bodies to repair themselves
 - B vitamins (there are a few different B vitamins) help us to regulate our energy and keep our brains healthy
 - Vitamin D keeps our bones and immune systems strong
- Too much fat and sugar in our diets can cause obesity. This puts a strain on our hearts and can cause diabetes and heart disease.

HARMFUL SUBSTANCES

- Some substances are harmful to our bodies: alcohol causes liver damage and smoking can damage the lungs as well as cause cancer. These can also damage the heart and blood vessels.





KEY VOCABULARY



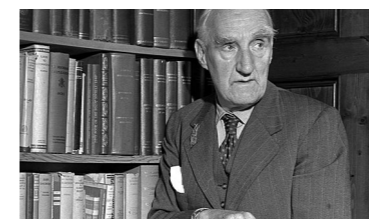
- Circulation:** the movement of blood through the body.
- Artery:** a blood vessel which carries blood away from the heart.
- Vein:** a blood vessel which carries blood back to the heart.
- Capillary:** a tiny blood vessel which links a vein and an artery.
- Platelets:** part of the blood which helps the blood to clot and repair a cut.
- Plasma:** the blood liquid that carries the red and white cells and the platelets.
- Oxygenated:** full of oxygen.
- Deoxygenated:** without oxygen.

WORKING SCIENTIFICALLY



-  **OBSERVING**
-  **ASKING QUESTIONS**
-  **GROUPING**
-  **TESTING/EXPERIMENTING**

SIGNIFICANT PEOPLE



John Boyd Orr was a doctor in the trenches during World War I and witnessed the impact of poor diet on the poor health of the soldiers. After the war he set up the Rowett Research Institute and was the first scientist to prove the link between poverty, poor diet and illness.