

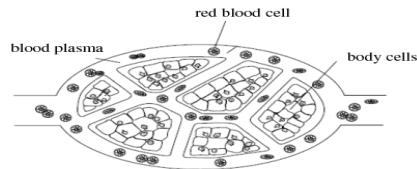
## Blood and blood vessels

**This activity helps you to work out how the blood carries the reactants and products of respiration around the body.**

Read the passage below and answer the questions.

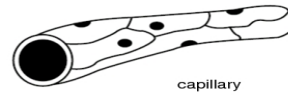
In larger organisms like humans, the oxygen and glucose needed for respiration are transported to the cells by the blood.

- Oxygen travels attached to a special chemical called haemoglobin inside the red blood cells.
- Glucose is dissolved in the watery part of the blood, called the plasma.
- Oxygen and glucose can pass from the blood to nearby cells where they are needed.



Carbon dioxide and water are the waste products from respiration in the body's cells.

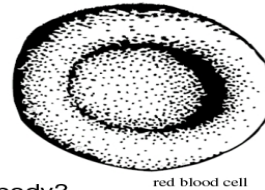
- The water may be used in the cell, or it may pass into the blood to be taken away.
- Carbon dioxide is always taken away dissolved in the blood.



Arteries carry blood away from the heart and veins carry blood back towards the heart.

Capillaries connect up the arteries and veins. The walls of a capillary are made of just a single layer of cells. This allows oxygen and carbon dioxide to pass through easily for respiration.

The capillaries are not the only things well adapted to their job. The red blood cells are also good at carrying oxygen around the body. Because of their shape, they can fit in a lot of haemoglobin. They are also flexible and can bend a little to squeeze down the narrowest capillaries.



- ① Which part of the blood carries water around the body?
- ② Which type of blood cell carries oxygen around the body?
- ③ What is the name of the chemical inside the cell that the oxygen is attached to?
- ④ What is the function of **a** arteries and **b** veins?
- ⑤ Why are there different types of blood vessels?
- ⑥ What is the function of capillaries? Describe why they are well adapted for that function.
- ⑦ Write down two ways in which red blood cells are well adapted for carrying oxygen around the body.