

YOUR HEART & BLOOD

Level 3-4

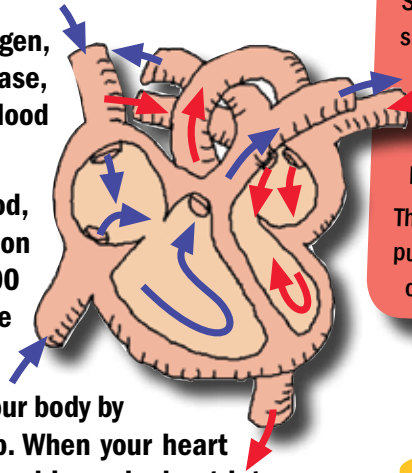
Rugby is a game that gets the heart pumping. Blood is the body's transportation system and your heart is the muscle that pumps your blood all over your body. It picks up the oxygen from the lungs, and energy-giving food from the stomach.

Blood is made up of three different types of cell and they move around in a liquid called PLASMA.

RED CELLS carry the oxygen, **WHITE CELLS** fight disease, and **PLATELETS** help your blood to clot.

Within a tiny droplet of blood, there are some 5 million red blood cells, 300,000 platelets and 10,000 white cells.

Your blood moves around your body by the heart. It is like a pump. When your heart contracts (squeezes in), blood is pushed out into your body. When the heart relaxes, fresh blood flows in ready to be sent out.



TRY THIS

See how hard your heart works. You may need to do this outside. **You need:**

- A plastic container that holds about 150mls
- 2 big bowls or buckets, one filled with water
- A stopwatch or clock with a second hand

What you do:

Set your clock or watch alarm for one minute. Fill the small container with water and start the timer. Empty the container of water into the empty bowl or bucket and repeat that until you've emptied 70 of the small containers filled with water from one big bowl or bucket to the other one.

This is how much blood your body pumps through your heart in just one minute!



HEALTH TIP

WHEN YOU CUT YOURSELF, MAKE SURE YOU GET IT LOOKED AT. EVERY CUT NEEDS TO BE CLEANED PROPERLY SO YOUR BODY CAN FIGHT THE GERMS AND HEAL.

IF SOMEONE ELSE IS BLEEDING, MAKE SURE YOU USE RUBBER GLOVES IF YOU ARE HELPING THEM.

TRY THIS: Using a stopwatch, see how many times your heartbeats in a minute. Find a pulse point (neck or wrist) and count how many times it beats. When you have this answer you can now try and work out how many times your heartbeats in an hour, day and year. Maybe a lifetime! A mouse has a pulse rate of around 500 beats per minute and an elephant's pulse rate is around 20 to 30 beats per minute.

Do this with your class and plot the results. What did you find out?

FACTS

1. Hair and nails don't receive your blood.
2. If your blood vessels, veins and arteries were laid end to end, they would go round the world twice.
3. Adults have about four to five litres of blood.
4. Your heart is about the size of your clenched fist.
5. The heart beats around 3 billion times in an average person's life.
6. About 8 million blood cells die in the human body every second, and the same number are born each second.
7. It takes about 20 seconds for a red blood cell to circle the whole body.
8. Red blood cells make approximately 250,000 round trips of the body before returning to the bone marrow, where they were born, to die.
9. Red blood cells may live for about four months circulating throughout the body, feeding the 60 trillion other body cells.