

All about blood

What is blood?

Blood is the red fluid that is pumped around your body by the heart.

It has many important jobs:

- Carrying oxygen and nutrients to the lungs and tissues.
- Making blood clots to stop your body from losing blood.
- Carrying cells and antibodies that fight infections.
- Taking waste products to the kidneys and liver which filter and clean the blood.

Your blood moves around in tunnel-like tubes inside your body called blood vessels.

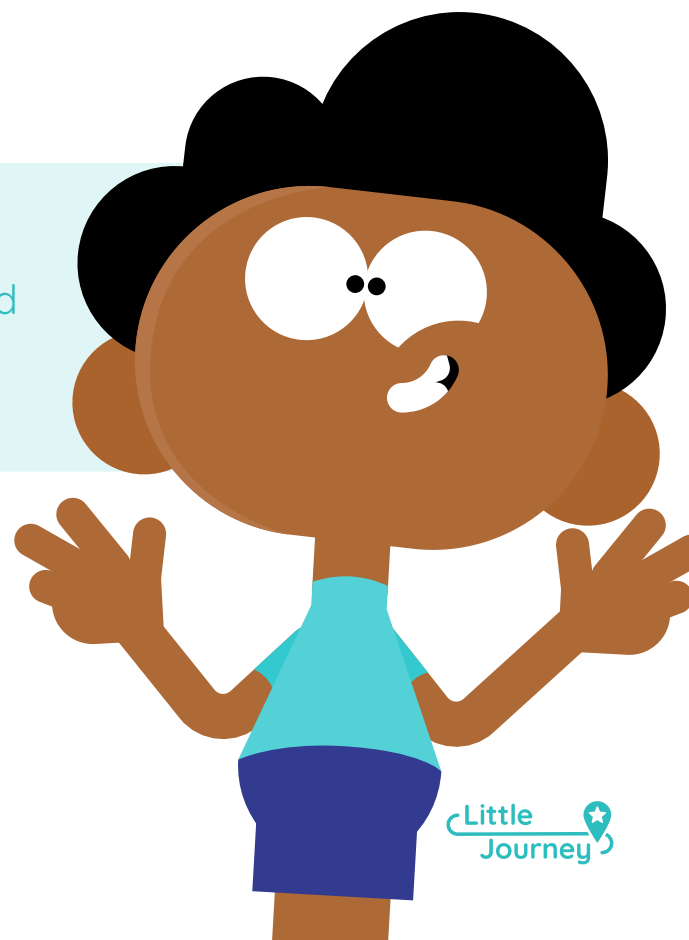
There are **three** types of blood vessels:

- Arteries
- Veins
- Capillaries

Did you know?

An adult has about 5 litres of blood in their body, that's the same as 10 bottles of fizzy drink!

There is also so much blood inside your body that it makes up 7-8% of your weight!



All about blood

What is blood made of?

Blood is made up of **four** different things:

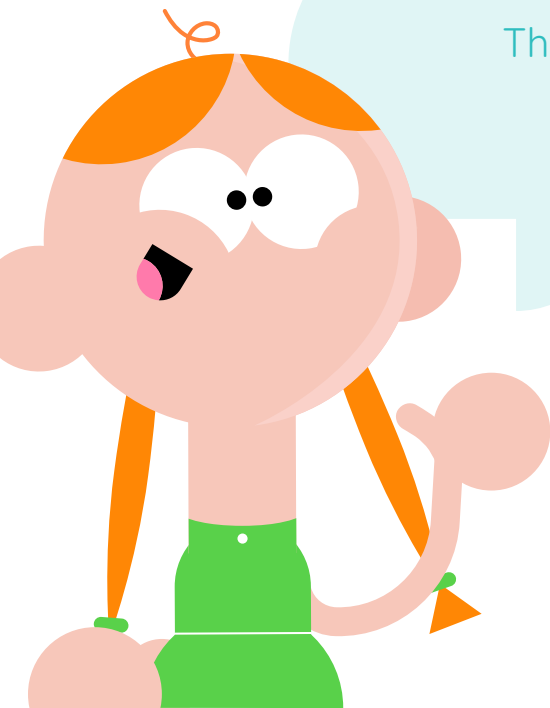
- 1. Plasma**
The liquid part of your blood is called plasma. Its job is to carry nutrients around your body as well as waste materials that your body wants to get rid of.
- 2. Red Blood Cells**
The red colour of blood comes from the red blood cells. Their job is to carry oxygen all around the body.
- 3. Platelets**
Platelets work to stop you bleeding by forming clots and scabs when you've cut yourself.
- 4. White Blood Cells**
The white blood cells help fight off illness and infection.

Did you know?

The human body manufactures 17 million red blood cells per second.

Try this fun activity

to help you understand what's in your blood and why it's important!



What you will need:



- A plastic cup or mug



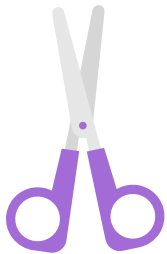
- Red lentils (the red blood cells)



- Uncooked rice (the white blood cells)



- A piece of paper (the platelets)



- A pair of scissors



- A large bowl or tray for mixing

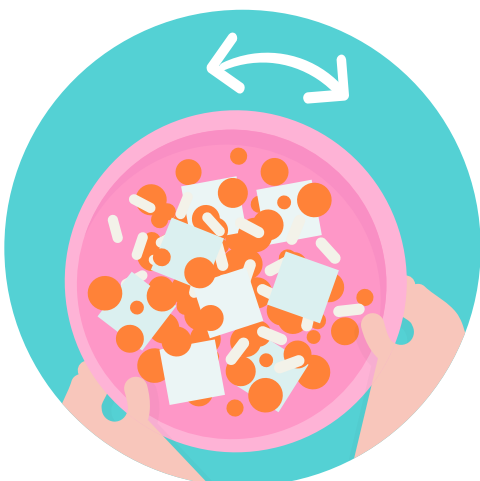
Instructions:

1. Fill your cup with red lentils, then pour them into the bowl (or tray). These are our red blood cells.



2. Add half a cup of rice, these are our white blood cells. Mix it together with your hands. Notice that we have more red lentils in the bowl than rice.

3. Cut the piece of paper into squares and add them to your bowl. These represent our platelets.

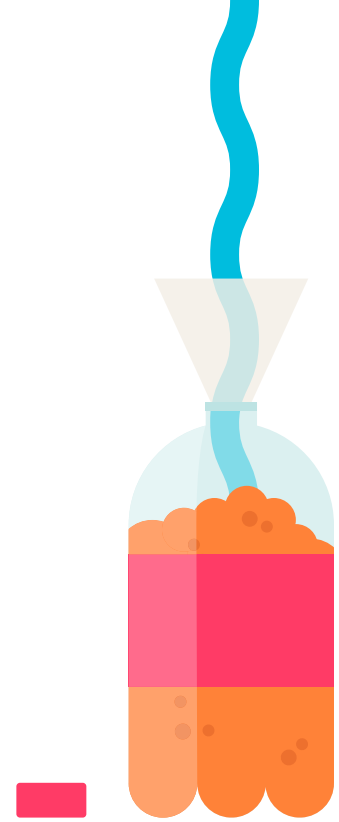


4. Carefully tip the bowl or tray from side to side, without spilling. Watch how everything moves together.

Extension Activities:

Bottle it!

1. Start with a clear, empty drinks bottle.
2. Half fill the bottle with the dried materials (Tip: make a funnel using a piece of paper to make pouring easier).
3. Top it up with water and make sure the lid is on properly!



What happens when you gently rock the bottle from side to side?



What happens when you shake the bottle?



What do you notice if you hold the bottle still?



Create your own!

What other materials can you find at home to make your own version of blood? Remember to include all the different parts!

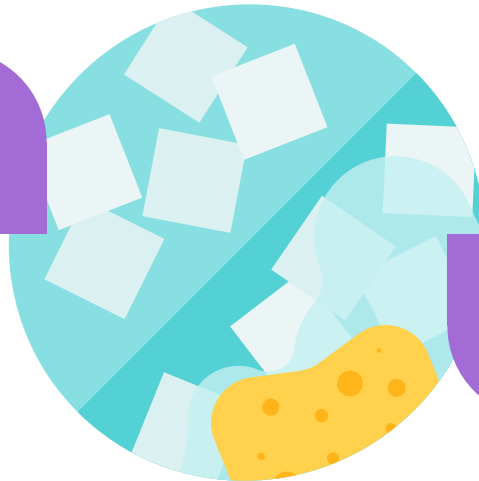
Extension Activities:

Scab-ulous!

1. Make some more platelets by cutting up a piece of paper into very small pieces.
2. Dampen the pieces of paper using a wet sponge.
3. Lay the damp pieces of paper on a flat surface so they're slightly overlapping and let them dry. This is like how platelets gather in a cut or graze.



What happens if you use **less** water?



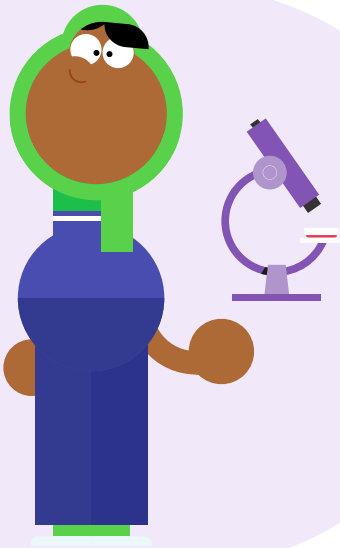
What happens if you use **more** water?



Did you know?

Your blood is made inside your bones.
Talk about a super skeleton!

Having a Blood Test:



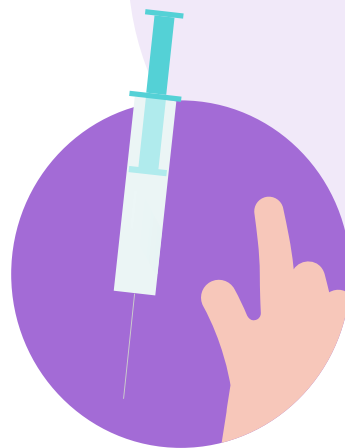
Blood tests are used to test for many things.

During a blood test, a small amount of blood is taken either from a vein in the arm or from a fingertip.

When taking blood from a vein, the nurse will wrap a small strap called a tourniquet around your upper arm. This is like a belt for your arm, it goes on tightly so that your veins pop up and are easy to find.

They will take a sample (a small amount) of blood from your vein, using a small needle. The blood will be collected in a test tube. Sometimes, the nurse might take blood from your fingertip instead.

They will make a tiny cut in your finger and a small amount of blood will be collected in a thin tube. Your body produces lots of blood and will quickly make up for any that was taken.



In both tests, the blood container will be labelled so the doctors know who it belongs to. It will then be sent off to a laboratory for testing.



Let's play: Blood Test

Blood test role play

Let's pretend you are the nurse, and you need to prepare your patient for a blood test!

Here's what you will need:



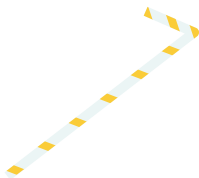
- A patient (this can be your doll, teddy bear, grown up, or even a pet)



- A stretchy band or old stretchy fabric (please only use rubber bands under supervision)



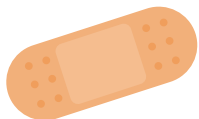
- A cup of cold water



- A straw. Don't worry about the size – a real needle isn't as large as a straw!



- A cotton pad



- A plaster



- An envelope

Optional extras:

A lab coat and stethoscope if you have them



Let's play: Blood Test

1. Invite your patient to the nurse's room and make sure they are sitting comfortably.

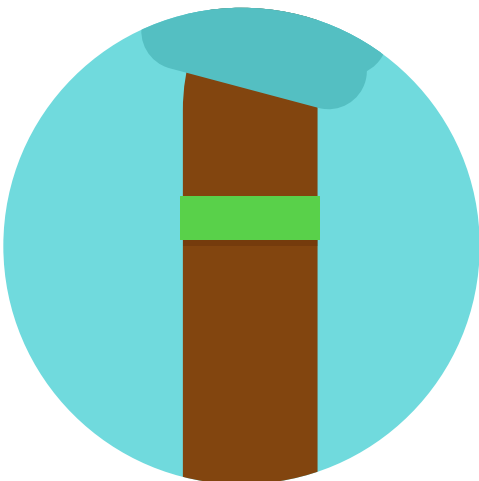
2. Explain to them why they need a blood test.



3. Prepare your patient for the blood test. Make sure they are:

- Sitting still
- Rolling up their sleeve

4. Wet the cotton pad with cold water and press it onto your patient's arm. This will help clean the skin.



5. Tie a stretchy band around your patient's upper arm.

Let's play: Blood Test

6. Using the straw, put the end of the straw on the inside of your patient's elbow.

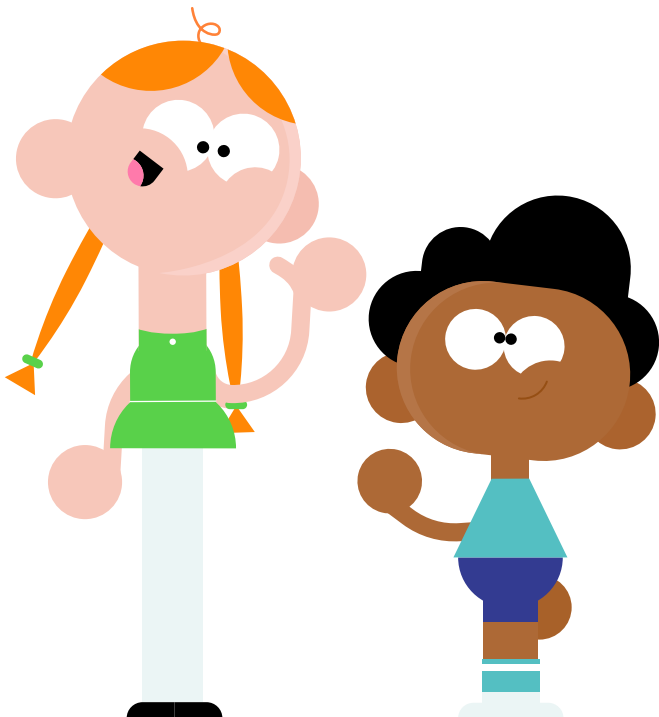


7. The blood sample is in the straw. Put the straw in the envelope and pretend you are sending it away for testing.

8. Take off the band from your patient's arm. The last step is to put a plaster on the patient.



9. All done! Say goodbye to your patient.



Quiz Time:



Why is blood important for my body?

What is a blood test?

Why is blood red?

What happens to the blood taken during the blood test?



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