What is blood made of?

KS2 KS3 Ages 7-14 ⏰ 2 min read

Blood looks like one simple red liquid, but zoom in close enough and you'd see it's actually more like a very busy river. Billions of different passengers are constantly travelling around your body inside it, each with a completely different job to do.

The liquid part: plasma

About 55% of your blood is a pale yellowish liquid called **plasma**. It's mostly water, but it carries an enormous amount of cargo: proteins, sugars, salts, hormones, and waste products. Plasma is the transport network — everything that needs to get from one part of your body to another hitches a ride in it.

Red blood cells

Red blood cells are the most common passenger, and they give blood its colour. They're packed full of a protein called **haemoglobin**, which grabs oxygen in your lungs and delivers it to every cell in your body. Once they've dropped off the oxygen, they pick up carbon dioxide (your cells' waste gas) and carry it back to the lungs to breathe out.

Imagine red blood cells as tiny delivery vans. They pick up parcels (oxygen) at the depot (your lungs), drive out to every house in the city (your body's cells), drop off the parcel, pick up the rubbish (carbon dioxide), and drive back. Then they do it again. About 2.5 million times per second across your whole body.

White blood cells

White blood cells are your immune army. There are actually several different types — some patrol for germs, some produce antibodies, some eat invaders whole. They make up a tiny fraction of your blood, but they're what stands between you and every infection you encounter.

Platelets

Platelets are tiny fragments (not even full cells) whose only job is to patch leaks. When you cut yourself, platelets rush to the wound and clump together, forming a temporary plug. They then trigger a cascade of chemical reactions that create a proper clot — what you know as a scab.

A remarkable system

You have about 5 litres of blood in your body if you're an adult, and your heart pumps all of it around your body roughly once every minute. Your bone marrow produces around 2 million new red blood cells every single second to replace the ones that wear out. It's one of the most impressive production lines in nature — and it never, ever stops.

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