NHS
Blood and Transplant

All about blood donation

QUALITY ASSURED RESOURCE
PSHE ASSOCIATION

Blood is amazing…

In just one drop, there are 250 million cells, doing important jobs to keep us healthy. On average, blood travels about 19,000 kilometres every 24 hours – that's the same as travelling from England to France about 20 times!

The need for more blood donors

Perhaps the most amazing thing about blood is that it can be given, or donated, from one person to another. Donating blood is a simple process and most people between the ages of 17 and 65 can give this life-changing gift. Just one pint of donated blood can save up to three lives.

Around 1 in 4 of us will need a blood transfusion at some time in our lives. In England, 5,000 blood donations are needed every day to treat patients in need.

There are many different blood types and for a blood transfusion to be successful the blood type of the donor and the recipient need to match. Some rare types of blood are more common in certain communities, which is why more people who are of Black, Asian and all other ethnic heritages are needed to become donors.

What happens after donation?

Once blood has been donated, NHS Blood and Transplant vehicles transport it to a collection centre. Here, the blood is separated out into its individual parts. First, the white blood cells are filtered out and then the rest of the blood is placed in a centrifuge. A centrifuge is a machine that rotates the blood at such fast speeds, that the platelets, red blood cells and plasma are separated. Doing this makes the most of every blood donation because it means one donation can be used to treat different patients.

Watch with an adult!

Watch this film about a blood donation appointment with an adult to share what you have been learning about.

View online at:

www.blood.co.uk/the-donation-process/after-your-donation/the-journey-of-a-blood-donation/

About blood donation

Component	What patients can it help?
Red blood cells	Patients who have suffered heavy blood loss from accident, surgery or childbirth. People with genetic blood disorders like sickle cell or thalassaemia.
White blood cells	Patients suffering life-threatening infections.
Platelets	Patients with blood cancers, for example leukaemia or bone marrow failure.
Plasma	Lots of different patients, for example, patients with liver disease or severe burn patients.
Stem cells	Stem cells can grow into any other cell in your body. This means they can be used to treat a wide range of blood cancers and disorders.

Chanel's story

Chanel was diagnosed with sickle cell when she was a baby. Sickle cell makes Chanel's body produce unusually shaped red blood cells, which look like crescent moons, instead of disks.

Chanel's red blood cells are less good at carrying oxygen and are more likely to get stuck in blood vessels as they make their way around the body.

Chanel experiences chronic fatigue, hair loss and periods of intense pain but one of the few treatments that can improve Chanel's symptoms is a blood transfusion. "A blood transfusion changes everything in your body…

it makes you feel more energised, rejuvenated; like you have new, healthy blood".

All about blood donation: comprehension questions

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1 Watch the video with an adult. Write down one new thing you have learned.

2 How many cells are there in one drop of blood?

3 Look at the first paragraph. Find and copy one word closest in meaning to 'approximately'.

4 Look at the paragraph starting, 'Perhaps the most amazing thing about blood…'. Find and copy a pair of synonyms in this paragraph.

5 Look at the paragraph starting, 'Perhaps the most amazing thing about blood…'.

In the table, put a tick in the correct box to show whether each statement is fact or opinion.

	Fact	Opinion
Perhaps the most amazing thing about blood is that it can be donated.		
A pint of donated blood can save up to 3 lives.		
Most people aged 24 can donate blood.		

6 A significant number of citizens require blood transfusions. Find one piece of evidence from the text which shows this.

7 Look at the section headed: What happens after donation? Which cells are removed before the blood is placed in the centrifuge?

8 Why is donated blood separated into its different components?

9 Look at the table. Which blood cells would be given to patients who have undergone a major operation?

10 Use Chanel's story to describe two features of a healthy red blood cell.

YOUR SCORE!

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All about blood donation: comprehension answers

NHS Blood and Transplant

1

Answer: Answers will vary

Skill: Retrieve and record information

2

Answer: 250 million cells

Skill: Retrieve and record information

3

Answer: 'About'

Skill: Give the meaning of words in context

4

Answer: 'Given' and 'Donated'

Skill: Give the meaning of words in context

5

Answer: See table below;

	Fact	Opinion
Perhaps the most amazing thing about blood is that it can be donated.		✓
A pint of donated blood can save up to 3 lives.	✓	
Most people aged 24 can donate blood.	✓	

Skill: Make inferences from the text

6

Answer: Accept either; 'Around 1 in 4 of us will need a blood transfusion at some time in our lives' or 'In England, 6,000 blood donations are needed every day to treat patients in need.'

Skill: Make inferences from the text

7

Answer: White blood cells

Skill: Retrieve and record information

8

Answer: To make the most of every blood donation so each donation can be used to treat different patients

Skill: Retrieve and record information

9

Answer: Red blood cells

Skill: Retrieve and record information

10

Answer: Accept 'Disk-shaped', 'Good at carrying oxygen around the body', 'Travel without getting stuck in blood vessels'

Skill: Make inferences from the text