

Name: _____ Grade: 8 _____ Date: _____

The Blood

Instructions: Read the information and answer the following questions

Blood Red Blood Cells

The role of red blood cells is to transport oxygen around the body. Red blood cells have many adaptations to carry more oxygen.

Oxygen absorbed by the red blood cells combines with haemoglobin in the red blood cell. Haemoglobin combines with oxygen to form oxyhaemoglobin.

Red blood cells have no nucleus so they can absorb more oxygen. They are doughnut (bi-concaved) shaped to increase their surface area, so they can absorb more oxygen.

They have thin cell membranes to allow efficient absorption of oxygen.

Finally, red blood cells are small in size so they can pass through very small blood vessels.

Blood White Blood Cells

White blood cells help to protect the body from infection. They are the biggest type of blood cell and have a nucleus.

White blood cells can squeeze through any very small blood vessels to get to any invading pathogens.

White blood cells have a number of ways of killing off pathogens.

- They engulf (ingest) and then digest pathogens that enter the body.
- Produce antitoxins to neutralise toxins produced by the pathogens.
- Produce antibodies to kill pathogens.

Blood Platelets

Platelets are small bits of cells, they do not have a nucleus. They help to form clots (a scab) when there is a wound. This stops too much blood being lost and also prevents infection getting into the wound.

If you do not have platelets in your blood then the blood cannot clot, as a result you can bruise and bleed very easily.

Blood Plasma

Plasma is the liquid that carries substances around the body. Substances include:

- Carbon dioxide - a waste product from respiration.

- Waste products, such as urea.
- Plasma carries nutrients that are needed by the body such as glucose for respiration.

Answer the following questions.

1. What is the job of red blood cells?

2. What shape do they have?

3. Why do they not have a nucleus?

4. What does haemoglobin do?

5. What is the job of the white blood cells?

6. What does plasma do?

7. What do the platelets do?

8. What is the problem if someone doesn't have platelets?
