

# Blood

Outstanding Science Year 6 - Animals, including humans - OS6B003

## National Curriculum Statutory Requirements

**6A1** - identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood; **UKS2W3** - recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs

### Learning Objective



I can describe the functions of blood and blood vessels.

Me:   

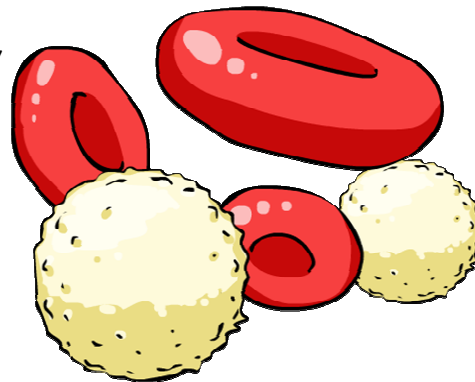
Teacher:   

## Blood

Blood is made up of different components. Some of the main components of blood are **red blood cells**, **white blood cells** and **plasma**.

**Red blood cells** carry **oxygen**, which is needed by every cell in the body. They absorb oxygen in the **lungs** and release it as they pass through the body. Red blood cells contain a chemical called **haemoglobin** which gives blood its deep red colour.

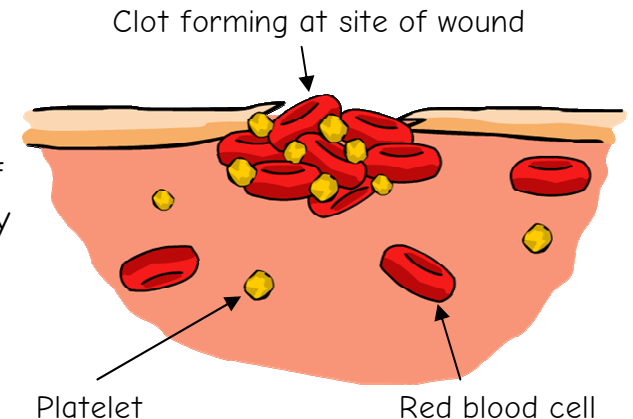
**White blood cells** are part of the body's **immune system**. They attack and **destroy** any foreign material which could threaten us, such as infectious **viruses** and **bacteria**. The circulatory system allows white blood cells to travel wherever they are needed in the body.



Red blood cells carry oxygen.  
White blood cells fight infection.

**Platelets** are broken pieces of cells with an important function. They prevent or stop bleeding by causing blood to **clot**, or form into a gel, at the site of a wound. The circulatory system allows platelets to travel wherever they are needed.

Platelets causing blood to clot at the site of a wound to slow and stop bleeding



## Plasma

Blood plasma is the liquid which contains all of the other components of blood. It is mostly composed of **water** and is pale yellow in colour. Plasma absorbs the waste products from cells, especially **carbon dioxide**, which then leaves the body through the lungs.

## Activity

You will need a protractor for this activity. Look at the diagram on the following page. In your own words, describe the different components of blood. Next, complete the **pie chart**. Calculate the size of the angle needed for each sector of the pie chart by using the following formula:

$$\text{Percentage} \div 100 \times 360 = \text{size of angle in degrees}$$

Draw the 3 different sectors on the pie chart. Colour them in and label them.

Pie chart showing the composition of blood by volume

**Red blood cells**  
45% by volume

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**Blood plasma**  
54% by volume

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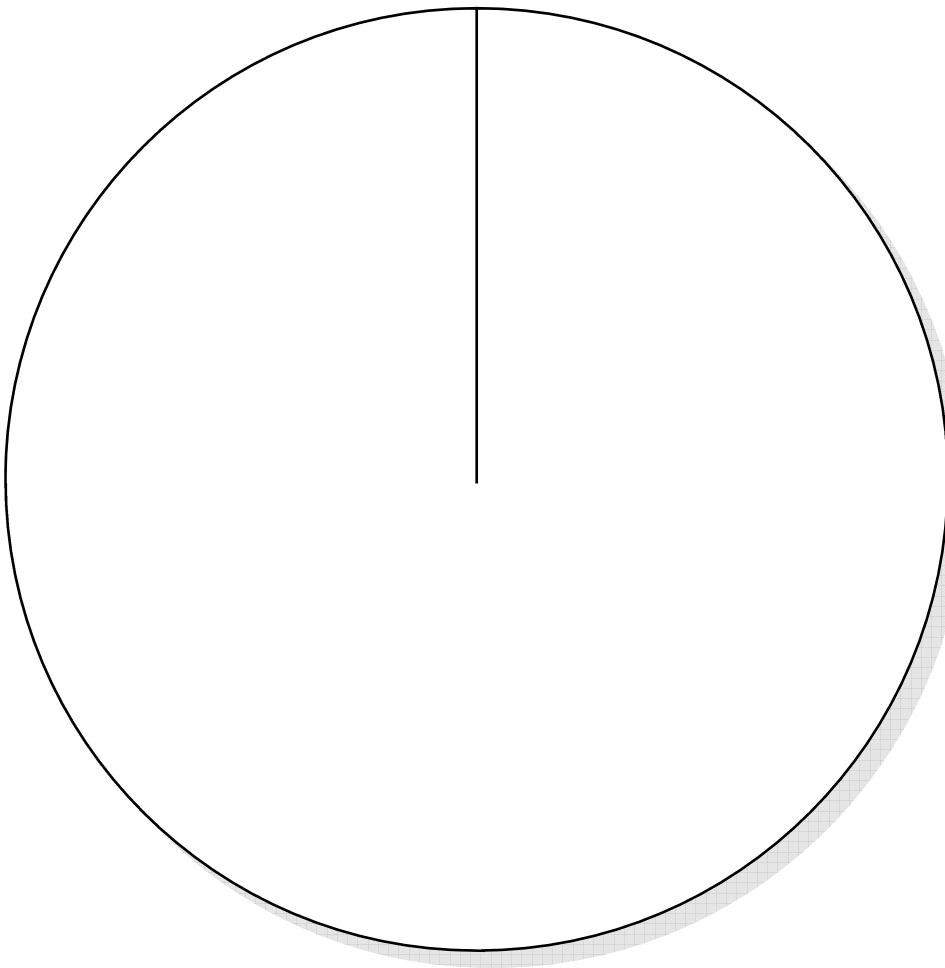
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**White blood cells and platelets**  
1% by volume

**White blood cells**

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**Platelets**

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