

Blood

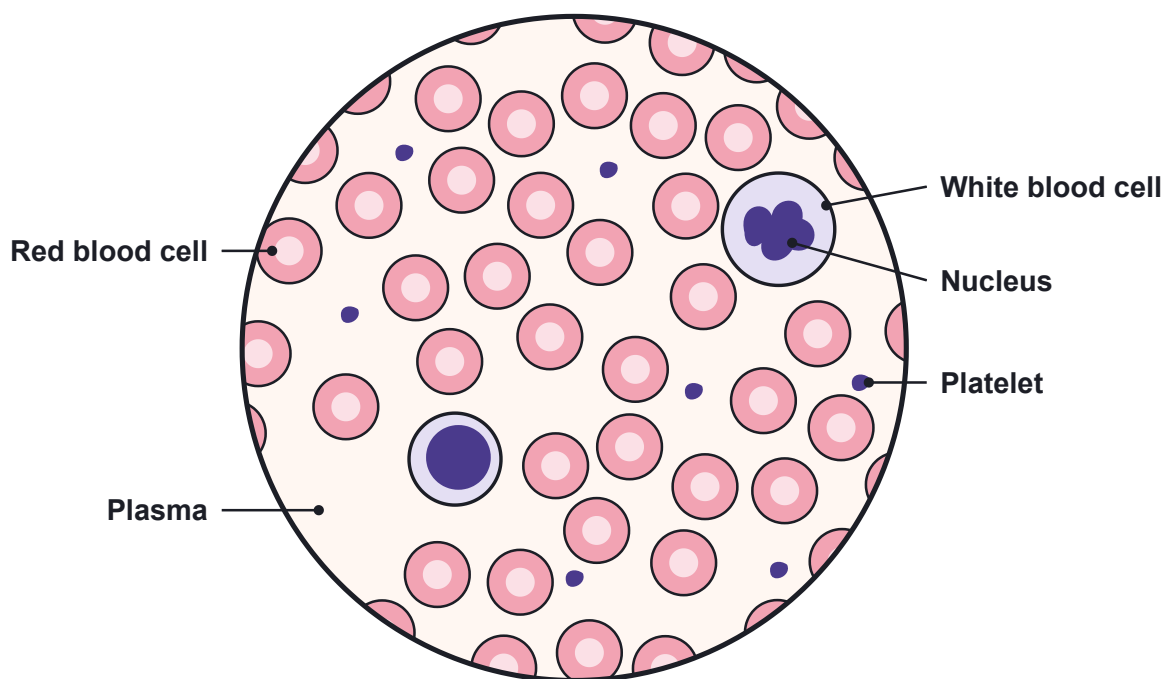
Revision notes • The components of blood and their functions, and why blood clots: to stop blood loss and keep pathogens out.

For Cambridge IGCSE Combined Science 0653. **Supplement** is Extended content, only examined on Papers 2 and 4.

Blood Spec B9.4

Components of blood Spec B9.4.1, B9.4.2, B9.4.3

Blood is made of red blood cells, white blood cells, platelets and plasma. Plasma is the liquid part.



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Red blood cells are the most numerous. White blood cells have a **nucleus**. Platelets are tiny fragments.

- Red blood cells are small, round and pale in the middle, with **no nucleus**.
- White blood cells are larger and have a **nucleus**, usually stained dark.
- Platelets are tiny fragments of cells.

Functions of the components of blood

Component	Function
Red blood cells	Transport oxygen. They contain the red pigment haemoglobin , which combines with oxygen
White blood cells	Defend against pathogens by phagocytosis and antibody production
Platelets	Help blood to clot
Plasma	Transports blood cells, ions, nutrients, urea, hormones and carbon dioxide

Exam tip: Name the pigment. 'Red blood cells carry oxygen' is not enough: say the oxygen is carried by haemoglobin. Clotting details are not required for platelets.

White blood cells and blood clotting Spec B9.4.4 Supplement

Roles of blood clotting

When the skin is cut, blood clots to **prevent blood loss** and to **prevent the entry of pathogens** into the body. The clot dries to form a scab.

Quick check

1. List the four components of blood.
2. What is the function of haemoglobin?
3. Supplement State two roles of blood clotting.

Quick check answers

Blood

1. Red blood cells, white blood cells, platelets and plasma.
2. To transport oxygen in the red blood cells.
3. Prevents blood loss and prevents entry of pathogens.