

Exercise walk-through

Blood ■ 9.4

eXercise

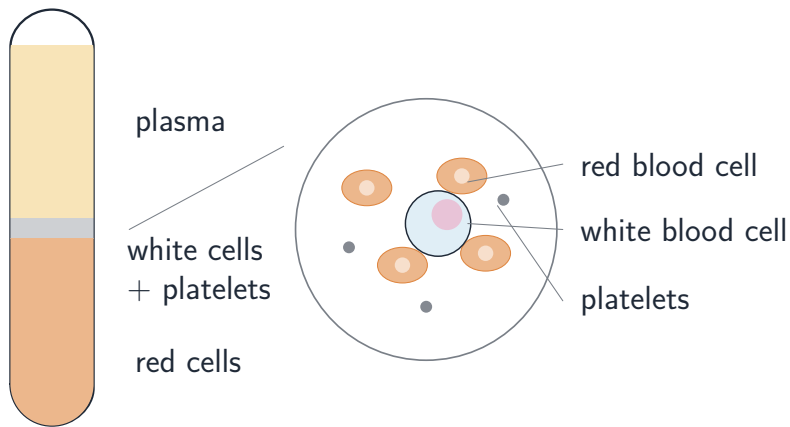
You must be able to

- name the four components of blood and their functions
- describe how phagocytes and lymphocytes defend the body
- describe how blood clots

Method — Components of blood

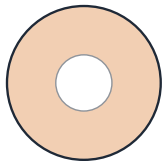
- **phagocytes** engulf pathogens; **lymphocytes** make antibodies.
- clotting: fibrinogen → fibrin threads → a net that traps cells.

Method — Components of blood



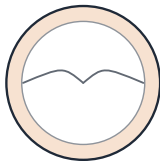
Blood settled into plasma, white cells/platelets, red cells

Method — Components of blood



artery

thick muscular,
elastic wall;
narrow lumen;
high pressure



vein

thin wall;
wide lumen;
has **valves**;
low pressure



capillary

wall one cell
thick; lets
substances be
exchanged

Blood components travel in the vessels

Practice 2.1 ■ 1 mark

State the function of red blood cells.

Solution 2.1

Method: Components of blood

Worked steps

they carry oxygen (using haemoglobin) **B1**.

Practice 2.2 ■ 1 mark

Name the part of the blood that helps it clot.

Solution 2.2

Worked steps

platelets **B1**.

Exam-style 3.1 ■ 1 mark

The liquid part of blood that carries dissolved substances is the:

A plasma

B platelets

C red blood cells

D haemoglobin

Solution 3.1

A plasma



B platelets

C red blood cells

D haemoglobin

Worked steps

A. Plasma is the liquid that carries dissolved substances.

Exam-style 3.2 ■ 1 mark

White blood cells defend the body.

- (a) Describe how a phagocyte deals with a pathogen.
- (b) Describe how a lymphocyte deals with a pathogen.

Solution 3.2

Method: Components of blood

Worked steps

- (a) it surrounds and digests (engulfs) the pathogen **B1**.
- (b) it makes antibodies that stick to and destroy the pathogen **B1**.

Exam-style 3.3 ■ 2 marks

Explain why clotting of blood at a cut is important.

Solution 3.3

Method: Components of blood

Worked steps

the clot seals the wound to stop blood loss **M1**; and stops pathogens getting in **A1**.