Review: blood, immunity and circulation

Student activity • observation and reasoning

YEAR 10 / LESSON 66 / BIOLOGY + SCIENCE (DOUBLE AWARD)

The question

Can you connect blood components with transport and defence?

Use the supplied examples, record your reasoning and correct it using evidence.

Equipment

- Student booklet, paper models, pencil and ruler

Paper, modelling and written reasoning only. No chemicals or biological samples are handled.

Course coverage: Shared blood, immune defence and circulation; Biology-only vaccination and clotting extensions marked.

Plan, model or apparatus sketch

Draw and label the apparatus or biological model; identify one limitation.

Method and reasoning

Read the whole sequence before starting

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1. Identify red cells, white cells, platelets and plasma and assign distinct roles.

2. Trace blood through both circuits, including pulmonary vessels and the coronary supply.

3. Explain how vessel structure supports pressure, return flow or exchange.

4. Compare phagocytosis with specific antibody responses.

5. Biology extension: explain immune memory after vaccination and platelet involvement in clotting.

6. Apply these ideas to two corrected misconceptions: all arteries are oxygenated, and antibodies are white blood cells.

Cleanup

- Return models and keep the corrected work.

Record your evidence

Blank spaces are for your own work

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Reference and task data

Use labelled diagrams and original explanations. Vaccination mechanisms and detailed clotting are Biology extensions. Do not use personal medical histories or blood samples.

Example / trial	Observation / evidence	Explanation / limit
Evidence / comparison		
Explanation		
Limit / correction		

Show your calculations, labelled model or correction here.

Explain and evaluate

Use evidence and show calculation steps where relevant

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1. Which component carries much dissolved nutrient?

2. Which carries most oxygen?

3. What do phagocytes do?

4. How is an artery defined?

5. Biology: what supports faster later antibody responses?

6. Biology: what mesh is involved in clotting?