



Rewarding Learning

**General Certificate of Secondary Education
2010–2011**

Science: Double Award (Modular)

Living Organisms and the Processes of Life
End of Module Test

Higher Tier

[GDA02]

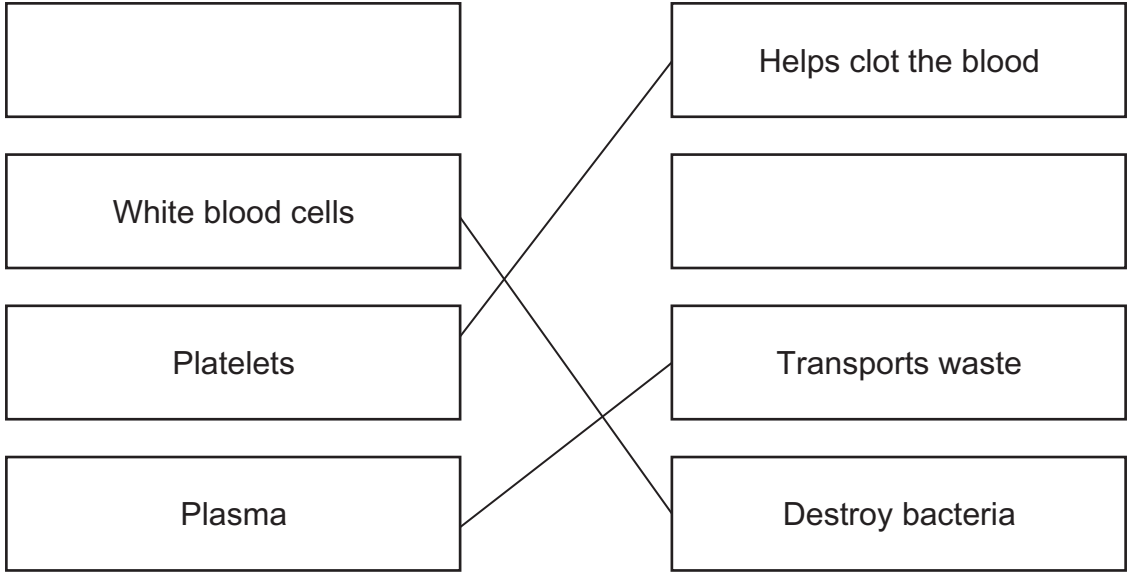
WEDNESDAY 10 NOVEMBER, AFTERNOON

**MARK
SCHEME**

- 1 (a) Renal artery [1]
 (b) Glucose/oxygen/urea/amino acids/water/salts/ammonia [1]
 (c) Bladder [1]

AVAILABLE MARKS
3
5

2 (a)



All 3 correct = [2]
 1 correct = [1] [2]

- (b) Any **three** from:
 cholesterol; (**not** fat on its own)
 causes blockage/clot/clogging up;
 reduced blood flow;
 less glucose/oxygen pass;
 less respiration/energy;
 for the heart muscle to contract;
 heart muscle dies [3]

			AVAILABLE MARKS
3	(a) Concentrated sugar solution	C	
	Dilute sugar solution	B	[2]
	(b) Any three from: more water molecules outside /less water molecules inside /more dilute solution outside; water molecules move into the Visking tubing; by osmosis; across a selectively permeable membrane		[3] 5
4	(a) B		[1]
	(b) Diffusion		[1]
	(c) Any four from: Diaphragm contracts; diaphragm pulls down/flattens; Intercostal muscles (contract); ribs move up/out; volume of thorax increases; pressure in thorax decreases		[4] 6
5	(a) Fungus		[1]
	(b) Any three from: Antigens on the bacteria surface; stimulates white blood cells/lymphocytes; to produce antibodies; antibodies join with the antigens/complementarity of antibody and antigen/ lock onto antigens; clump forms; which is ingested/digested by phagocytes/phagocytosis; white blood cells engulf/surround/ingest/digest/broken down		[3] 4
6	(a) Glucose/sugar		[1]
	(b) Any two from: alcohol or lactic acid; Anaerobic – ethanol made/no ethanol in aerobic; Anaerobic – small amount of energy/Aerobic – large amount of energy; Anaerobic – no water made/Aerobic – water produced		[2] 3

- 12 (a) Active uptake is against concentration gradient/or described
Requires energy [2]
- (b) At 24 °C, enzymes more active/more enzyme activity
so more respiration/energy (for active uptake) [2]
- (c) Less amino/protein formed [1]

Total

**AVAILABLE
MARKS**

5

50