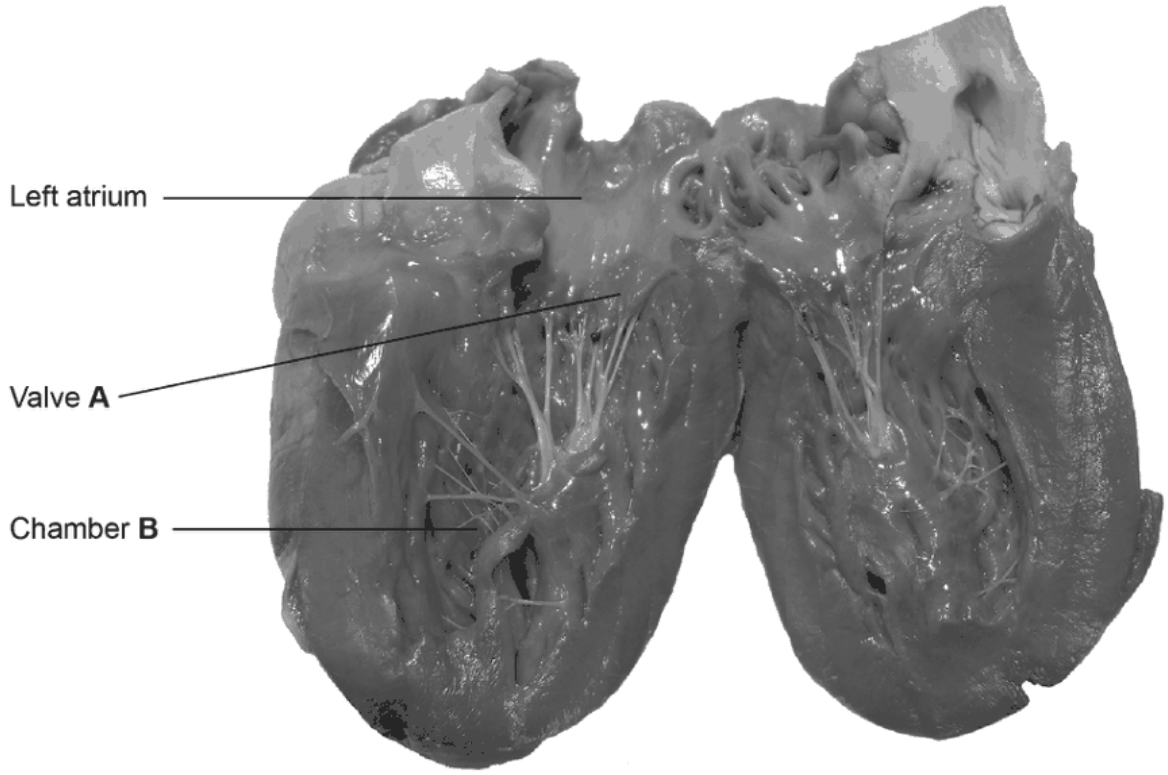
Required Practical 5, Dissection: AQA A Level Biology Exam Questions b

9 questions · 16 marks · about 21 minutes. Answer in the spaces, then check the mark schemes at the end.

Question 1 · A level Paper 3 · June 2019 · Q03.1 · 1 mark

0 3 **Figure 2** shows a photograph of a dissected heart.

Figure 2



0 3 . 1 Name valve **A** and chamber **B**.

[1 mark]

Valve **A** _____

Chamber **B** _____

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Question 2 · information from earlier in the question

0 4 A student dissected an organ from a mammal to observe blood vessels.

He dissected a slice of the organ and identified two blood vessels.

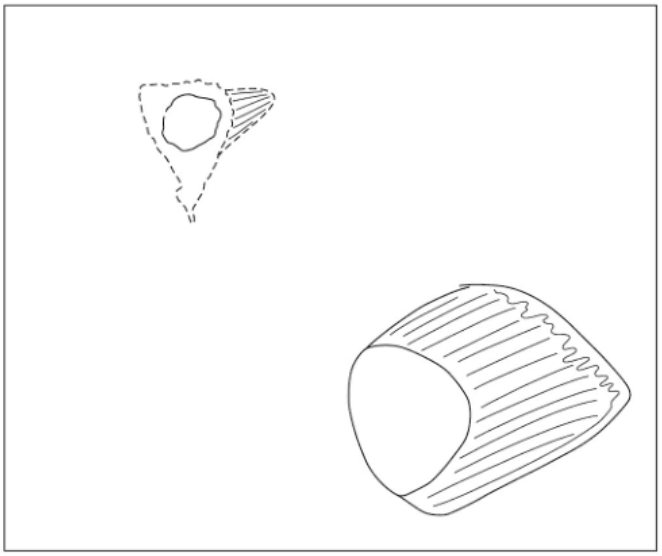
Figure 4 shows a photograph of his dissection.

Figure 4



Figure 5 shows a drawing of the blood vessels from his dissection.

Figure 5



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Question 2 · A level Paper 1 · November 2021 · Q04.2 · 2 marks

0 4 . 2 Identify the type of blood vessel labelled as **X** and the type of blood vessel labelled as **Y** in **Figure 4**.

Describe **one** feature that allowed you to identify the blood vessels.

[2 marks]

Blood vessel **X** _____

Blood vessel **Y** _____

Feature _____

_____

Question 3 · AS Paper 2 · June 2019 · Q05.4 · 2 marks

0 5 . 4 The student used a sharp scalpel to cut the celery. Describe how she should ensure she handled the scalpel safely during this procedure.

[2 marks]

_____

_____

_____

_____

_____

Question 4 · A level Paper 3 · June 2019 · Q03.2 · 1 mark

0 3 . 2 Give **two** safety precautions that should be followed when dissecting a heart.

[1 mark]

1 _____

_____

_____

_____

2 _____

_____

_____

_____

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Question 5 · AS Paper 2 · June 2022 · Q06.1 · 2 marks

0 6 . 1 A student dissected a sheep's heart. He prepared a risk assessment on:

- carrying a scalpel
- using a scalpel.

Complete **Table 3** by giving **three** control measures the student must use to reduce the risks associated with carrying **and** using a scalpel.

Table 3

Source	Hazard	Control measures to reduce risk
Sharp knife		1.
		2.
		3.

[2 marks]

Question 6 · A level Paper 1 · November 2021 · Q04.3 · 2 marks

0 4 . 3 Describe **two** precautions the student should take when clearing away after the dissection.

[2 marks]

1 _____

_____

2 _____

_____

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0 4 A student dissected an organ from a mammal to observe blood vessels.

He dissected a slice of the organ and identified two blood vessels.

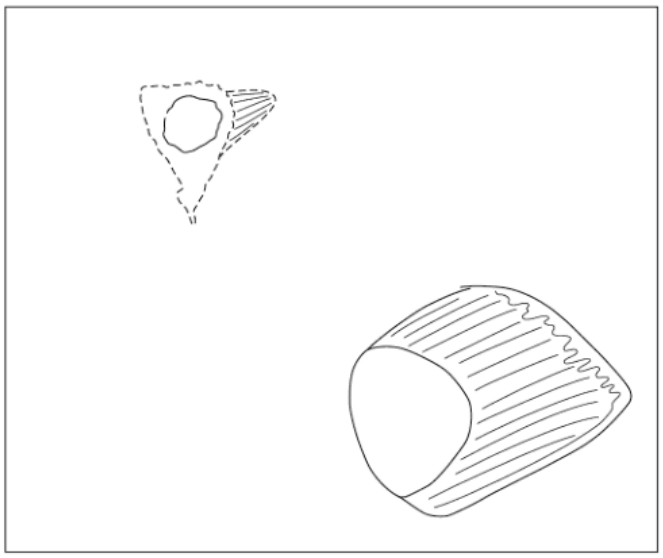
Figure 4 shows a photograph of his dissection.

Figure 4



Figure 5 shows a drawing of the blood vessels from his dissection.

Figure 5



0 4 . 1 Suggest **two** ways the student could improve the quality of his scientific drawing of the blood vessels in this dissection.

[2 marks]

1

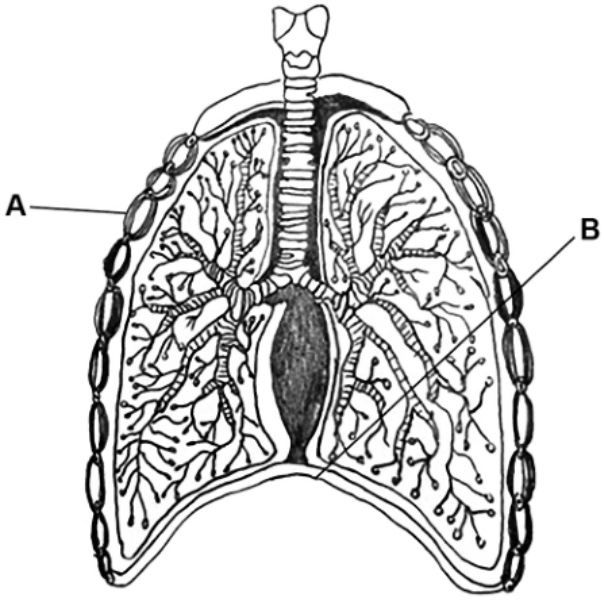
2

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0 6 A student completed a dissection of an animal gas exchange system.

Figure 5 shows the scientific drawing he produced from his observations.

Figure 5



0 6 . 1 Suggest **two** ways the scientific drawing in **Figure 5** could be improved.

Do **not** refer to adding labels or using a sharp pencil in your answer.

[2 marks]

1 _____

_____

_____

2 _____

_____

_____

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Question 9 · AS Paper 2 · June 2023 · Q09.1 · 2 marks

0 9 Scientists dissected gills from several species of fish. They recorded:

- the mass of the whole fish
- the total number of gill filaments
- the mean length of one filament
- the mean number of lamellae per mm
- the mean surface area of one lamella.

0 9 . 1 It was not possible for the scientists to measure the length of every filament and the surface area of every lamella.

Suggest how they collected data to give a reliable mean for these variables.

[2 marks]

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Mark schemes

Question 1 · A level Paper 3 · June 2019 · Q03.1 · 1 mark

03.1	Valve **A** (Left) atrioventricular Chamber **B** Left ventricle;	1	Reject right side in either context Accept mitral/bicuspid for Valve **A**. Reject tricuspid for Valve **A** Ignore AV for Valve **A**

Question 2 · A level Paper 1 · November 2021 · Q04.2 · 2 marks

04.2	1. Blood vessel **X** – artery/arteriole **and** Blood vessel **Y** – vein/venule; 2. (Difference in) lumen size **OR** (Difference in) wall thickness;	2	Ignore name of blood vessel, eg. (pulmonary) artery

Question 3 · AS Paper 2 · June 2019 · Q05.4 · 2 marks

05.4	1. Cut away from body; 2. Against hard/non-slip/flat surface;	2	1. Accept description of cutting technique to avoid cutting fingers 2. Accept named hard surface eg tile/board

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03.2	Accept any **two** suitable safety precautions for 1 mark, eg; 1 max Use a sharp scalpel/scissors Wash hands/wear gloves Disinfect bench/equipment Cover any cuts Cut away from self/others/on a hard surface Safe disposal	Ignore take care with scalpel/scissors or keep away from fingers Ignore goggles

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06.1	Accept for 2 marks, three correct responses, one of which MUST be MP1. Accept for 1 mark, any two correct responses. 1. Carry with blade protected **OR** Do not carry if likely to be jostled; 2. Cut away from body; 3. Cut onto hard surface; 4. Use sharp blade; 5. Disinfect/dispose of used scalpel (blade) as instructed;

2 (2 x AO1)	More than one correct answer can be given in each cell row Ignore wear safety glasses **OR** gloves Ignore 'no running' Ignore washing **OR** disinfecting hands/surfaces Ignore taking care **OR** act safely **OR** keep away from fingers 1. Accept for 'protected', e.g. in tray **OR** pointing down

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Question 6 · A level Paper 1 · November 2021 · Q04.3 · 2 marks

04.3	1. Carry/wash sharp instruments by holding handle **OR** Carry/wash sharp instruments by pointing away (from body)/down; 2. Disinfect instruments/surfaces; 3. Disinfect hands **OR** Wash hands with soap (and water); 4. Put organ/gloves/paper towels in a (separate) bag/bin/tray to dispose;	2 max

1. and 2. Accept for 'instruments', a suitable named example, eg. scalpel

2. and 3. Accept for 'disinfect', sanitise OR use antiseptic

Question 7 · A level Paper 1 · November 2021 · Q04.1 · 2 marks

04.1	1. Only use single lines/do not use sketching (lines)/ensure lines are continuous/connected; 2. Add labels/annotations/title; 3. Add magnification/scale (bar); 4. Draw all parts to same scale/relative size; 5. Do not use shading/hatching;	2 max

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06.1	1. Remove shading/hatching; 2. Have the same number of ribs on each side **OR** Make the sizes of the muscles/ribs more accurate on each side; 3. Use single/continuous/joined line **OR** Do not use sketching **OR** No crossing or hanging lines; 4. Not have the label line (for **B**) crossing/ obscuring the drawing; 5. (Add a) scale (bar); 6. Simplify the trachea/bronchus/bronchioles/ alveoli/structure **OR** Draw (only) the outline of tissues;	2 max (2 x AO3)

5. Ignore (add) magnification
6. Accept reduce the amount of detail

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Question 9 · AS Paper 2 · June 2023 · Q09.1 · 2 marks

09.1	1. Random samples; 2. Large sample size;	2 (2 x AO3)	1. Allow in context of fish or gills 2. If a specified number is given, it must be 10 or more. 2. Accept 'many'/ 'multiple' for large sample but ignore 'several'

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