
A-level Biology example for required practical 5

Dissection of animal or plant gas exchange or mass transport system or of organ within such a system:

Heart dissection

Student sheet

You are provided with the following:

- a sheep's heart
- dissecting tray and board
- dissecting instruments
- labels and pins
- plastic gloves
- beaker of disinfectant
- disinfectant spray
- access to a camera
- access to a yellow disposal bag.

You should read these instructions carefully before you start work.

1. Before you cut the heart examine its external features.
 - Identify the coronary arteries.
 - Run water into the top of the heart and see if you can see the valves in the aorta and pulmonary arteries close.
 - Squeeze the heart gently so these valves open and the water comes out.
2. Cut down each side of the heart to open up the left atrium and left ventricle and the right atrium and right ventricle.
 - Look for the tendinous cords holding the atrio-ventricular valves, and lift the weight of the heart by holding one of these cords over a dissecting needle.
 - Look how thin the atrio-ventricular valves are.
 - Examine the thickness of the walls of the ventricles.
 - Which side of the heart has thicker ventricular walls? Explain the advantages of this thickness.
 - Look at the walls of the atria, they are much thinner than those of the ventricles. Can you explain the advantage of this?
 - Push the handle of the dissecting needle up behind the atrio-ventricular valves. You should notice that the aorta and pulmonary arteries cross over.
3. Make some little flags from pins and sticky labels and label the parts of the heart that you can identify. Make sure they are legible and visible as you look down on your dissection.

Ask your tutor to check your labelling and take a photograph so you can include it in your notes.

Packing away:

- Remove all pins and discard labels.
- Place pins and dissecting instruments in the beaker of disinfectant.
- Place the heart in the yellow disposal bag on the trolley.

Use the disinfectant spray to clean the dissecting board and bench, using paper towels to dry them. Dispose of the towels in the yellow disposal bag along with your plastic gloves.