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| **Session 7:**  | **HEART DISSECTION** |

##

**Skills developed in this session:**

* Use of a scalpel
* Dissection of organs
* Anatomy and labelling of natural organs and tissues

## Assessed criteria

Criterion E: AIE

**Research Question**

“What does a real heart look like and how can I recognize its parts?”

**Background Information**

The heart dissection is probably one of the most difficult dissections you will do. Part of the reason it is so difficult to learn is that the heart is not perfectly symmetrical, but it is so close that it becomes difficult to decide which side you are looking at (dorsal, ventral, left or right). Finding the vessels is directly related to being able to orient the heart correctly and figuring out which side you are looking at.

The heart is also difficult because the fatty tissue that surrounds the heart can obscure the openings to the vessels. This means that you really must experience the heart with your hands and feel your way to find the openings. Many people will be squeamish about this, and because the heart is slippery, it is easy to drop. Don't be shy with the heart, use your fingers to feel your way through the dissection.

[LINK TO DO A DIGITAL DISECTION](https://human.biodigital.com/)
(sign up with Google or make an account, then search for Heart in the search box)

**Objective**

To learn how to dissect a heart and understand its anatomy.

**Materials**

* Scalpel (WARNING!)
* 2 Tweezers
* Tray with filterpaper
* Metal rod
* Needles
* White tape
* Pen
* Mobile phone (one per pair is enough)

**Instructions**

**1. Step One: Orientation**

Make sure the heart is facing you from its front, with the right ventricle on your left and the left ventricle on your right.

ADD HERE A PICTURE OF THIS STEP

**Step 2: Locate the main vessels**

Use the metal or glass rod to locate the main blood vessels connected to the heart. Move it carefully down the main arteries and veins and figure out where it ends up. According to that location you should be able to discover which is which blood vessel.

To which part of the heart is the aorta connected?........................................................................

To which part of the heart are the pulmonary arteries connected?...............................................

To which part of the heart is the vena cava connected?................................................................

To which part of the heart are the pulmonary veins connected?...................................................

ADD HERE A PICTURE OF THIS STEP

**Step 3: Make the Incisions**

Carefully cut open the heart. Make sure you always cut away from yourself, **never towards your fingers!** Make sure both chambers and atria are visible. Try to make sure you get a view similar to the illustration here. This is done by opening the heart from atrium to atrium, along the outside, just as on this image below.





DELETE THESE IMAGES AND ADD YOUR PICTURES HERE OF THIS STEP

### Step 4: Label all the parts you recognize

With the needles and the white tape make little flags to label:

* Left ventricle
* Right ventricle
* Right atrium
* Left atrium
* Pulmonary artery
* Pulmonary vein
* Vena cava
* Aorta
* Tricuspid valve
* Bicuspid valve
* Any other structure you recognize

ADD HERE SOME PICTURES OF THIS STEP

**Upload this document to OneNote**

**If there is time left:
Task**

*1*

Measure your heart rate (BPM) at this moment and compare it to the average heartrate of people of your age (do some research).

BPM now:

Average BPM:

Conclusion:

*2*

Measure your blood pressure and add the systolic and diastolic pressure here below. Compare it to the average pressure of people of your age (do some research).

Systolic pressure now:

Diastolic pressure now:

Average systolic pressure:

Average diastolic pressure:

Conclusion: