

Sheep Heart Dissection Prelab



Name: _____ Period: _____ Date: _____

Read the Mr. E Science Sheep Heart Dissection Guide and watch the assigned heart video. Answer in your own words. Save actual specimen observations and drawings for the lab write-up.

Prepare and orient the heart

1. List two precautions for cutting safely. Who must confirm or supervise the main opening cut?

2. Identify the base and apex. Which surface faces upward in the demonstration?

3. In the ventral view, where is the animal's right side relative to you? Name two landmarks you will use to confirm orientation.

Examine the external structures

4. What is the pericardium, and what is its function? How does surface fat differ from myocardium?

5. Explain the difference between an auricle and an atrium.

6. What do coronary arteries supply? Why are they needed?

7. What is the whitish lumpy tissue on the outer surface of the heart?

8. What kind of tissue is the "bulk of the heart" – the reddish-brown tissue?

Open the heart

9. Describe the planned opening section and how you will keep track of the two portions. What delicate structures should you preserve?

10. What should you do if a vessel is trimmed away or the opening does not expose a structure?

Study the chambers and heart wall

11. Where is the endocardium? What does the interventricular septum separate?

12. Which ventricle has the thicker muscular wall? Explain the pressure difference it must overcome.

Identify the valves and trace the vessels

13. Name the valve between each atrium and ventricle. Give both names for the left AV valve.

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14. How do papillary muscles and chordae tendineae support the AV valves? Do they pull the valves open?

15. Where are the two semilunar valves? What backflow does each prevent?

16. Give the connected heart chamber for each vessel. Use a blunt probe gently during the lab to check these connections.

Aorta: _____ Pulmonary trunk: _____

Venae cavae: _____ Pulmonary veins: _____

Trace blood through the two circuits

17. Why are pulmonary arteries called arteries even though they carry oxygen-poor blood?

18. Complete the route without looking back at the guide. Include the valve names.

Body → venae cavae → _____ → _____ valve → right ventricle → _____ valve → pulmonary trunk and arteries → lungs → pulmonary veins → _____ → _____ valve → left ventricle → _____ valve → aorta → body.

19. Which valve closures are associated with “lub”? Which are associated with “dub”?

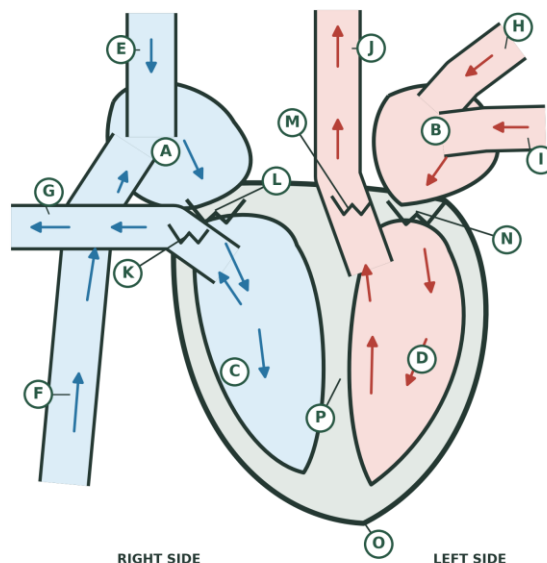
Complete the investigation

20. State two cleanup steps, including what you must do after removing your gloves.

SHEEP HEART | BLOOD-FLOW PATHWAY

Identify each lettered structure. Use the arrows to trace the direction of blood flow.

- | | |
|----------|----------|
| A. _____ | I. _____ |
| B. _____ | J. _____ |
| C. _____ | K. _____ |
| D. _____ | L. _____ |
| E. _____ | M. _____ |
| F. _____ | N. _____ |
| G. _____ | O. _____ |
| H. _____ | P. _____ |



Blue: oxygen-poor blood Red: oxygen-rich blood

Simplified schematic • not to scale