

Clam Dissection Pre-Lab

Name _____ Period _____ Date _____

Directions: Watch Mr. E Science Clam Dissection Parts 1 and 2. Work through the matching Clam Dissection Guide to become familiar with its headings, diagrams, terms, and procedures. Use the sections named below; this is not a cover-to-cover reading assignment. Answer in your own words.

Part 1: https://youtu.be/d_qM4Q-7q8Y Part 2: <https://youtu.be/XQtujOxzf-4>

Meet the Clam | Guide page 2

1. Give the kingdom, phylum, and class. What does “bivalve” tell you about the shell?

2. What source should confirm the genus, species, and native range? Name a typical freshwater habitat.

Materials and safety | Guide page 3

3. List four dissection tools or supplies and two protective items you will use.

4. What should you do if the shell is too tightly closed to open safely?

External anatomy and orientation | Guide pages 4–5

5. Part 1, 0:44–2:08: Identify the external landmark. Explain how it helps you find dorsal, ventral, anterior, and posterior on this specimen.

6. Part 1, 2:08–3:53: How does Mr. E position the clam to identify right and left valves?

External anatomy and orientation | Continued

7. Part 1, 3:59–4:59: How are growth lines made? Why is counting them not a reliable way to give the clam’s age?

Opening and the empty valve | Guide pages 6–7

8. Part 1, 5:03–6:47: Which two attachments must be released? Against what surface should the cutting tool remain?

9. Part 1, 6:47–8:17: What thin tissue must be freed from the valve? Why should you avoid pulling the shell open forcefully?

10. Part 1, 8:17–11:01: Distinguish an adductor muscle from its scar. What does the pallial line mark?

11. Compare Figures 1 and 2. Why do anterior and posterior appear on opposite sides of the page after the same valve is turned over?

12. Where are the incurrent and excurrent openings? Are they holes in the hard shell? Explain how to label their position on an empty valve.

Expose the internal anatomy | Guide pages 8–9

13. Part 2, 0:28–1:58: What tissue is moved first? Name the internal landmark and describe the texture identifying it.

14. Part 2, 1:50–2:55: What becomes visible beneath the gills? Describe the foot and visceral mass.

15. Part 2, 2:55–4:31: Find the labial palps and remaining mantle in the demonstration. Give one function of each.

16. What drawing and teacher checkpoint must be completed before deeper cutting? What does a dashed leader line labeled “location only” mean?

Digestive circulatory and respiratory systems | Guide page 10

17. Trace the water route through the clam. Then trace food from the gills to the mouth and through the digestive tract.

18. Explain what “open circulation” means. State the respiratory function of the gills.

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Excretion nerves and reproduction | Guide page 11

19. Give one function of each: kidneys (nephridia), ganglia, and gonads. Which are required to be exposed in this lab?

Deeper dissection | Guide pages 12–13

20. Part 2, 4:31–6:39: Describe the digestive gland's color in the video and the appearance of the cut intestine. Why should color alone not decide an identification?

21. Part 2, 6:39–7:57: Where does Mr. E look for the heart? Use the guide to explain why a cut opening should not be called a natural spray nozzle.

Finish and check your understanding | Guide pages 14–15

22. Name the three views required on the write-up. Which must be completed before opening the shell?

23. Describe specimen disposal, tool cleanup, and the final action before leaving the lab.

24. State one question you still have, or one feature you want to examine more closely.

Preparation record: Part 1 watched _____ Part 2 watched _____ Guide explored _____