Print Name _____ Period _____ Date _____

# *Unit 9: Lab 23 Earthworm Dissection*

**Introduction:**

Dissection is a process to help one understand the form and function of an organism. The main objective of any dissection is to expose organs and not to destroy them. It is one thing to view an organism's internal organs in a textbook and to actually see them up close in a properly performed dissection.

**Materials:**

- Preserved earthworms
- Forceps
- Probe or dissecting needle
- Scissors
- Straight pins
- Paper towel

**Procedure:**

1. Hold the worm and rub your fingers along its lateral surfaces. What do you feel?

_____

_____

2. What are these structures called? _____ What is their function?

_____

_____

_____

3. Place the preserved worm, ventral side down, on the dissecting tray. Make sure the dorsal side is facing you. The dorsal surface should be darker in color than the ventral side.

4. Using two straight pins, pin the worm on to the tray at the anterior and posterior ends.

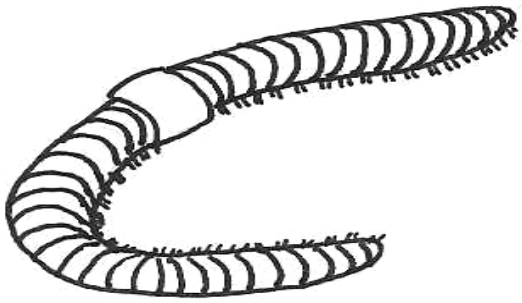
5. Measure the length of the worm in cm. _____

6. Count the number of segments on your specimen. _____

Print Name _____ Period _____ Date _____

7. Label the external features of the earthworm on Figure 23.1

Figure 23.1



From the front to the rear: setae, clitellum, segment, and anus.

8. Measure 5 cm. behind the clitellum; make a small horizontal cut in the body wall. This will allow you to place the scissors point into the body cavity (coelom). Now cut upward and forward (anterior), until you reach the end of the worm.
9. You will notice that the body wall of the worm will not move down into a flattened position. It is being held in position by small internal walls called septa. These septa must be cut in order for the body wall to lay flat. Use your probe to break these septa.
10. Now pin down the body wall. Make using as few pins as possible. This will allow you to see the internal organs clearly.
11. Locate the tube like digestive system. Identify the following parts and label them on figure 23.2. Mouth, pharynx, esophagus, crop, gizzard, and intestine.
12. Examine the area just behind the mouth. This is the pharynx. What is the function of the pharynx? _____
13. Explain how its structure and function are related. It is a muscular tube thick enough to pull in food from the outside.
14. Locate the structure called the gizzard. Cut it open and examine its contents. List what you find

_____

_____

15. What relationship does this organ have to the human stomach?

_____

_____

16. Examine the dorsal surface of the digestive system. Notice a black line running down its entire length. This is the dorsal blood vessel. Label it on figure.23.2.
17. The earthworm contains 5 aortic arches. Locate them surrounding the esophagus. Label them on figure 23.2.
18. With your probe, push aside the intestine and locate the ventral blood vessel and ventral nerve cord. Label them on 23.2.
19. Identify the earthworm's reproductive structures, located along side the esophagus. The first set of lightly colored organs is the seminal receptacles. What is their function?

    _____

    _____

20. Label these reproductive organs on figure 23.2.
21. The earthworm removes its nitrogenous waste through small tube-like structures called nephridia. Each segment contains 2 nephridia, one on each side of the alimentary canal. Label the nephridia on figure 23.2.

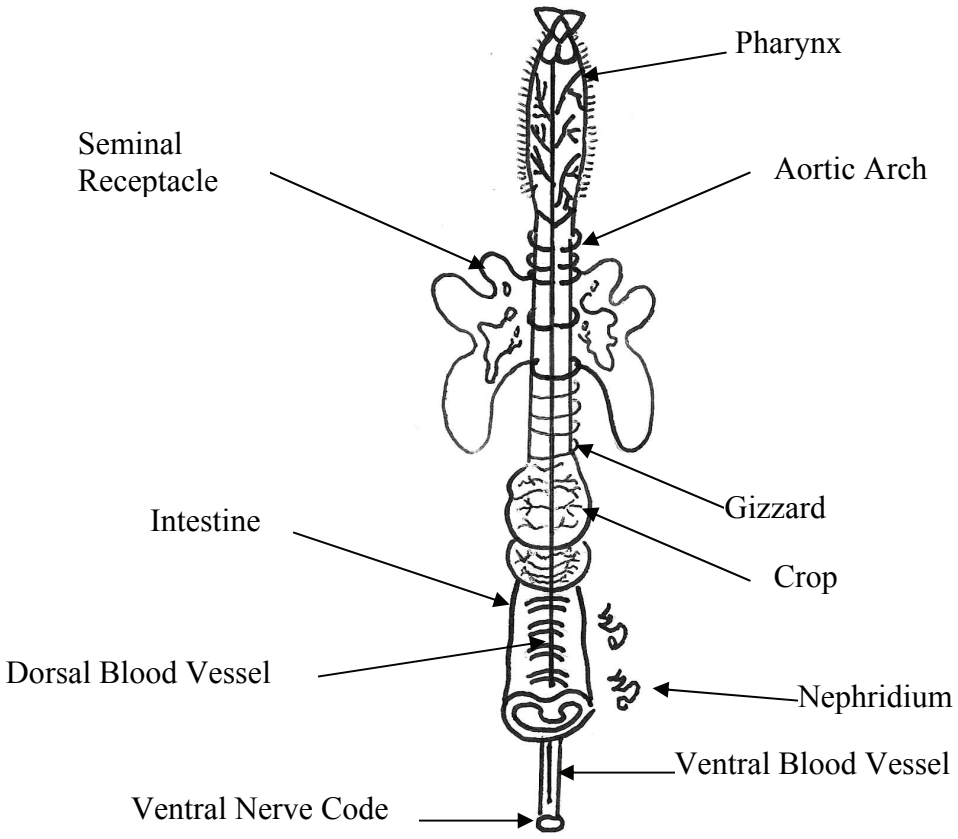



Figure 23.2

Print Name _____ Period _____ Date _____

**Summary:**

22. How many segments does your specimen contain? _____. How many setae does it contain? _____.

23. How did you calculate the total number of setae?

_____

24. Contrast the form of the crop and gizzard.

_____

_____

25. How does their form relate to their function?

_____

_____

26. What is a hermaphrodite?

_____

_____

27. How does the earthworm remove nitrogenous waste from its body?

_____

_____

28. Explain why the earthworm's circulatory system is considered a closed one?

_____

_____