

ONLINE EARTHWORM DISSECTION

Go to the following site

http://biog-1101-1104.bio.cornell.edu/BioG101_104/tutorials/animals/earthworm.html
to assist you with the following questions. You may also need to refer to your lab manual (*Nasco's Dissection Guide for the Earthworm*).

Examine the External, dorsal surface of worm and External, ventral surface of worm images.

The thickened region, the clitellum, is closer to the anterior end of the animal.

1. What is the function of this structure?
2. What are the openings found in most of the segments primarily used for?

Your lab manual describes that the dorsal surface of the worm feels smooth, while the lower surface feels bristly. There are four pairs of bristles on each segment.

3. What do you call these bristly structures?
4. What is their function?

Go back to the previous page and click on the Internal morphology (overview) - 5 images

5. How does the internal segmentation of the earthworm compare to the external segmentation?

Compare the picture and information from your lab manual to the picture on the screen. Locate the following parts of the digestive system on the screen. Give the number of the item and describe its function.

6. Pharynx
7. Esophagus
8. Crop
9. Gizzard
10. Intestine

The earthworm has a closed circulatory system. Blood is pumped through vessels by five pairs of aortic arches, or "hearts". Click on the appropriate number and answer the following question.

11. Identify the number of the structure. Where do the arches pump the blood?

Earthworms are hermaphroditic- they contain both male and female reproductive structures. However, self-fertilization does not occur. When earthworms mate, they exchange sperm, which then fertilize the eggs produced by the ovaries.

12. Identify the two reproductive parts in this diagram and give the function for each.

13. What advantage does hermaphroditism have for slow-moving organisms such as the earthworm?

The earthworm has a central nervous system made up of a brain and a pair of solid, ventral nerve cords. The brain is actually a pair of fused ganglia, and the nerve cords enlarge into ganglia in each segment. A peripheral nervous system consisting of nerves branching from the central nervous system serves all parts of the body.

14. What parts of the nervous system can you see from this view?

Go to back to the previous page and click on Internal morphology (w/o digestive system) - 2 images

15. What part of the nervous system can you see now?

Click on the blue box for a closer view. The excretory organs of earthworms are the nephridia, which are tiny, coiled white tubules.

16. Identify the number of these structures. How many do you find in all segments (except the first three and last)?

Note the branches off the ventral blood vessel.

17. What are these branches called?
18. How is the blood returned to the aortic arches?

LAST TWO QUESTIONS (not from website)

19. In what ways does the internal structure of the earthworm show development of a specialized "head" end?
20. Because no definite respiratory apparatus is found in the earthworm, how do you think oxygen enters the body and the circulatory system?