

STUDENT LABORATORY – Virtual Earthworm Dissection

Full Name: _____

Lab Date: _____

Lab Section: _____ **Lab Instructor:** _____

Credit: 1 lab

Standards:

- Living Environment Core Curriculum Standards: 1.2.1b

Objectives:

- To observe the external and internal structures of the earthworm (*Lumbricus terrestris*) which enable it to carry-out its life functions.

-----LABORATORY EXERCISE-----

Pre-lab:

1. Read this web page before beginning the lab... <https://www.oh-worm.com/post/how-do-worms-fertilize-soil>
2. Describe two ways earthworms help improve the quality of soil, making it suitable for plants to grow.

Materials and Equipment:

A device with an internet connection.

Procedure:

Navigate to the “oh worm” worm dissection and answer the questions below. Time marks from the video are provided and you may have to pause at each time mark to allow time to answer the questions.

**Note* — Check the box when you complete a step.

<https://www.youtube.com/watch?v=1tVVVu5vY6w>

1. 0:35 – Annuli

What phylum does the earthworm belong to?

—

How did this phylum get its name?

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2. 1:01 – Setae

Where are setae located and what do they resemble?

—

How does the setae enable the earthworm to move?

—

3. 1:39 – Clitellum

What is the function of the clitellum?

How can you tell the anterior end from the posterior end of the worm?

4. 2:58 – Internal Anatomy

Where are most of the worm's internal organs located?

5. 3:26 – Septum

What are the septum?

6. 4:24 – Cuticle

Where is the cuticle located and what does it look like?

What is the function of the cuticle?

7. 5:03 – Brain

Where is the brain located?

How many lobes does the brain have?

8. 5:25 – Pharynx

Where is the pharynx located?

State two important functions of the pharynx.

1.

2.

8. 5:33 – Mouth

Where is the mouth located?

10. 5:44 – Reproductive Organs

Why is the earthworm considered hermaphroditic?

11. 5:55 – Seminal Vesicles

State the role of the seminal vesicles.

12. □ 6:10 – Seminal Receptacles

State the function of the seminal receptacles.

13. □ 6:30 – Aortic Arches

How many hearts do earthworms have?

How is the circulatory system of the earthworm similar to that of a human?

14. □ 7:11 – Skin

How does oxygen get into the worm's bloodstream if the worm has no lungs?

Why does the worm's skin need to be kept moist?

15. □ 7:37 – Esophagus

Where is the esophagus located?

What two structures are connected by the esophagus?

16. □ 7:55 – Crop & Gizzard

What is the function of the crop?

Compare the structure and function of the crop and gizzard.

How does the gizzard help break down food?

17. □ 8:34 – Intestine

What is the function of the intestine?

How is the intestine maximized for food absorption?

18. □ 8:57 – Anus

What is the function of the anus?

Why are worms great for plants?

19. □ 9:14 – Blood Vessels

State the function of the blood vessels.

20. □ 9:56 – Ventral Nerve Cord

Where is the ventral nerve cord located?

How does the ventral nerve cord allow the brain to communicate with each segment of the earthworm?

Despite not having eyes, ears or nose, list four things worms can sense.

21. □ 10:27 – Chemoreceptors

What are chemoreceptors and where are they located?

How do worms use their chemoreceptors?

22. □ 10:43 – Dorsal Blood Vessel

What is the function of the dorsal blood vessel?

23. □ 11:08 – Ventral Blood Vessel

What is the function of the ventral blood vessel?

24. □ 11:21 – Opened Intestine

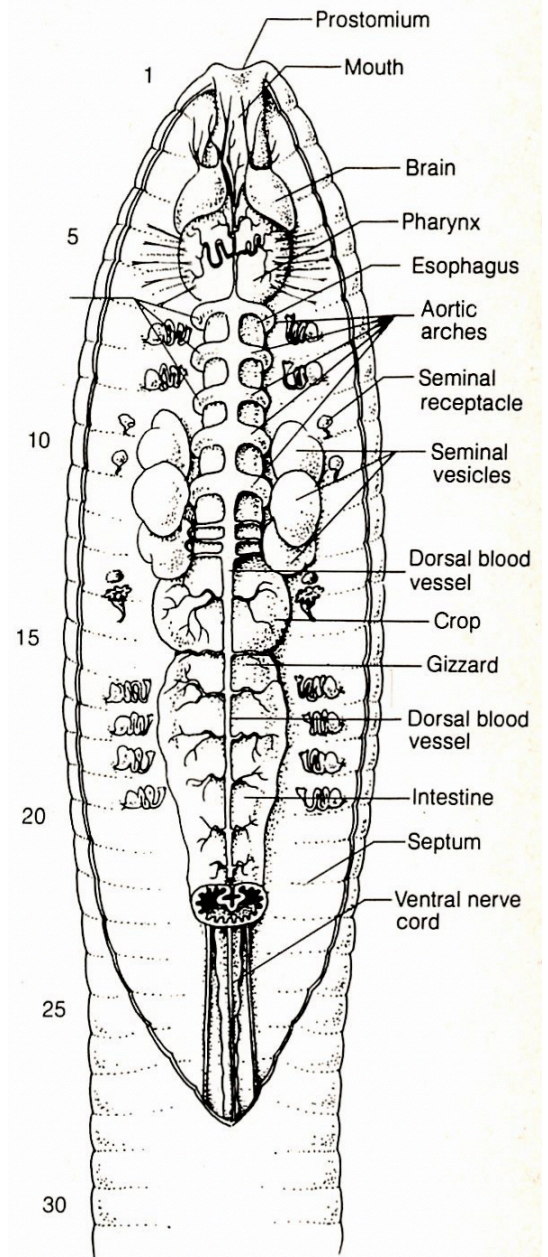
What's inside the intestine?

Analysis Questions:

- 1. Describe** the interaction between the digestive and circulatory system of the earthworm. **Support** your description with observations from the lab.

2. In the table below, identify the structure as belonging to the: nervous system, circulatory system, the digestive system, or the reproductive system.

Structure	System
Brain	
Clitellum	
Pharynx	
Esophagus	
Mouth	
Crop	
Gizzard	
Intestine	
Anus	
Aortic arches	
Dorsal blood vessel	
Ventral blood vessel	
Seminal vesicles	
Seminal receptacle	
Ventral nerve cord	
Chemoreceptors	



d. The Internal anatomy of the earthworm