

Lab: Earthworms – Class Oligochaeta

Purpose: To examine the internal & external anatomy of an earthworm.

Materials:

- You will need a dissecting tray, a pair of scissors, a dissecting needle, pins, and an earthworm.
- Use your textbook as a reference. (Nelson p 323-327 / Miller & Levine p 594 – 600) and the diagrams in the dissection binder.

Procedure:

1. **Draw and label** the external features of the earthworm:
 - Clitellum, prostomium, mouth, anus, segments, and setae
 - What is the function of the clitellum?
 - How do earthworms move?
 - What are the setae used for?
 - How can you tell the dorsal side (top / back) from the ventral side (under belly)?
 - How can you tell the anterior from the posterior of the worm?
2. Place the worm in the tray dorsal side up and start to make a **shallow** cut through the skin lengthwise from the middle of the worm to the mouth. **Be careful not to cut deeply**. Keep the points of the scissors pointed upwards. Cut just through the skin, not the intestine. As you cut, use the pins to hold the worm open.
3. Locate all of the following internal features of the earthworm. **Draw and label** the following internal features of the earthworm:
 - Mouth
 - Esophagus
 - Crop
 - Pharynx
 - Gizzard
 - Intestine
 - Nephridia
 - Septa
 - Aortic arches
 - Cerebral ganglion
4. What is the **function** of the:
 - Mouth
 - Pharynx
 - Esophagus
 - Gizzard
 - Crop
 - Intestine
 - Nephridia
5. What is the easiest system to observe in the worm?
6. What stimuli are earthworms sensitive to?
7. Why is the earthworm's circulatory system said to be closed?
8. Briefly describe the other two classes of Annelids, Polychaeta & Hirudinea, as compared to the earthworm.
9. Discuss the earthworm's role in the ecosystem. Consider the internal structures it has & how it eats.