Earthworm Dissection Lab

Name:_____
Date:_____ Period:_____

Pre-Dissection Lab Labeling

Earthworms are invertebrates, members of the phylum Annelida. The word Annelida means "ringed" and refers to the series of rings or segments that make up the bodies of the members of this phylum; other members of this phylum include bristleworms and leeches. The segmentation found in this phylum supports diversified functions of their body parts and tissues. Studying the anatomy and body systems of annelids helps us understand the bodies of more complex organisms.

EXTERNAL ANATOMY

Basic Body Plan

Segmented worms have bilateral symmetry, cephalization, a true coelom, two body openings, a **mouth** and an **anus**. The mouth is located on the **anterior end** of the worm, while the anus is on the **posterior end**. Adult earthworms may have more than one-hundred **segments**, also known at **metameres**. The **dorsal surface** of the body is distinguished by its rounded shape, darker appearance, and a dark blood vessel visible from the outside. The **ventral surface** of the body is flattened, lighter, and contains observable bristles. **Label the diagrams below to identify the following portions of the body or external structures:**

anterior end ventral surface segments/metameres anus
posterior end dorsal surface mouth

Movement

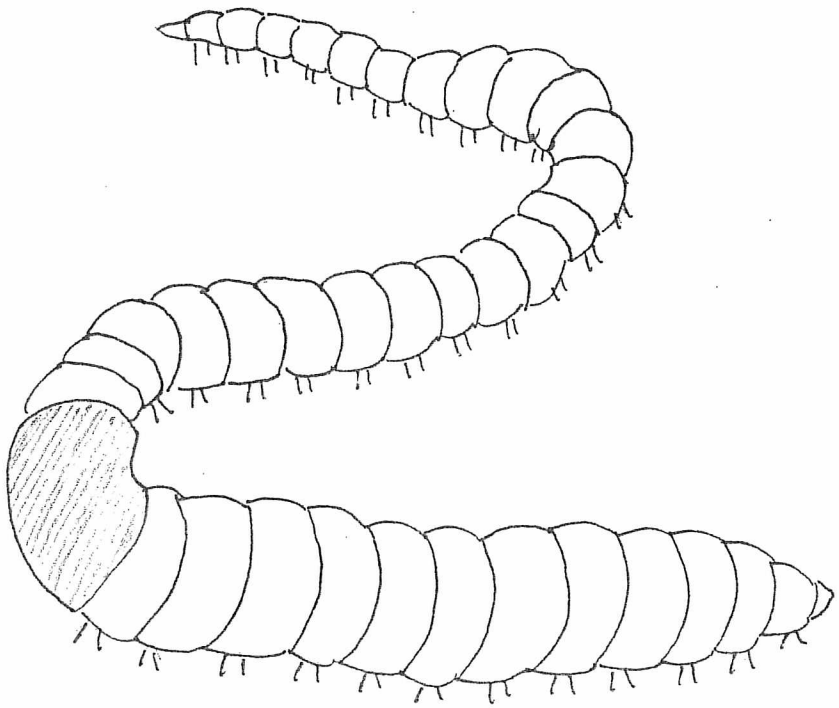
The ventral surface of each segment contains bristles, known as **setae**, which aid the worm move through their burrows by gripping soil. An earthworm moves by using two different sets of muscles. Circular muscle loop around each segment and longitudinal muscles run along the length of the body. When the **circular muscles** contract, the earthworm stretches, becoming longer and thinner. The **longitudinal muscles** contract and the earthworm becomes shorter and wider or it bends from one side to the other, pulling the body forward. **Label the diagrams below to identify the following portions of the body or external structures:**

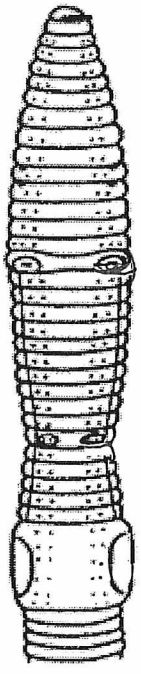
setae circular muscles longitudinal muscles

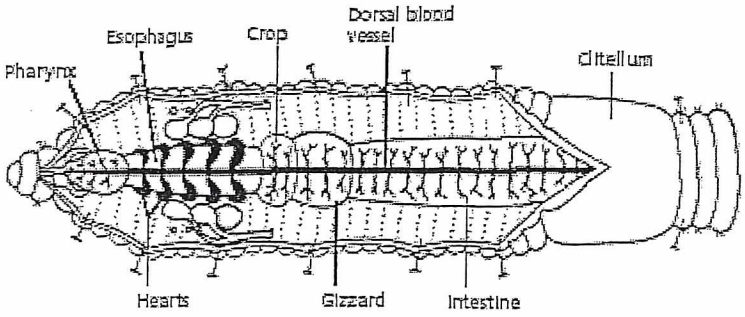
Reproduction

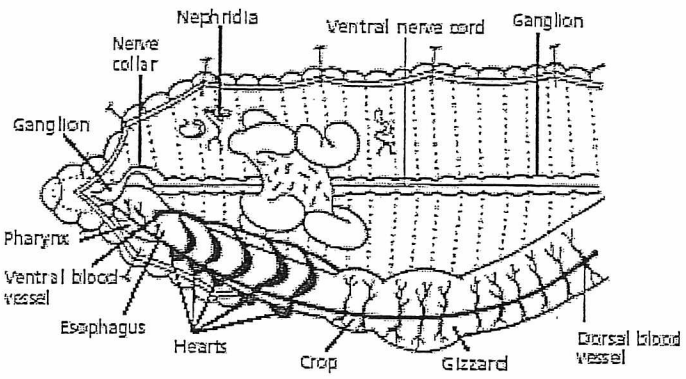
As hermaphrodites, earthworms contain both male and female sex organs. During mating, two earthworms exchange sperm by lining up inverted to one another so that their **sperm duct** openings are lined up with the other's **seminal receptacle** openings. The **clitellum** will form a "slime tube" to pick up the eggs from the female pore and the stored sperm from the male pore. After the eggs are fertilized, the slime will provide a protective covering until the eggs hatch. **Label the diagrams below to identify the following portions of the body or external structures:**

sperm ducts seminal receptacle clitellum









Dissection Check List:

You are expected to be able to identify and know the function of all of the structures on the following check-off list. Be sure to use this aid during your dissection to help hold you accountable; I will come around to complete a spot-check.

EXTERNAL ANATOMY

- anterior end
- ventral surface
- segments/metameres
- anus
- posterior end
- dorsal surface
- mouth
- sperm ducts
- seminal receptacle
- clitellum

COMPLETION OF TEACHER'S SPOT-CHECK

INTERNAL ANATOMY

- seminal vesicles
- seminal receptacles
- aortic arches
- dorsal blood vessel
- ventral blood vessel
- brain (ganglia)
- ventral nerve cord
- pharynx
- esophagus
- crop
- gizzard
- intestine

COMPLETION OF TEACHER'S SPOT-CHECK