Life Sciences 11 Phylum Nematoda Name:

**Purpose:** to compare the structure and function of various nematode body plans

**Materials:**

1. Microscope and *Necator, Ancylostoma* and *Trichina* slides. Cross section of *Ascaris* slide
2. Dissecting equipment and *Ascaris*
3. Pencil

**Method:**

Part 1: The Dissection

1. Take photos or of your dissected *Ascaris* round worm or draw it and label as many structures as you can. These photos will be uploaded to your dissection portfolio along with the analysis questions.
2. Locate the muscle fibers along the inside of the body wall (you may need to use the hand lens).

Part 2: The other worms

1. Draw a diagram of **Trichina** encysted in muscle tissue
2. Draw a diagram of the cross section of **Ascaris**. Use the diagram on screen to label structures.
3. **Hookworm**: draw a diagram of *Necator* (the human hookworm) ***or*** a diagram of *Ancylostoma* (the dog hookworm)

**Trichina** encysted in muscle tissue Cross section of ***Ascaris.***

**Hookworms**

*Necator* (the human hookworm) or *Ancylostoma* (the dog hookworm)

**Analysis:**

1. Describe the life cycle of *Ascaris* from egg to adult and back to egg.
2. In what ways are the hookworms similar to the *Ascaris*?
3. How does *Necator* enter the body? How does it get inside the host’s intestine?
4. For the *Trichina* worm, how does it compare to *Necator* and *Ascaris*?
5. What germ layer is the roundworms’ pseudocoelom located between?
6. What organs and organ systems are located in the nematode body cavity (pseudocoelom)?
7. In what ways are the parasitic members of Nematoda different from their free-living relatives?
8. What are the advantages and disadvantages of being a parasite?
9. Make a table to compare the following worms for each of the following criteria:
   1. CRITERIA: How it enters the body; where it lives in the body, intermediate host (if it has one), effect on humans, prevention method
   2. WORMS: Flatworms -*Taena (tapeworm), Clonorchis (fluke)*

Roundworms *– Ascaris (intestinal roundworm, Necator (human hookworm), Trichina*

*(muscle cysts)*

**Criteria**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Worm | **Entering body** | **Where it lives** | **Host/Effects** | **Prevention** |
| **Phylum Platyhelminthes**  **Taena**  **(tapeworm)** |  |  |  |  |
| **Phylum Platyhelminthes**  **Clonorchis**  **(liver fluke)** |  |  |  |  |
| **Phylum Nematoda**  ***Ascaris***  **(intestinal roundworm)** |  |  |  |  |
| **Phylum Nematoda**  ***Necator***  **(hookworm)** |  |  |  |  |
| **Phylum Nematoda**  ***Trichina***  **(trichinosis causing worms)** |  |  |  |  |