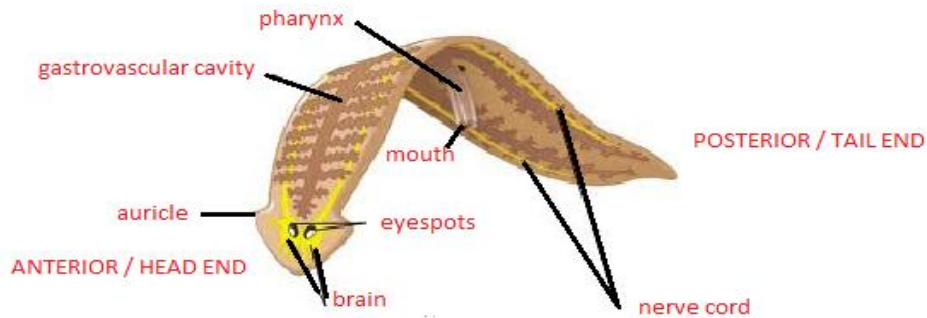


PHYLUM PLATYHELMINTHES

Using Miller and Levine textbook as a resource pp. 570-575, answer the following questions.

1. Label the auricles (pointy extensions on the side of the head), eyespot, gastrovascular cavity, pharynx, mouth, brain, nerve cord, anterior (head) end and posterior (tail) end on the following diagram of a Planaria.



2. The auricles are used to detect sound vibrations. What is the function of the pharynx, eyespots, and flame cells?

Pharynx is a muscular tube to ingest food, eyespots are to detect light, and the flame cells are to excrete extra water that builds up inside the worm (like the contractile vacuole of protists)

3. Describe what you would observe if:

- You cut it in half lengthwise = it will regenerate to form 2 new worms
- You cut it in to thirds across = it will regenerate to form 3 new worms.
- What kind of reproduction is this? Asexual reproduction - regeneration

4. Explain the life cycle of a tapeworm. Include cuticle/tegument, scolex, long flat body, cyst, proglottids, hermaphroditic, and intermediate host in your explanation.

- The **cuticle / tegument** is a special epidermis that prevents the tapeworm from being digested by its host.
- The **long flat body** of the tapeworm increases surface area for the absorption of digested nutrients from its host.
- The tapeworm stays fixed in the digestive system of its host due to the hooks and suckers on the **scolex** of the worm which is constantly dividing to make **proglottids** which contain the reproductive organs – male and female since it is **hermaphroditic**. These proglottids will fold over and exchange gametes so fertilization occurs amongst different proglottids
- The fertilized eggs are released from the host where **an intermediate host** eats them and picks them up. They develop into a larva inside the intermediate host where they burrow into the muscle tissue and form a **cyst**. The cyst is the dormant baby worm with a protective coat around.
- If the cyst is eaten it can get into its preferred host where the cyst breaks open and out comes the worm ready to grow and reproduce inside its new host – attached to the intestinal wall by the scolex
- Cycle repeats

5. What do you think makes a parasite successful?

- Being able to reproduce before it kills the host
- Being able to evade the host's immune system
- Being able to reproduce without a mate – being hermaphroditic
- Being able to avoid being digested by the host
- Being able to get into a new host
- Being able to devote its life to reproduction – ex) tapeworm does not have a digestive system because it just absorbs what the host has already digested. This leaves a lot of room that can be completely devoted to an enhanced reproductive system
- Being in a habitat where there is less competition from other worms