Life Sciences 11 Flatworms: Name:

Observation of a Live Planarian

You will receive a small petri dish with a flatworm inside it.  The flatworm is the freshwater planarian.

1.  List 3 characteristics of flatworms.

2.  What type of symmetry does this worm have?

3.  Where do planarians live?

4.  Observe your worm, using a microscope or hand lens. Sketch the planarian below. Label the following: anterior and posterior ends, eye spots (ocelli), auricles and pharynx (if you can see it).

5.  Measure your planarian.  This operation is best performed by removing some of the water from the dish and waiting for the worm to stretch out.   Measure the length of the worm in millimeters.  (Always replace the water; you can use the dish lid to transfer water to and from the planarian environment.) Length of Planarian \_\_\_\_\_\_\_

6.  Observe the planarian for five minutes. Does the planarian seem active or passive?  How does it move?  Does it swim or creep?   Where in the dish does it spend most of its time? Make a current in the water with a pipette.  How does the planarian react?  Fill out the table below.

|  |  |
| --- | --- |
|  | Description |
| Movement |  |
| Worm location |  |
| Reaction to current |  |

7.  Planarians actually display a "handedness" being right or left handed.   You can discover whether your worm is right or left handed by flipping the planarian over on its dorsal (back) and seeing which way it recovers.   If it rolls to the right, it is right handed, if it rolls to the left, it is left handed.    Do five trials to determine the handedness of your planarian.  Fill out the data table below:

|  |  |
| --- | --- |
|  | Which way does it turn (left or right) |
| Trial 1 |  |
| Trial 2 |  |
| Trial 3 |  |
| Trial 4 |  |
| Trial 5 |  |

Based on your data, is your planarian right or left handed?   \_\_\_\_\_\_\_\_\_\_\_\_

8.   Use a microscope and the light from the scope to design an experiment to test your planarian’s reaction to light. Describe your experiment.

Conduct your experiment to determine whether the planarian prefers light or dark.   Construct a data table below:

Write your conclusions.  Make sure you answer the question:  Does the planarian prefer a light or dark environment and include your reasoning.

9.  Drop a piece of food into the petri dish with the planarian.  Observe the planarian's reactions.  It may take a few minutes.   How does it eat the food?   Where is its mouth?  Use the space below to write your observations.

What is the name of the tube used for feeding in the planarian? \_\_\_\_\_\_\_\_\_\_\_\_

**10. Planarian Reproduction**: *Make sure your planarian has finished eating entirely and its pharynx is withdrawn, if it gets too close to the end of the hour, ask your teacher for a different planarian*

Planarians are hermaphrodites.  Define hermaphrodite

Planarians can also reproduce by regeneration. Define regeneration.

Is this method of reproduction sexual or asexual?

Pour out some of the water, so that the planarian is mostly un-submerged.  When it stretches out,

use a razor blade to cut it cleanly in half. Replace the water and put the lid on it. Observe the two

pieces of the planarian under the microscope.

Fill out the table below:

|  |  |  |
| --- | --- | --- |
|  | Movement (observations) | Sketch |
| Anterior end |  |  |
| Posterior end |  |  |

Label the lid with your NAME.

Make a prediction:  How long do you think (in days) will it take for your planarian to completely regenerate?