Name: _____

Date: _____

Planarian Lab

Asexual/sexual reproduction

A. Introduction

The purpose of this lab is to introduce the topic of reproduction. We will look at an organism called a planarian and observe how it reproduces. The objectives of this lab are to:

- Examine your background knowledge on reproduction
- Develop new understanding of reproduction
- Compare predictions to observations

B. Pre-lab Questions

On your own, answer the questions below.

1. What do you <u>think</u> asexual reproduction is?

2. What do you <u>think</u> sexual reproduction is?

3. How many parent cells do you <u>think</u> are needed for asexual reproduction? Sexual reproduction?
4.

C. Class Discussion:

Please write the definition given to you by the teacher.

Asexual reproduction

Sexual reproduction

D. Group Discussion

In your groups, please answer the following questions:

1. Name 5 organisms that reproduce asexually?

2. What might be some advantages and disadvantages of reproducing asexually?

Advantages:

Disadvantages:

3. Why might it be beneficial for plants to reproduce asexually? How might this be done? Where?

4. What are planarians?

5. Where do they live?

6. What are considered their anterior and posterior ends?

E. Lab Exercise:

Materials:

- Petri dish
- Planarian
- Spring Water (The planarian should come with bottle of spring water)
- Eye dropper or pipette
- Dissecting knife
- Graph paper

Please list 3 characteristics of the planarian without touching it. (Use full sentences)

A._____

_____

._____

B._____

_____

._____

C._____

_____

._____

1. Observe your planarian using the microscope. Sketch the planarian below. Label the anterior and posterior ends.

2. Measure your planarian by removing some of the water from the dish and waiting for the planarian to stretch out. Measure the length of the planarian in millimeters. (Always replace the water; you can use the dish lid to transfer water to and from the planarian environment.)

   Length: _____.

3. Observe the planarian for five minutes. Does the planarian seem active or passive? How does it move? 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	

4. Pour out some of the water, so that the planarian is mostly out of the water. 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. ****Group #1 will cut the planarian in the middle. Group #2 will cut just the tip of its tail off. Group #3 will cut right below the eye spots.

   Group#_____

Fill in the table with your results:

	Movement (observations)	Length (mm)	Sketch
Anterior End			
Posterior End			

F. Predicting

How long do you think that it will take the planarian (in days) to completely regenerate?

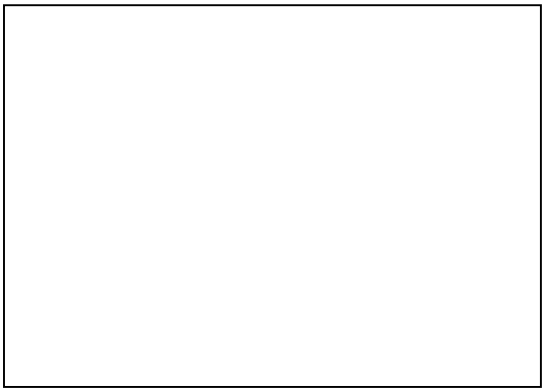
What do you think the planarian will look like after it regenerates?

G. Daily Logs

In your daily log please record your observations and length of the anterior and posterior ends.

H. Conclusion

1. Please draw below what your planarian looked like.



2. How does this compare to your picture in the Predicting section? Was it the same? What is different?

3. What was the final length of you anterior and posterior ends? How does this compare to the initial length of the planarian in Lab Exercise question #2?

Evaluation: (The following guidelines will be used to determine your grade).

Each criterion is based on a point system from 1-5, 1 being the lowest possible score and 5 being the highest possible score.

Is the lab complete?	_____
Neatness	_____
Completed on time	_____
Pictures were accurately drawn and parts were labeled	_____
Thoughtfulness of prediction and conclusion	_____
Total points	**_____**