ROLY POLY LAB

Materials Needed

10 pill bugs
Independent variable of choice
1 Choice chamber
2 filter papers
1 Camel's hair brush or paint brush (helps to move pill bugs from each container)
Masking tape

Pre-Lab Preparation

1. Collect 10 pill bugs. The pill bug, which is more commonly known as the Roly Poly, is a small, segmented land creature that can roll into a tiny ball for protection. The pill bug is NOT an insect but is an isopod, which is a type of arthropod.

2. Pill bugs are common invertebrates that prefer moist, dark places. The perfect place to find them is beneath rotting logs or in piles of decomposing leaves and under rocks.

3. They do not have biting mouthparts and will not bite you.

Part 1: Behavior of Pill Bugs

(A: General Observations)

1. To become familiar with the organisms, place the pill bugs in the behavior tray and carefully observe them for at least 10 minutes. In a table, such as the one below, which should be at least half a page in size, document ANY behaviors you see. Remember to document even the seemingly unimportant behaviors. Try to document the behaviors observed in chronological order. Do not disturb or shake the pill bugs because this will cause unnatural behavior.

(B: Taxis)

1. Place one piece of masking tape on either side of the behavior tray and label one side A, the other B.
2. Place five pill bugs in each chamber of the tray.
3. Count the number of pill bugs in each chamber every minute for 10 minutes.
4. Record your observations in another table, such as the one below.

Data Table 1: General Observations of Pillbug Behavior

5. Calculate the average number of pill bugs in each chamber during the 10-minute period. Enter the results in your table.
6. Using the data from every group in the class, calculate the class average for number of pill bugs in each chamber in a 10-minute time period. Enter the results in your table.

(C: Experiment Formulation)

1. Your group will choose one of the several environmental factors that affect pill bug behavior (e.g., wet vs. dry, apple vs. orange, dark vs. light, etc.).

2. Formulate a hypothesis regarding environmental preferences and how the pill bugs may react to different conditions. Enter your hypothesis in your journal.

3. Design an experiment to test the environmental factor you chose. Write down any procedures, materials, and design any data tables you may need throughout the course of your experiment.

4. Your instructor will check your design before you proceed. Once your instructor has approved your experiment, collect and enter your data as needed.

5. Make sure you limit your variables to only the one being tested.

6. Draw a graph in your quadrille illustrating the data you collected.

7. Prepare a research poster to use as a prop when discussing your experiment with the class at a future date.

Table 3: Pill Bug Taxis

Time (min)	# Pill Bugs in Side A	# Pill Bugs in Side B
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
Avg.		
Class avg.		