

Unit

1

Handout

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*Determining the Pulse Rate of a Blackworm***Purpose:**

To determine the pulse rate of a black worm

Guiding Questions:

How are organisms' structures suited for their survival?

Part 1 Instructions. Open your IBI book to page 45, Inquiry 3.2. Follow the steps below and reference the textbook when needed.

1. Complete steps 1 and 2 on page 45. Bring your slide to Mr. Ower when you are ready and he will give you the worm.
2. Complete step 3 on page 45. Write answers to the following questions in the space provided.
 - a. What is the definition of the pulse rate?
 - b. How will you measure the pulse rate of the worm?
 - c. In this investigation it is extremely important to keep as much of the setup as consistent as possible. This means you want very little to change. What are some factors you will need to keep consistent so your data is reliable? Should you determine its pulse rate more than once?
 - d. Variables are factors that can change during an investigation. What are some variables (or things that might change) as you try to measure the pulse rate of the blackworm?
 - e. What will you do to overcome any variables?

3. Follow step 4 on page 45 (use this sheet in place of Student Sheet 3.2). Data tables are a way to record and display data. For this investigation, a good data table would have the different trials (each attempt at measuring the pulse rate) and the pulse rate you found. If you're not successful in getting the pulse rate, it is still important to document the findings and provide a comment as to why you could not get the pulse rate. If you would like to see sample data tables, do a Google search for data tables. Many will have more information than what you need, but it should give you an idea of how to design yours.

Reflecting on Part 1.

1. What were some issues you encountered in the investigation?

2. Are the results from your investigation consistent? If not, why do you think the results are not consistent? (If your results are consistent, think about and write down factors that may have caused other students to have inconsistent results.)

3. Analyze your data and see if you have any outliers. An outlier is any data that is distant from the data. For example, look at this data set on student height (in meters): 1.2, 1.2, 1.3, 1.1, 1.3, 1.9, 1.3, 1.2. The height of 1.9 is an outlier since it is not consistent with the other data.

Do you have any outliers? If so, which data is it? What do you think caused it?

4. What do you think scientists do when they discover outliers in their data? Why?

Part 2 Instructions. Having discussed the results from part 1, we will now design the investigation again and collect additional data. The purpose of this is so that every student in the class is following the same procedure. This will allow us to compare results to each other so we can see if we obtain consistent results. Use the space below to create a data table.

Investigation Design:

- a. What should we all keep consistent in this measurement?

- b. How many trials should we run?

- c. How will we know if we have any outliers?

Insert your data table below.