Meal Worm Lab (part 1)

Please do not write on class set

**Question:** Do mealworms prefer a light or dark environment?

**Background Research (information):** Known as mealworm (larval stage) or the



 Darkling beetle (adult stage):

 Scientific classification: **Phylum**, Arthropoda; **Class,**

**Immature (different stages)**
The larval stage (referred to generally as mealworms) is worm-like and somewhat hardened for burrowing. The egg is white. The pupa is 1/2 to 3/4" long., white initially then darkening just before the beetle emerges. Length of the life cycle is 3-5 months. The larval stage may molt 9-20 times.

 Insecta; **Order**, Coleoptera

 **Food**
 The beetles and larvae eat decaying leaves, sticks, grasses and occasionally new plant

 growth. As general decomposers, they also eat dead insects, feces and stored grains.

 **Habitat**
 Mealworms live in areas surrounded by what they eat under rocks, and logs, in animal

 burrows and in stored grains. They clean up after plants and animals, and therefore can

 be found anywhere where "leftovers" occur.

**Directions:** Construct a hypothesis that addresses the procedure below.

**Hypothesis:**

**Materials:** 2 Dissection pans, 2 paper towel, 1 cardboard piece, 4 pieces of tape, 1 marker pen, 11 live mealworms, 1 ruler, timer/watch/ clock.

**Procedure:**

1. Obtain your materials from the list above.
2. Line both dissection trays with a paper towel; mark a 1cm dot in the middle of the tray with the marker pen on both trays.
3. Set one tray aside. Cover half of the other tray with cardboard. The cardboard should be at least 3 cm from the paper towel on the bottom of the tray. Leave the other tray uncovered.
4. Place 5 meal worms on each tray on the dot marked, or as close as possible to the dot on the paper towel.
5. Wait 10 minutes. Collect data.
6. While you are waiting observe the 1 remaining meal worm. Fill in the information on the next page. Where do they keep the 11 worm?

Could they make some of these observations before the procedure?

**Observations:**

1. Do mealworms have eyes?\_\_\_\_\_\_\_ How many? \_\_\_\_\_\_\_\_ Where? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Do mealworms have legs?\_\_\_\_\_\_\_ How many? \_\_\_\_\_\_\_\_ Where? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Do mealworms have antennae? \_\_\_\_\_\_\_\_\_ How many? \_\_\_\_\_\_\_ Where?\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Do mealworms have a tail? \_\_\_\_\_\_\_\_\_\_\_ How long is your mealworm? \_\_\_\_\_\_\_\_\_\_\_ cm
5. What does it do when you touch it? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. How does it move? \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Does it move quickly or slowly? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Sketch and label your mealworm.

**Data:** diagram your tray: (do not touch your mealworms)

Measure how far each mealworm traveled from the Dot in cm. Indicate if it traveled to the light side or dark side of the tray.

|  |  |  |
| --- | --- | --- |
| **Uncovered Tray**Worm # | Distance traveled (cm) | Light/ dark |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| **Covered Tray** |  |  |
| 6 |  |  |
| 7 |  |  |
| 8 |  |  |
| 9 |  |  |
| 10 |  |  |

**Conclusion:** write 3-6 sentences. Your conclusion should include.

a. A brief description of your data in words (The average distance the worms

 traveled was… , 7 out of 10 worms traveled towards…).

b. Your interpretation of the data (eg.. My data shows…).

c. A statement if your hypothesis was supported by the data and Why or Why Not (eg. My hypothesis is supported by the data because…)

**Reflection Questions:**

1. What was the Control in the experiment?

2. What was Dependant Variable (the variable you measured)?

3. What was the independent variable?

4. What are 2 constants in this experiment? (variable(s) that are unchanged during the experiment)?