Name _____

# The Process of *Doing* Biology

Answer the following questions *before class or at the beginning of class* based on what *you* think.

What do you think a biologist *does at work*?

What *personal or intellectual qualities* do you think are important to have in order to be a biologist?

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Today your team will rotate between 5 stations in the lab room, spending about 20 minutes at each. You should follow the instructions given at each station, and record any notes or observations in the spaces provided below.

## Station A

In whatever way you prefer (words, drawings, etc.), record your thoughts, questions, curiosities, and observations from this station below.

**Station B**

As a team, decide on one complete and well-thought-out experiment to perform. Describe and/or diagram your experiment below. Be sure to specifically indicate what you will do, how many times you will do it, how long it will take, what observations/data you will record, and what you expect to happen.

How specifically will the information you collect help solve the problem you've been given?

What suggestions or ideas came up during your discussion that did not make it into your final team plan?

If you had time to do part of your experiment, record your data/observations.

**Station C**

Hypothesis: Hornworms will be able to hold onto rough or hairy leaves better than smooth leaves.

Describe or sketch the leaves you choose to use (Leaves 1, 2, and 3) in left column below. As you perform the experiment, record "S" in a square if the hornworm Stays on leaf. Record "F" in a square if the hornworm Falls off.

| Hornworm 1 | Upside Down-No Movement | Upside Down-Very Slow Movement | Upside Down-Moderate Shaking |
|---|---|---|---|
| Leaf 1: | | | |
| Leaf 2: | | | |
| Leaf 3: | | | |

| Hornworm 2 | Upside Down-No Movement | Upside Down-Very Slow Movement | Upside Down-Moderate Shaking |
|---|---|---|---|
| Leaf 1: | | | |
| Leaf 2: | | | |
| Leaf 3: | | | |

| Hornworm 3 | Upside Down-No Movement | Upside Down-Very Slow Movement | Upside Down-Moderate Shaking |
|---|---|---|---|
| Leaf 1: | | | |
| Leaf 2: | | | |
| Leaf 3: | | | |

Did all 3 of your hornworms respond the same way to Leaves 1, 2, and 3? How did the hornworms differ in their behavior?

Did your experiment results strongly support the hypothesis? Give evidence from your data to explain why or why not.

**Station D**

Answer the questions in complete sentences in the space below.

**Station E**

Record good notes below from your group's discussion of the topics provided.

**Final Thoughts (Complete on Your Own)**

1) Which station was *most* enjoyable for you? Why?

2) Which station was *least* enjoyable for you? Why?

3) Which station seemed most similar to your previous science classes?

4) Which station do you think is *most* similar to how biologists work?

5) If these 5 stations <u>all</u> show different elements of what biologists do, what can you say now about what you think biologists do at work?

6) How did the order in which you visited the stations influence your explorations and ability to address the questions?