Draw and label \textbf{Phenomenon}

I notice ______________________________
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___________________________________.

I notice ______________________________
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I notice ______________________________
____________________________________
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___________________________________.
Experimental Procedure (detailed enough to allow data collection to be repeated exactly as you collected it)

NOTE: Control Variables (all independent variables not selected for testing must be given a set value or controlled. These controlled settings must be explicitly noted in the procedure.)

Questions
I wonder why...? I wonder if...? I wonder what...?
I wonder how...? I wonder what would happen if...?
I wonder ____________________________
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I wonder ____________________________
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I wonder ____________________________
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I wonder ____________________________
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I wonder ____________________________
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I wonder ____________________________
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____________________________________
More Questions
I wonder why...? I wonder if...? I wonder what...?
I wonder how...? I wonder what would happen if...?
I wonder __________________________
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I wonder __________________________
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I wonder __________________________
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I wonder __________________________
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I wonder __________________________
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Draw and label experimental setup.

Materials and Equipment List for Experiment
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__________________________________
__________________________________
__________________________________
__________________________________
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__________________________________
Thinking more...
Now I wonder why...? Now I wonder if...? Now I wonder what...?
Now I wonder how...? Now I wonder what would happen if...?
Now I wonder ______________________
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Now I wonder ______________________
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Now I wonder ______________________
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Now I wonder ______________________
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Now I wonder ______________________
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Now I wonder ______________________
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All Materials and Equipment Available
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Play to learn more – tinker and experiment with materials and equipment you have available to explore how everything works.

I notice ______________________________
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I notice ______________________________
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I notice ______________________________
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I notice ______________________________
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____________________________________.
Even More Questions

Now I wonder why...? Now I wonder if...? Now I wonder what...?
Now I wonder how...? Now I wonder what would happen if...?

Now I wonder ____________________________
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_______________________________________?
Now I wonder ____________________________
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_______________________________________?
Now I wonder ____________________________
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_______________________________________?
Now I wonder ____________________________
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_______________________________________
_______________________________________?

Reasoning (connect evidence to claim using scientific principles and rules) ____________________________
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_______________________________________

Peer Critique of CER (Is there another way to interpret the data? Is there something they might not have considered? Is there another explanation which could connect the evidence to the claim?)
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_______________________________________
Science Story (Using Claim, Evidence, and Reasoning, share the story the data tells and the science explains.)

Claim (answer to investigation question, should either be one of you hypotheses from page 7 or a new claim you had not considered) ________________________________

____________________________________

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Evidence (cite data from the experiment to support the claim) ______________________________________

____________________________________

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____________________________________

Research Investigation (Experiment)

Independent Variables (a variable manipulated or changed by the experimenter – think “I” control it)

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____________________________________

Dependent Variables (a responding variable which could vary depending on other factors and can be measured and/or calculated with available equipment)

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____________________________________

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____________________________________
Testable Question (can be answered with a claim based on evidence from a scientific experiment)

How will changing ____________________ independent variable selected for testing affect ____________________ dependent variable selected for testing?

Multiple Hypotheses (consider every possible claim you might be able to make once you collect data)

1. Direct Relationship
   **Increasing** the ____________________ independent variable selected for testing will **increase** the ____________________ dependent variable selected for testing.

2. Indirect Relationship
   **Increasing** the ____________________ independent variable selected for testing will **decrease** the ____________________ dependent variable selected for testing.

3. No Relationship
   **Increasing** the ____________________ independent variable selected for testing will **not change** the ____________________ dependent variable selected for testing.

Data Observations (What do you notice as you look at the raw data collected in the data table and at the graphical representation of the data?)

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