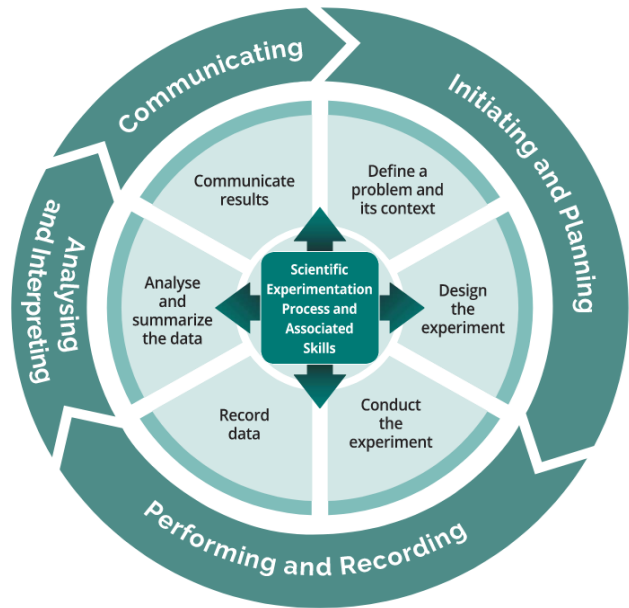| Scientific Experimentation with Python Graphing	Grade 8: STEM Skills and Connections

Handout

Experimentation involves performing various steps to answer a question, test and validate or reject a hypothesis, as well as manipulating different variables in order to observe the results.

Define the Problem:

1. Identify our resources:

2. Consider questions related to the area of investigation:

3. Define a specific problem and identify what is to be investigated:

4. Formulate a hypothesis (if... then... because statement). Create a hypothesis for our question! Use the internet to research the "because" portion of the statement

   Example: If you increase the number of hours spent practicing, then you will increase the number of free throw shots you will make.

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1

Design the Experiment:

1. Consider the variables that will remain constant and that will change:

2. What data is to be collected?

3. Identify materials, equipment, and health and safety precautions:

4. Create a list of the steps to complete the experiment... show it to your teacher for feedback!

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2

Record and Organize Data: Now that we have set up our experiment, we will set up a table of values to record the data each day as we measure the average length for each type of seed. In your notes you will need one table for every different type of seed.

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Python Brainstorming: