# Worksheet

## Experimental Design Set Up for Your Science Fair Project

Designing YOUR Experiment

Instructions:

1. Take one of your three topics and go through the same process below that we reviewed in class to design your experiment.

2. Record the information below in your lab notebook (either by writing it in your notebook or by sticking these sheets in your notebook).

1. What questions do you still have? Use the Science from Scientists’ classroom post blog to ask any questions you might have about your design:

* Visit **http://sciencefromscientists.org/for-families**
* Click on the link for “**See Inside the Classroom**”.
* Select your “**Spofford Pond 6**” from the list.
* Enter the password: **SFS2019**

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|  | **YOUR Experimental Design** |
| 1. **Purpose/Question:**   *This is where you pick your topic. Narrow it down as much as possible and avoid subjective topics.* |  |
| 1. **Research:**   *Also known as background information. Background information will help you develop a hypothesis and design a robust experiment.* ***For today****, write what kinds of things you’d look up.* |  |
| 1. **Hypothesis:**   *Your guess at the experimental result. The best hypotheses predict quantifiable and measureable results.* |  |
| 1. **Independent variable(s):**   *What are you changing or manipulating in this experiment*? |  |
| 1. **Control group:**   *Think about what type of experiment this is. Do you need a control group? If so, what is it?* |  |
| 1. **Dependent variable(s):**   *What will you be measuring (and in what units)? Think about what is the outcome or is being affected by the independent variable.* |  |
| 1. **Controlled variables:**   *What are other factors that you are not testing that you need to keep constant?* |  |
| 1. **Replication and Sample Size**  * *How many times will you repeat your experiment (replicates)?* * *How many test subjects or items will you use? (sample size)* |  |
| 1. **Procedure**   *Attempt to write out a step-by-step procedure for your experiment – use your notebook for extra space!* |  |