7th Grade Science Fair: Materials, Procedure, Data Table

Before proceeding with the actual experiment, consider how you will conduct your experiment. What will your procedure be and what materials will you need? See below for additional detail.

Materials

List ALL of the materials that you will need to complete your experiment. Be precise:

Example: "100 ml of water" (not just "water")

"3 ten-ounce plastic cups" (not just "cups")

This allows other people to repeat the experiment exactly the way you did it and get the same results that you did. Use metric whenever possible.

Procedure

Your procedure is simply the steps that you need to take in order to conduct your experiment. It should be easily understood, reproducible (which means someone should be able to read your procedure, follow it, and get similar results). Write the steps of your experiment clearly. Number each step. BE SPECIFIC!!

Keep in mind that only ONE thing should change at a time in your experiment so that you know that your results are because of the one thing that changed on purpose! If more than one thing changes at a time, it is an invalid experiment!!

Example:

1. Purchase 15 marigolds of the same height, species, and using the same soil
2. Place all of the marigolds in the same windowsill, the same distance from the window and label them 1-15
3. Record the initial height (in cm) and date
4. Water each plant with 4 tablespoons of water every day at 4:30pm …….

A few other tips:

- If your procedure requires you to compare or judge your results to a set of standards, then you need to develop a comparison standard or **rating scale**.
- Be sure to use enough test samples in your experiment and **repeat the experiment at least three times (three TRIALS)**. This is important to help make sure that your results are repeatable and accurate.
- If you are gathering **data that reflects someone's opinion or ability** to do something, make sure you use a large and consistent sample size. For example: your are collecting data on 7th grader's ability to build a paper airplane while listening to music, **make sure you are testing a large group** (of similar age/abilities- 20-30 people)
- Make sure that the independent, dependent, control, and constant variables have been accounted for in the procedure.
- The **CONSTANT variables** are those things that you must keep the **same**, so that the experiment will be a fair test. If an experiment were set up to test if Miracle-Gro plant fertilizer really did cause petunias to grow taller, then the variables such as pot size, amounts of sunlight, and amounts of water must remain constant.

Data Table

Create a data table into which you can put the data that you collect. You should make sure that you have a title, is organized, and includes data only related to the independent and dependent variables. Allow enough columns and rows to collect data for your experiment.

TITLE

Example: ***Effect of Soil on Radish Seed Growth***

DEPENDENT VARIABLE

Radish Seed Height (cm)

Plant #	Day 1	Day 4	Day 7	Day 10	Day 13
1					
2					
3					
4					
5					

INDEPENDENT VARIABLE

DUE DATES: **1/31** **Materials, Procedure, and Data table**

2/9 **TYPED Hypothesis, Variables, Materials, Procedure, and Data table**

NOTES: