

## Science Projects 2019

# Project Plan Write-Up

There are two purposes for creating this plan:

1. It will show me in advance that you have thought scientifically about your project, that you have done some research on the topic, and that you know what you are doing.
2. You need to include all of this in your final project report anyways. This way it's done early!

You will need to include the following sections. When typing this up, make use of your project proposal – you've already thought a bit about most of these things.

### **Purpose**

This is a few sentences explaining why you are doing this experiment. You should convince the reader that the project is interesting and worth doing – maybe even important! You might tell about how you became interested in this idea.

### **Question**

This is a single, well-formed question sentence. It should be testable (by your procedure) and should be based on things that can be measured. Bad: "Why is Coke better than Pepsi?" Good: "At what temperature will different types of outdoor electrical cords snap?"

### **Variables**

You need to identify the three types of variables:

1. The independent variable(s). This is what you change or test the effect of.
2. The dependent variable(s). This is what you measure to see how it is affected.
3. The controlled variables. These are other things that can affect your results that need to be controlled.

### **Hypothesis**

This is a single, well-formed sentence predicting the results of your experiment. It often has the format "If (something happens to the independent variable) then (the effect on the dependent variable) because (reason why you think this will happen)." Sometimes it doesn't have this exact format. For example: "Cold-weather extension cords will not snap at any outdoor temperature, while regular extension cords will snap at temperatures below -20C because the cold-weather ones are made from a special flexible plastic."

### **Materials**

This is a point-form list of ALL materials and equipment you need. Do not leave anything out.

### **Procedure**

This is the longest most careful part of the plan. You need to outline, step-by-step, how you will run your experiment. You should be particularly careful to outline steps you are taking to control your variables. This is where judges and I look to see if you are thinking carefully about this important part of scientific thinking. As a good rule, you should imagine being a grade 6 student who has no idea about your project. Your procedure should be detailed enough that the grade 6 student could perfectly repeat your experiment.