Creating Your Science Fair Display

- The display should be mounted on a display board that can sit on top of a table and stand up by itself.
- The display must fit into a space 36 inches high and 48 inches wide.
- Your display should be easy to read, neat, and organized. Please see the sample display layout for suggested organization.
- Use color, photographs, drawings, graphs, tables, and charts to emphasize your findings and draw viewers’ interest.
- Your display should include all the sections listed below.

Sections to include in your Science Fair Display

1. **Title** is a statement describing an investigation.
   - The title of your project should be a complete sentence.
   - The title should state how the independent variable and the dependent variable in your investigation are related.
     Sample: “The Effect of the Changes in the independent variable on the dependent variable.”
2. **Question** describes the focus of the investigation.
   - You question should be testable.
   - Write your question so someone else can easily understand what you are asking.
3. **Hypothesis/Prediction** is a statement of the relationship of an independent and dependent variables to be tested in an investigation; it predicts the effect that the changes purposely made in the independent variable will have on the dependent variable. It may or may not include a justification.
   - Your hypothesis/prediction should make a statement about what you think will happen.
   - Your hypothesis/prediction should relate the independent variable to the dependent variable.
4. **Experimental Design**
   - Using the five components below, describe the design of your investigation.
     - **Independent variable**: the variable that is changed on purpose by the experimenter
     - **Dependent variable**: the factor or variable that may change as a result of changes purposely made in the independent variable
     - **Constant/control variables**: factors in an investigation that are kept the same and not allowed to change or vary
     - **The control group**: the part of an experiment that serves as a standard of comparison; a control is used to detect the effects of factors that should be kept constant, but which vary; the control may be a “no treatment” group or an “experimenter selected” control
     - **Number of repeated trials**: the number of times that a level of the independent variable is tested in an investigation or the number of objects or organisms tested at each level of the independent variable
5. **Procedure**
   - Describe the steps you followed to complete your investigation.
   - Write the steps in the order you completed them.
   - Check the procedure carefully for accuracy, ensuring that a stranger would be able to follow your procedure if you gave it to them.
   - If you are using part of a procedure from your textbook or from the teacher, you may reference that procedure instead of re-writing it.
6. **Results**

Adapted from Students and Research, 2000, Cootron, Giese, and Rezba
include at least one data table and one graph to represent your data. In addition, other representations of data may be used to show results.

**Data Table**
- Give your data table a title.
- Make a table containing vertical columns for the independent variable and dependent variable.
- Subdivide the column for the dependent variable to reflect the number of trials.
- Order the values of the independent variable, preferably from smallest to largest.
- Record values of the dependent variable.
- Calculate the average results of each trial and record the values.
- Use correct units of measurement.

**Graph**
- Give your graph a title.
- Draw and label the x and y axes of the graph. Place the independent variable on the x-axis, and the dependent variable on the y-axis.
- Determine an appropriate scale for the x and y axes; subdivide the axes.
- Use correct units of measurement.
- Provide a legend.
- Decide the most appropriate form to plot the data (line, bar, or pie graph)

7. **Discussion**
   - Write a paragraph summarizing the results in words.
   - Summarize data trends on the graph/table.
   - Write a second paragraph including the trends or patterns in your results.
   - Write a third paragraph that describes the science knowledge that supports your results.

8. **Conclusion**
   - Restate your question.
   - State a claim on whether the hypothesis/prediction is supported by evidence.
   - State your most important result.
   - Give an explanation that relates your evidence to something you have learned about science.
   - Provide suggestions for further investigations based on your results.

9. **Literature Cited:** If you referenced any sources, such as books, articles, or websites, list them in this section with the title, author, year, and URL (if website).

10. **Oral Presentation**
    Effective communication of project including:
    - Relating scientific concepts to project
    - Describing design principle
    - Explaining data analysis
    - Discussing future studies