

# CRITERIA FOR EVALUATION OF EXPERIMENTS

## Guiding questions to consider are as follows:

### Title/Problem:

- Does the student clearly state what he/she is trying to find out?
- Is it in the form of a question?
- What Observations made you want to do this experiment? What did you Notice or Wonder?

### Research:

- What is their research on the topic?
- What information has other scientists found on the same topic?
- Is there research about the types of materials being used? (Type of Plant, animals, chemicals, etc.)
- Where did you get your research?

### Hypothesis:

- Does the student clearly state a hypothesis and offer a reason?
- What is their predicted possible answer to the problem or question?
- Is it an If..., Then..... sentence?

### Experimental design and rationale:

- Does the student clearly explain how the experiment will answer the question and test the accuracy of the hypothesis posed?
- Did the student develop and follow a procedure?
- Is there a detailed list of Materials?
- Does the student have an outcome of the experiment that is measurable?

**Procedures:** Are the procedures clearly described, and are they appropriate for the question and hypothesis posed? Are the methods described step by step? Is there a control? Does the technique and skill put into the experiment indicate a serious level of effort, or was the experiment quickly thrown together at the last minute without much thought?

### **Collect and Analyze Results:**

- Did the student collect his/her own data (as opposed to something read out of a book or seen on television)?
- Has the student used the senses of sight, hearing, touch, and smell in a manner related to the problem?
- Did the student measure with reasonable accuracy?
- Did the student do only a single experiment or were experiments repeated to verify?
- Did they include a graph, table, or pictures?

### **Conclusion:**

- Is there a statement that Accepts/Rejects the Hypothesis?
- Are the student's own observations and data used to reach conclusions?
- Does that data support the conclusions drawn?

- What recommendations do they have for other scientists that may want to do their same experiment? (Further study, improvements they may make, etc).

**Presentation of Project:**

- Do they have a logbook of their experiment?
- Is the experiment neatly, logically, and attractively presented on the display board? Are
- pictures and drawings used to enhance the presentation?
- Are graphic organizers used effectively (tables, graphs, charts, diagrams)?
- Is the written material clear and easy to understand?
- Is outside help acknowledged?
- Is there a bibliography?
- Was the hypothesis or question verified?
- Is the summary report included?