

Science Project Comments

Scientific Methods:

1. **Probing question**-- Specific and focused. *Why*, *How*, and *When* questions usually form good probing questions. A good probing question will not be answered with a *Yes* or *No*.

2. **Research** --evidence of an investigation of written materials, electronic print, experts, attendance at conferences or lectures, etc.

3. **Hypothesis**--a direct answer to the probing question. The hypothesis must be a statement students can demonstrate in order to prove or disprove.

4. **Experiment**--a fair test done in order to prove or disprove the hypothesis, controlling the variables. Careful metric measurements, collection of accurate data, and repetition (three to five times usually gives good results) are key indicators of a quality project. Be sure the project is an experiment, not just a demonstration of someone else's experiment.

5. **Analysis** with inferences (possible reasons for observations) including some graph and/or data table.

6. **Conclusion**--a student's opportunity to clearly explain logical connections between the information, observations, and interpretations.

Project Content:

1. **Poster or display board** that contains the probing question, a summary of your procedures and conclusion, and charts, graphs, diagrams, photographs, or drawings.
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2. **Daily journal** (in its original form)-- an informal recording of what happened each day a student worked on the project.
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3. **Detailed report** including a title page with the student's full name, grade, school and city, and probing question. It must include the following areas:

- Probing Question
- Presentation of Research Information
- Hypothesis
- Experimental Procedures
- Presentation of Data
- Observations and Inferences
- Conclusion and Summary
- Acknowledgements
- Bibliography

A display and detailed report can be hand written, typewritten, or printed from a computer, but should be free from errors in grammar, spelling, capitalization, and punctuation.

Special Reminders:

- Only projects meeting all requirements are eligible for first, second, or third place awards. Projects missing any significant components will be disqualified and automatically receive a participation award.
- Exhibit size is limited to 1 meter wide, 1 meter high, and 0.5 meter deep.
- Humane treatment of animal subjects is expected and required.
- In projects involving living organisms, plants, bacteria, fungi, protozoa, worms, snails, insects, and other invertebrate animals should be used whenever possible.
- For safety reasons, exhibits which include any food items (human or animal), live animals, preserved vertebrate animals or parts (including embryos), human parts, mold, fungi, microbial cultures, open flames, syringes, hazardous chemicals, highly combustible materials, or lasers are prohibited.** Projects containing these items will be disqualified.