

# SCIENCE FAIR

## Student Eligibility

Category	Junior High	Senior High
1. Biological Science	2 students	2 students
2. Physical Science	2 students	2 students

## General Rules

1. Science Fair projects will be displayed during the entire competition
2. Students may be asked to present their project to the judges in person. The sponsor's contact information must be included on the judging form so the student can be contacted in this case.
3. Competition will be held in two distinct areas with the contestant responsible to choose one specific category or subcategory to enter. They are as follows:

### **Biological Science**

- a. Biochemistry
- b. Botany
- c. Zoology
- d. Health and Medicine
- e. Microbiology
- f. Behavioral and Social Sciences

### **Physical Science**

- a. Chemistry
- b. Pure Physics
- c. Applied Physics and Engineering
- d. Mathematics and Computers
- e. Earth and Space Science

4. No item may be entered if it has previously been entered by the contestant another year.
5. All science fair projects must follow the scientific method and be experimental in design. Models or displays must show results of experimentation.
6. Science fair is an individual competition.
7. Three judging sheets must be filled out and accompany each entry, along with a 3x5 card containing the entrant's name, school, grade, and category. Each entry must have a plastic sleeve attached (pinned or taped) to the back to protect the three stapled judging sheets.
8. An "Artist's Idea Statement" must accompany each judging sheet.

## Factors Evaluated on Projects

### Research and Development: twenty-five points

This area focuses on the research, the references, and the paper. The following evaluation will be made. After the question/problem statement, is there a logical flow of information that leads to an appropriate hypothesis? Does the research paper follow the scientific method (concise question or problem statement leading to research and background information, a hypothesis, a logical method to test the hypothesis, presentation of the results, and logical conclusions regarding the hypothesis from those results)? This research paper should be grammatically correct, logical, and professional in its presentation.

### The Experiment: twenty-five points

This area focuses on the experimental process itself. For example, materials and methods should be explained well enough that someone else could conduct the experiment. The variable(s) and controls should be clearly identified. There should be sufficient repetition to minimize the role of "chance" or randomness in the results. Appropriate data are collected through a reliable process — minimizing unintentional variation in the data. Originality and ingenuity of the experimental process should be rewarded in this section.

### The Log Book: ten points

This document/book should be complete. This is a diary or journal of the entire experiment from beginning to end. This contains all the data/observations, thoughts regarding how the experiment went, questions (if any) that arose during the experiment and their possible explanations, and possible future variations of the experiment based on observations during the experiment. This chronicles the investigator's experience during the experiment. This is done as the investigator is doing the experiment. As such, this will not be as neat as the paper or display, but neatness and organization (e.g. procedures and data) of this logbook help the investigator review the experiment as he looks back and attempts to explain results and draw conclusions.

### **Conclusions and Findings: twenty points**

This area focuses on the results, trends, and appropriate conclusions. Specifically, the conclusions should be based on the results. The conclusions regarding the strength of the hypothesis need to be clearly stated and supported by the results. For example, “As a result of this experiment and its results, the hypothesis is . . . true/false, supported/challenged, strengthened/weakened, etc.” Another possibility could be, “As a result of this experiment and its results, the validity of the hypothesis remains to be determined . . . the experiment needs to be repeated with the following changes . . .”

### **Technical Skill and Display: ten points**

This area focuses on the ability of the display to clearly communicate the experiment/research paper on its own: the question/problem, the hypothesis, the experiment, the results, and the conclusion(s). It should encapsulate the experiment using the scientific method as a guide. It should get the observer’s attention. It should be interesting and easy to follow. There should be visual aids like photos, graphs, tables, charts, and/or diagrams. The backboard should be of durable material such as wood, pegboard, or pressed board. Organization, neatness/craftsmanship, use of visual media, and clarity are critical to this area.

### **Biblical Application: ten points**

This area focuses on the biblical application of the experiment/research paper. We encourage the investigator to look for a biblical principle related to this experiment. The investigator should concisely and clearly state that principle and its relation to this experiment.