

Individual Project Guidelines

WRITING THE PAPER

This is your summary of the months you have spent conducting research. A suggested paper format follows:

- A. Title – A clear, concise, appropriate description of your project.
- B. Abstract – a paragraph (a maximum of 250 words) describing your main questions, hypotheses, methods, results and conclusions.
- C. Introduction – A brief description of the aims and purpose of the research. It should include a statement of the hypothesis or hypotheses.
- D. Experimental Methods – A detailed description of the methods, experiments, and controls (including difficulties and remedies) used in the research. This section should be detailed enough that a knowledgeable researcher could duplicate your experiment.
- E. Results and Conclusions – Summary of your experimental results and conclusions. Strive for quantitative observations. This material should be presented in tables or graphically wherever practical. Photographs and drawings may also be used. This section may also include an evaluation of the success of the experiment and suggestions for future research. A good piece of original research often raises more questions than it answers. Note: a complete record of every instrument reading and happening observed should not be included here but can be attached to the paper as an appendix.
- F. Bibliography – List of all books, journal articles, URLs, other publications, and communications from which significant material was drawn for the research.
- G. Acknowledgments – Give credit for assistance received from scientists, instructors, parents, etc. You may also give credit to literature listed in the bibliography from which essential material was obtained.

It is permissible to use first person when writing your paper. Carefully proofread your paper. If your paper contains numerous errors, the reader may assume that your experiment was conducted with the same carelessness.

Individual Research Projects

In the State and District Competitions, papers will be screened and placed into one of the following categories:

- I. Behavioral Science**
- II. Biological Science**

- III. Biotechnology**
- IV. Chemistry**
- V. Computer Science**
- VI. Earth / Space Science**
- VII. Environmental Science**
- VIII. Mathematics**
- IX. Physical Science/Physics**
- X. Technology/Engineering**

Papers meeting Advanced criteria (see below) are judged separately from other papers in that Category.

The District Co-directors make the final decision on the category for each paper submitted for district competition. A similar decision will be made at the state level by the Executive Director.

Each student presents his/her paper orally, and the projects are evaluated by a panel of judges. Ten minutes are allowed for the presentation and five minutes for questioning. Only the judges may ask questions. Presenters are encouraged to bring their slides on a thumb drive. Pcs and projectors are also provided.

If a research project was done jointly by 2-3 students, all members of the team may present the paper and answer questions. Only students who participate in presenting the project can be considered for awards. The same time allowance described above for a single presenter for presentation and questions applies also to joint papers.

Projects are judged at different levels. The junior level includes students in grades 6-8. The senior level includes grades 9-12. Advanced projects, those that meet any of the following criteria, are judged separately:

A. The student spent or received gifts worth more than \$200 for the project in addition to materials provided by the school (audio-visual supplies are excluded).

B. The student researcher worked under the direct supervision of an employee of a hospital, college or university, commercial laboratory or industry, or a professional research organization.

C. The student used a data base of which a substantial portion was obtained from instrumentation or other procedures that the student researcher did not personally operate or perform.

D. The project is a continuation of a study for which results have previously been reported by other students.

Students compete with other students at their own level and within a specific category. The following criteria are used in judging individual and team research projects at the district and state levels:

1. Experimental design

Including: creativity, completeness, and logical consistency (i.e. did it really test your hypothesis).

2. Research paper

Including: organization, clear presentation of data, proper use and citing of references, and proper English usage.

3. Presentation

Including: organization, clarity, use of visual aids, and direct response to questions.

At the district level, judges determine winners in each category according to the accomplishment shown by the projects. A maximum of three winners from each category at each level may be chosen to represent the district at the State Meeting. Two additional entries may be recommended by the District Co-director.

The rules for presentation and judging at the State meeting are similar to those for the District meeting.

CLUB SERVICE PROJECT COMPETITION

Competition includes science-related work performed by clubs which aids the club, schools, or community. This competition is intended to promote community involvement among students interested in science. Club projects are important as they promote visible improvements, develop favorable local publicity and support, and provide encouragement and involvement of students.

In this area of competition, oral project reports are presented to and judged by the students themselves. No later than two weeks before the district competition each participating club must submit a completed entry form on the Student Academy website (www.ncsas.org). If a club is unable to participate when the District competition is held, a club representative may contact one of the District Co-Directors to explain the issues or concern that prevent participation, and the Co-Director will make a decision about whether to certify the project for competition at the State level.

In Districts where there is a District competition, the District Co-Directors must certify each project that goes on to the State Competition. In Districts where there is no District competition scheduled, a club representative may contact one of the District Co-Directors to explain the

issues or concern that prevent participation, and the Co-Director will make a decision about whether to certify the project for competition at the State level.

The following format is recommended for the written report to be submitted at the time of registration:

1. Title
2. Objectives--reasons for projects, goals, who benefits
3. Method
4. Progress
5. Acknowledgments

The following guidelines are used for judging and should be addressed in the report:

Originality of Project
Degree of club involvement in project
Degree of community involvement
How beneficial was the project
Lasting or continuing impact of project
Were the objectives of the project met
Organization of presentation
Response to questioning
Use of visual aids

Each group project is allowed 10 minutes to present the club's project to the committee. This presentation may include charts and other audio-visual aids; however, clubs must provide any equipment other than computer and projector needed in the presentation.

After all of the projects have been presented at the district meeting, the judging committee chooses the winning project by vote. The project receiving the most votes represents the district in state competition. However, in special circumstances where there is more than one outstanding project, the district committee may recommend two projects for competition at the state level.

At the state level, the judging committee consists of the state officers with the state president presiding. Any student officer whose club is in competition is disqualified from the judging committee. If a majority of the district officers and state officers are eliminated, presidents of non-competing clubs may be added to the judging committee at the State level by the Executive Director. Each group project is permitted 10 minutes for presentation, and the judging committee is permitted 5 minutes to ask questions at the end of the presentation. No questions are permitted from the floor.