Michigan High School Math and Science Symposium

Guidelines

Oral Presentation of Your Scientific Research Project

An oral presentation at the Michigan High School Math and Science Symposium differs from a written scientific research paper. A MHSMSS presentation is limited to fifteen minutes with five minutes between presentations to set-up any support materials (i.e., a poster or audiovisual equipment). Information covering a literature review or bibliography is usually omitted or minimized for an oral presentation and could be included in a handout (optional). The presentation should include the hypotheses, materials and equipment used, the procedure, observations and conclusions. Keep in mind that your audience may not share your grasp of specialized vocabulary or equipment. Practice your presentation, possibly before an audience. Some students may choose to use slide projectors, overhead projectors or a computer driven video-projector to best explain their research. This is at the option of the student and may be determined by the complexity of the presentation. Reserve a few minutes of your fifteen-minute presentation for questions and comments from the audience. MHSMSS presentations are not judged but are informally critiqued by the audience for the mutual benefit and growth of all. Some students have passed out a one page tri-fold brochure to facilitate continued discussion.

Format for a Scientific Paper

A Scientific Research Paper is not a prerequisite to participate in the MHSMSS but may be required by your high school or for outside publication. A Scientific Research Paper may serve as an outline for an oral presentation at the MHSMSS. The following guidelines are adapted from the Iowa, Michigan and Virginia Junior Academies of Science.

1. **Title**: A brief and clear description of the research project. Avoid jargon.
2. **Introduction**: A clear statement of the objective of the project and why it was initiated. A brief review of previous literature should be included and also an indication of whether this is a continuation of a previous project.
3. **Theory**: A description of the question being tested, the pertinent law, postulate, model or mathematical relationship that forms the basis of the experiment.
4. **Materials**: A description of the equipment and supplies used and the purpose for which each was needed. Special attention should be given to unique equipment designed or built.
5. **Procedure**: A description of the methodology used to perform the research. The procedure should be sufficiently clear that another research could duplicate the research. Standard procedures do not require the same level of detail as new or unique methods.
6. **Data**: Record your observations. Usually your data will include a table or graph to illustrate trends, changes, etc.

7. **Discussion and Conclusions**: Summarize and interpret your findings with respect to the laws, principles, models and theories that are being investigated. Evaluate your findings with respect to previous research and writings, explain differences and comment upon future research that may be suggested by your findings.
8. **Bibliography**: List all references used for your research.
9. **Acknowledgements**: Credit those who assisted your research scientifically, financially or emotionally.