Writing Your Abstract

Each student who completes a science fair project must write an abstract to be displayed with the project. An abstract gives the essence of the project in a brief but complete form — it should not exceed 250 words. Judges and the public should have a fairly accurate idea of the project after reading the abstract.

The abstract must focus on the current year's research and give only minimal reference to previous work. Details and discussions should not be included in the abstract, but may be put in the longer, written research paper (if required), or given on the project exhibit board.

Finalists at the Intel ISEF are required to use the on-line system for submitting their abstract. Regional and local fairs use the Official Abstract Form (not necessary for most local fairs). It is also required that the abstract does not include acknowledgements (such as referencing mentor or university laboratory).

Sample Abstract

Click the color-coded links for explanations of each of the four sections in the sample abstract:

- Blue (Purpose of the Experiment)
- Green (Procedures used)
- Red (Observations/Data/Results)
- Pink (Conclusions)

Sample Abstract
Effects of Marine Engine Exhaust Water on Algae

This project in its present form is the result of bioassay experimentation on the effects of two-cycle marine engine exhaust water on certain green algae. The initial idea was to determine the toxicity of outboard engine lubricant. Some success with lubricants eventually led to the formulation of "synthetic" exhaust water which, in turn, led to the use of actual two-cycle engine exhaust water as the test substance.

Toxicity was determined by means of the standard bottle or "batch" bioassay technique. Scenedesmus quadricauda and Ankistrodesmus sp. were used as the test organisms. Toxicity was measured in terms of a decrease in the maximum standing crop. The effective concentration - 50% (EC 50) for Scenedesmus quadricauda was found to be 3.75% exhaust water; for Ankistrodesmus sp. 3.1% exhaust water using the bottle technique.

Anomalies in growth curves raised the suspicion that evaporation was affecting the results; therefore, a flow-through system was improvised utilizing the characteristics of a device called a Biomonitor. Use of the Biomonitor lessened the influence of evaporation, and the EC 50 was found to be 1.4% exhaust water using Ankistrodesmus sp. as the test organism. Mixed populations of various algae gave an EC 50 of 1.28% exhaust water.

The contributions of this project are twofold. First, the toxicity of two-cycle marine engine exhaust was found to be considerably greater than reported in the literature (1.4% vs. 4.2%). Secondly, the benefits of a flow-through bioassay technique utilizing the Biomonitor was demonstrated.

Writing your Abstract continued……….

Purpose of the Experiment

- An introductory statement of the reason for investigating the topic of the project.
- A statement of the problem or hypothesis being studied.

Procedures Used

- A summarization of the key points and an overview of how the investigation was conducted.
- An abstract does not give details about the materials used unless it greatly influenced the procedure or had to be developed to do the investigation.
- An abstract should only include procedures done by the student. Work done by a mentor (such as surgical procedures) or work done prior to student involvement must not be included.

Observation/Data/Results

- This section should provide key results that lead directly to the conclusions you have drawn.
- It should not give too many details about the results nor include tables or graphs.

Conclusions

- Conclusions from the investigation should be described briefly.
- The summary paragraph should reflect on the process and possibly state some applications and extensions of the investigation.

An abstract does not include a bibliography unless specifically required by your local fair. The Intel ISEF requires the bibliography as part of the research plan to be provided on Form 1A.