

## SCIENCE PROJECT ORAL PRESENTATION

The most important part of your science fair project is your ability to orally present your project. The project Display Board is only 5-10% of your entire score in most competitions. You may have noticed that after reading your "Project Display Board" handout, that there is little written information on your board except for your *title*, *captions*, *hypothesis*, and *conclusion*. Your project board is in essence, a "storyboard", that both you and the judges will follow during your presentation. You may have an exceptional project board, but without adequate preparation for your oral presentation, there is little chance of winning any competitions.

Your oral presentation may be thought of as an essay, with a more free format that allows for *enthusiasm and interaction* with the judges. As with an essay, there must be a specific subject addressed in a *logical, and sequential order*. Some competitions will even provide scoring sheets to indicate the specific areas that must be addressed and their point value.

### Introduction

This is the most important part of your presentation. It is your first impression with the judges, and it sets the tone for the rest of the presentation. Are you speaking in a monotone, reciting a memorized script, unprepared or unsure of your project. In addition, it will also tell the judges if your project is based on sound scientific principles, whether you understand your project and why you picked your variable, and what you expect to happen as a result of your variable.

1. How did you become interested in this project?
2. What is the overall problem you are addressing?
3. Why is this problem important?
4. What is *specific* problem you are addressing?
5. How does the variable relate to the specific problem?
6. What scientific information/principles support your variable?
7. How does your variable solve the specific

problem?

8. Why is it better than other ideas/methods (if any)?

9. Is it a reasonable idea, in terms of cost, payback, modification, or availability?

10. Will your solution provide any additional benefits?

### Hypothesis

Simply state the hypothesis (es), exactly as stated on your display board. Remember, it must be something you measured or tested.

### Procedure

Describe each segment of the procedure as they relate to each individual photograph. And if necessary, explain why it was necessary. Be sure to identify a control and a variable.

### Results

Do not report individual results, it is quite boring. Describe the overall trend of the results. Use the graphs to show the trends, daily and final.

### Analysis

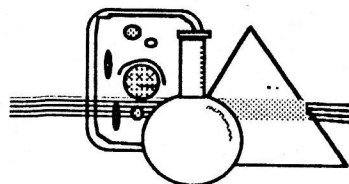
If there was a difference in the results, was the difference a result of the variable or simply a random difference. Significance, t-Test, tell us whether the two sets of data can be grouped as one population, or if they are different enough that they must be considered as individual populations. Indicate to the judges whether the differences in the results were significant.

### Conclusion

Did the results of the experiment support the hypothesis. And if a difference in the results was expected, was it a significant difference. And if significant differences exist, identify the results as percent increase or decrease. If applicable, make a cost analysis and/or use the results to make calculations based on actual statistics.

### Judges Questions

Unless something was unclear in your presentations, most questions will usually deal with Introduction or Results sections. The specific questions will generally come from the scientific information, principles, and experimental variables that were presented in the Introduction.



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The judge may ask you to describe a process in more detail, or to explain a specific aspect of the process. In addition, any concept, method, or process that is any way related to your project can also be brought into question. This is especially true when considering the positive and negative benefits of your solution and other/present methods of dealing with the problem. In essence, the judge is testing your level of understanding or expertise. The judge may also be concerned with the practicality of your project, such as the costs, modifications, and payback period. Here you will need to have actual data to support your project idea, and be prepared to defend these calculations in a realistic situation.

Listen carefully to the judges after you answer their questions, they often like to explain their questions, point out problem areas, suggest modifications, and share their knowledge of the problem. This information will be very helpful in dealing with the remaining judges, and may provide some insight into the future of your project. Should you not be able to answer a judges specific question, be honest and ask him/her the answer. Often, you may simply misunderstand the question, and now you can add in any relevant information you have. Have your literature with you, in case a judge asks to see specific information, or so you can support any aspect of your project that comes into question.

Part of any good presentation is to anticipate any questions that the judges may ask, and if appropriate to include this information in your presentation or to have an answer prepared if the question is asked. Remember to write down any question that your teacher asks you when you where practicing your presentation. These questions will be asked again, by a judge. For the most part, a good presentation requires practice, so don't spend all your time on your project board, it is only a tool for your presentation.

### **SCORING SHEET (100 pts)**

#### **Introduction (20 pts)**

1. Has an overall problem been stated?
2. Has a specific problem been clearly identified?
3. Is there logical and sufficient scientific evidence to support your variable?

#### **Hypothesis (10 pts)**

1. Has a sensible hypothesis (es) been formulated?
2. Was the hypothesis (es) sufficiently developed and supported by the introduction?

#### **Procedure (20 pts)**

1. Was the experimental procedure logical, and correctly given in order?
2. Were the control and the variable clearly identified in the experimental procedure?
3. Did the experimental procedure actually allow the experimental factor to be tested so that the hypothesis could be proven or disproved?
4. Was it clearly stated how the experimental factor was measured, and its units?

#### **Results (20 pts)**

1. Were the trends of the results presented in a logical and sequential order?
2. Do the actual results appear to support the overall trends stated?
3. Can the overall trends be clearly seen on the project board tables and graphs?

#### **Analysis (20 pts)**

1. Was the variable compared to an appropriate control, in every case?
2. Was a statistical analysis (ie. t-Test) correctly performed to evaluate the results for significance?
3. Has the presenter clearly identified what is significant and insignificant, and what this means in terms of evaluating the data?
4. If any cost/savings analysis was performed, was the analysis thorough, logical, and based on acceptable values?

#### **Conclusion (10 pts)**

1. Was the hypothesis clearly restated (for all cases) as to indicate whether the experiment supported or rejected the hypothesis?
2. Were the the results converted into a percent increase or decrease from the control, with an indication of their significance (if appropriate)?
3. Was an overall cost/saving analysis figure (% or \$) presented (if relevant)?