

LABEL

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SCIENCE FAIR
2009

Experiment

An experiment is a test of a question to which you do not already know the answer without testing. To test your question, you must follow the steps of the scientific method. The display board elements list those steps.

Display Board Elements

TITLE of Experiment

PROBLEM: What question are you trying to answer?

DEFINITIONS: Explains the meaning of any special words stated in the Problem.

HYPOTHESIS: This is what you think will happen before you start the test.

BACKGROUND INFORMATION: What do books, articles, and the internet say about your topic?

EXPERIMENTAL MATERIALS: What items do you need to perform your experiment?

EXPERIMENTAL PROCEDURE: These are the steps you follow to test your problem

RESULTS: What happened? (Use tables or graphs plus a description)

CONCLUSION: What is the answer to the question in your Problem? How do you explain your results?

REFERENCES AND ACKNOWLEDGEMENTS: List sources and assistance, including parent help. Sources include books, resources, people, articles (include the title and author) or specific Web site (not the search engine Google, Yahoo etc)

CRITERIA FOR JUDGING

Least <-----> Highest

TITLE: Student displays project title

1 2

- Criteria: 1 No title or title not related to project
- 2 Title provided and appropriate for project

Explanation of Interest in Project:

1 3 5

Student answers the question: Why did you choose this project:

- Criteria: 1 No answer for the question
- 3 Student answers question, but project not based on personal observation or interest
- 5 Project based on personal observation/inquiry and student shows personal interest in problem

PROBLEM: Student asks a testable question

1 2 3 4 5

- Criteria: 1 No question was identified
- 2 Identified a question that could not be tested/investigated or one that did not merit investigation
- 3 Identified a question that could be investigated
- 4 Identified a question that was interesting and understandable and could be tested.
- 5 Identified a question that was original, interesting, and understandable and could be tested.

DEFINITIONS: Student knows the meaning of words in the problem

1 3 5

- Criteria: 1 No definitions are listed.
- 3 Definitions are provided but they are incomplete and/or incorrect.
- 5 Definitions of all relevant words are listed and correct.

HYPOTHESIS: Student offers a prediction to question asked

1 2 3 4 5

- Criteria: 1 No hypothesis is given.
- 2 A hypothesis is stated but it is unclear
- 3 A clear hypothesis is stated, but it's not logical (e.g., it may be off topic or overbroad)
- 4 Clear, logical hypothesis that is somewhat substantiated by background research or personal observation
- 5 Clear, logical hypothesis that is well-supported by background research or personal observation

BACKGROUND INFORMATION

1 2 3 4 5

- Criteria: 1 No background information on the project is provided.
- 2 Student provided information but it is not relevant to the investigation
- 3 Student provided some information from books, articles and/or the internet regarding topic
- 4 Student provided sufficient amount of information from books, articles and/or the internet regarding topic
- 5 Student provided ample and relevant information from books, articles and/or the internet regarding topic. These details are interesting and easy to follow.

1st PAGE TOTAL:

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EXPERIMENTAL DESIGN: Is the experiment well designed? 1 2 3 4 5
Criteria: 1 Experiment does not test the question asked
2 Experiment is only partially appropriate test for the question asked.
3 Experiment is an appropriate test for question asked
4 Demonstrates one or two (but not all) of the following: multiple repetitions, identification of clearly defined variables, a control
5 Demonstrates multiple repetitions, identification of clearly defined variables, a control

EXPERIMENTAL MATERIALS Student lists items needed for test 1 2 3 4 5
Criteria: 1 No list of experimental materials is provided.
3 Student provided partial list of experimental materials.
5 Student provided complete list of experimental materials.

EXPERIMENTAL PROCEDURE Student describes steps of test 1 2 3 4 5
Criteria: 1 No procedures are provided.
2 Procedures that are outlined are seriously incomplete or not sequential.
3 Procedures outlined in orderly fashion, but had one or two steps that require explanation
4 Procedures outlined in orderly fashion that would be followed with little additional explanation
5 Procedures outlined in orderly fashion that would be followed by anyone without additional explanation

RESULTS Student describes what happened; tables and graphs display data 1 2 3 4 5
Criteria: 1 No results are presented.
2 Student provided results in text form, without supporting data in tables or graphs.
3 Student provided results in tables and graphs, with supporting data recorded in data log or notebook, but results difficult to understand from tables and graphs.
4 Student provided results in tables and graphs, with supporting data recorded in data log or notebook, and results that can be understood with little additional explanation
5 Student provided results in tables and graphs, with supporting data recorded in data log or notebook, and results that can be understood by anyone without additional explanation

CONCLUSION Explained with Oral Presentation During Judging Student answered the question posed in the problem 1 2 3 4 5
Criteria: 1 No conclusion is given
2 The conclusion was not apparent or important details were overlooked
3 Student provided conclusion with some reference to the data and related to their hypothesis
4 Student provided a somewhat detailed conclusion clearly based on the data and related to their hypothesis
5 Student provided detailed conclusion clearly based on data and related to previous research findings and their hypothesis

REFERENCES AND ACKNOWLEDGEMENTS Student credits all sources and assistance, including parent help 1 2 3 4 5
Criteria: 1 No sources or acknowledgments are given
2 Some sources or acknowledgements not accurately documented
3 All sources (graphics and information) accurately documented but many not easily understood
4 All sources (graphics and information) accurately documented but a few not easily understood
5 All sources (graphics and information) accurately documented and easily understood

1st PAGE TOTAL:
2nd PAGE TOTAL: GRAND TOTAL: