

Spring 2012 Science Fair

|   | Beginning  | Developing   | Accomplished  |                 |
|---|--|--|---|-----------------|
|   | Brief Description, 2 or more components missing, disorganized. | Includes basic information, 1 or more components missing, organized. | Detailed information, includes all components, very well organized, includes all required components. | Points Received |
| <b>1</b>  | <b>0</b>   | <b>5</b>   | <b>7-10</b>   |                 |
| What is the RATIONALE for your project? Include a brief synopsis of the background that supports your research problem and explain why this research is important scientifically and if applicable, explain any societal impact of your research. Summarize the research that you completed to support and answer your question. Excellent students will undertake research to help them shape their question and hypothesis and to put their work into a relevant, <b>real-world</b> context rough draft and log book. |  |  |   |                 |
|   | <b>1</b>   | <b>3</b>   | <b>5</b>  |                 |
| Procedure in paragraph form   |  |  |   |                 |
|   | <b>5</b>   | <b>10</b>  | <b>15</b>   |                 |
| 5 articles  |  |  |   |                 |
| APA   |  |  |   |                 |
| <b>2</b>  | <b>1</b>   | <b>3</b>   | <b>5</b>  |                 |
| Data Table - Excellent data will be relevant, sufficient to support a conclusion and should be recorded accurately and precisely, and be presented clearly. Computer generated. Use correct units and graph X and Y labeled   |  |  |   |                 |
|   | <b>0-5</b>   | <b>7</b>   | <b>10</b>   |                 |
| The Question (250 words or less) - Find a question that interests you about something that you have observed, noticed, or wondered about. An excellent question will be interesting, creative, worded scientifically and relevant to the world today.   |  |  |   |                 |
|   |  |  |   |                 |
|   |  |  |   |                 |
| <b>3</b>  | <b>0-3</b>   | <b>4-7</b>   | <b>7-10</b>   |                 |

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|   |            |             |              |  |
|---|------------|-------------|--------------|--|
| Hypothesis (100 words or less) -State your HYPOTHESIS (ES), RESEARCH QUESTION(S), ENGINEERING GOAL(S), EXPECTED OUTCOMES. How is this based on the rationale described above? Address something that you believe is challenging which you are able to answer in a single experiment. An excellent hypothesis will lead on from the question, be tightly focused and build on existing knowledge.is and to put their work If,then statement. |            |             |              |  |
|   |            |             |              |  |
| <b>4</b>  | <b>0</b>   | <b>5</b>    | <b>10</b>    |  |
| Abstract <b>typed</b> on correct form and 250 word or less.   |            |             |              |  |
|   |            |             |              |  |
|   | <b>0-3</b> | <b>4-7</b>  | <b>7-10</b>  |  |
| Bibliography, MLA or APA part D APA is best   |            |             |              |  |
|   | <b>1</b>   | <b>3</b>    | <b>7-15</b>  |  |
| Checklist for adult sponsor (1), student checklist 1A for group or for a single project. Parental Consent Form Completed. Form 1B for each student: all must be <b>typed</b> and signed   |            |             |              |  |
|   |            |             |              |  |
| <b>5</b>  | <b>0-8</b> | <b>9-12</b> | <b>13-15</b> |  |
| Log book with dates and rough draft of data and experiment completed through science fair dates. Like a journal.  |            |             |              |  |
|   | <b>0-8</b> | <b>9-12</b> | <b>13-15</b> |  |
| Research (500 words or less) - Summarize the research that you completed to support and answer your question. Excellent students will undertake research to help them shape their question and hypothesis and to put their work into a relevant, real-world context.  |            |             |              |  |
|   |            |             |              |  |
| <b>6</b>  | <b>0-5</b> | <b>7-12</b> | <b>13-15</b> |  |
|   |            |             |              |  |
| Experiment must be performed three times  |            |             |              |  |
|   | <b>0-5</b> | <b>5-7</b>  | <b>7-10</b>  |  |

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|  |     |      |       |  |
|--|-----|------|-------|--|
| Data Table completed, (500 words or less) - Report on all of the data, numbers, outputs, or outcomes from your experiment in log book and paper.   |     |      |       |  |
| <b>Written Portion Completed (All items completed below)</b>   |     |      |       |  |
| Research Plan A-D All part labeled   |     |      |       |  |
|  | 0-8 | 9-12 | 13-15 |  |
| <b>Research Plane parts A.</b> What is the RATIONALE for your project? Include a brief synopsis of the background that supports your research problem and explain why this research is important scientifically and if applicable, explain any societal impact of your research<br>Experiment description (500 words or less) - Design, execute, and summarize an experiment that tests your hypothesis. Excellent students will demonstrate that they have used good experimental techniques and describe their experiment clearly and in detail and correct units. <b>Must have footnotes.</b> |     |      |       |  |
|  | 0-5 | 5-7  | 7-10  |  |
| <b>Research Plane parts B,</b> Experiment description (500 words or less) - Design, execute, and summarize an experiment that tests your hypothesis. Excellent students will demonstrate that they have used good experimental techniques and describe their experiment clearly and in detail. Research Plane parts C, Observations written, (500 words or less) - Show an understanding of what you saw happening during your experiment. Excellent observations will describe patterns or trends supported by the data.  |     |      |       |  |
|  | 0-8 | 9-12 | 13-15 |  |
| <b>Research plan part C</b> Conclusion (500 words or less) - Explain how your experiment supported or contradicted your original hypothesis. Data analysis. Research Plane parts C, Observations written, (500 words or less) - Show an understanding of what you saw happening during your experiment. Excellent observations will describe patterns or trends supported by the data. Conclusion (500 words or less) - Explain how your experiment supported or contradicted your original hypothesis and how to improve experiment.  |     |      |       |  |

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|  | 0-5 | 5-7 | 7-10      |     |
|--|-----|-----|-----------|-----|
| <b>Research Plan part D. Resources (500 words or less) - Provide references for sources of information that you have used and are done in APA style 5 work sited.</b> Resources (200 words or less) - Provide references for sources of information that you have consulted.   |     |     |           |     |
|  | 0   | 3   | 5         |     |
| Acknowledgements (500 words or less) - Detail any help and support that you received to complete your project. An excellent Acknowledgements section will detail the entrant's access to any expertise, equipment or facilities, either at school / college or elsewhere. This might include advice on how to source equipment and materials, to stay safe or to use unfamiliar equipment or techniques. |     |     |           |     |
|  |     |     | Received: | 0   |
|  |     |     | Possible: | 200 |
|  |     |     | Grade:    | 0%  |