

## ABSTRACT WRITING TIPS

### ***ELEMENTARY LEVEL (GRADES 3 – 5):***

Elementary abstracts should be between **100 - 250 words** and should be displayed with the project. The elementary abstract clearly indicates the specific parts of the abstract outlined in the template below. This will help students learn to frame an abstract while informing judges and the public about the project.

#### Sample Abstract Template – Elementary Level

Title: Name: School:
Purpose of project / experiment: <ul style="list-style-type: none"><li>• “I wanted to find out...”</li></ul>
Summarize procedures, emphasizing the key points or steps: <ul style="list-style-type: none"><li>• “I studied this by doing...”</li></ul>
Detail observations/data/results (VERY BRIEF!): <ul style="list-style-type: none"><li>• “I observed that...”</li></ul>
State conclusions and applications: <ul style="list-style-type: none"><li>• “I found out that...”</li></ul>

*Sample Written Abstract – Elementary Level. A team project that won 2<sup>nd</sup> place in the 2006 Alaska State Science Fair Abstract Competition)*

### **NO MORE BROWN APPLES**

Purpose: We wanted to find out what kept apples from browning the most and thought that apples dipped in lemon juice in the refrigerator would do this.

Procedure: We bought apples, Fresh Fruit, apple juice and lemon juice. We dipped 2 slices of apples in each and had four plain slices of apple. We put each in a Ziploc bag and two plain ones just on a plate. One half of the apples were set in the refrigerator and the other half was left in room temperature. We checked for any browning every 30 minutes or so and logged it.

Data: We observed the apples with Fruit Fresh had the least browning. The apples with lemon juice were second and with apple juice were third. Plain apples in plastic bag were fourth. The plain apples on a plate browned quickest and most.

Conclusion and Application: We found out our hypothesis was wrong. Apples with lemon juice got second place in both tests. Fruit Fresh kept the apples from browning the most. Knowing this will help keep apple slices for our lunch from browning.

**JUNIOR LEVEL (GRADES 6 – 8):**

Junior abstracts should be between **100 - 250 words** and attempt to reach the senior level 250 word limit. These abstracts should be displayed with the project in order to inform judges and the public about the project. The junior level abstract is more a narrative of the project (compared to the elementary abstract) but still clearly and succinctly describes all project aspects.

*Sample Abstract Template – Junior Level*

Title: Name: School:
Purpose of project / experiment: <ul style="list-style-type: none"><li>• An introductory statement of the reason for investigating the topic of the project.</li><li>• A statement of the problem or hypothesis being studied.</li></ul>
Summarize procedures, emphasizing the key points or steps: <ul style="list-style-type: none"><li>• A summarization of the key points and an overview of how the investigation was conducted.</li><li>• Omit details about the materials used unless it greatly influenced the procedure or had to be developed to do the investigation.</li><li>• 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.</li></ul>
Detail succinctly observations/data/results: <ul style="list-style-type: none"><li>• This section should provide key results that lead directly to the conclusions you have drawn.</li><li>• It should not give too many details about the results nor include charts or graphs.</li></ul>
State conclusions/applications.

*Sample Written Abstract – Junior Level (from Science Buddies Website:*

*[http://www.sciencebuddies.org/science-fair-projects/project\\_sample\\_abstract.shtml](http://www.sciencebuddies.org/science-fair-projects/project_sample_abstract.shtml))*

**AN ANALYSIS OF AA BATTERY LIFE UNDER DIFFERENT DEVICE DRAIN**

“Advertisers are always touting more powerful and longer lasting batteries, but which batteries really do last longer, and is battery life impacted by the speed of the current drain? This projects looks at which AA battery maintains its voltage for the longest period of time in low, medium, and high current drain devices. The batteries were tested in a CD player (low drain device), a flashlight (medium drain device), and a camera flash (high drain device) by measuring the battery voltage (dependent variable) at different time intervals (independent variable) for each of the battery types in each of the devices. My hypothesis was that Energizer would last the longest in all of the devices tested. The experimental results supported my hypothesis by showing that the Energizer performs with increasing superiority, the higher the current drain of the device. The experiment also showed that the heavy-duty non-alkaline batteries do not maintain their voltage as long as either alkaline battery at any level of current drain.”

**SENIOR LEVEL (GRADES 9 – 12):**

Intel ISEF rules require abstracts of **no more than 250 words** to be displayed with the project. An abstract gives the essence of the project in a brief but complete form to judges and the public viewing the project. Tips on Abstract writing can be found at the Society for Science & the Public website at: <http://www.societyforscience.org/isef/primer/index.asp>

*Sample Abstract Template – Senior Level*

Title: Name: School:
Purpose of project / experiment: <ul style="list-style-type: none"><li>• An introductory statement of the reason for investigating the topic of the project.</li><li>• A statement of the problem or hypothesis being studied.</li></ul>
Summarize procedures, emphasizing the key points or steps: <ul style="list-style-type: none"><li>• A summarization of the key points and an overview of how the investigation was conducted.</li><li>• Omit details about the materials used unless it greatly influenced the procedure or had to be developed to do the investigation.</li><li>• 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.</li></ul>
Detail succinctly observations/data/results: <ul style="list-style-type: none"><li>• This section should provide key results that lead directly to the conclusions you have drawn.</li><li>• It should not give too many details about the results nor include charts or graphs.</li></ul>
State conclusions/applications.

*Sample Written Abstract – Senior Level (From Society for Science & the Public Website)*

**PERIOD ANALYSIS OF CATAclysmic VARIABLE X10  
AND ITS IMPLICATIONS ON THE ORIGIN OF LOW STATES**

“Cataclysmic variables are binary systems, each consisting of a white dwarf (the primary) and a low mass star (the secondary). Usually, matter flows from the secondary onto the primary, producing X-rays upon impact. However, previous observations have indicated that certain cataclysmic variables frequently exhibit low states – a dramatic decrease in mass transfer (and thus X-ray production) for an extended period of time. Low states can last up to several years, and this phenomenon is currently not well understood. This research is primarily focused on creating a model to elucidate the origin of low states using data gathered from X10, a magnetic cataclysmic variable that experienced a low state in year 2005. The model proposed in this study attributes low states to the magnetic interactions between the secondary’s starspots and the primary, and its predictions on which systems should exhibit low states and which ones should not have all been confirmed by past observations.”