

Title:

Student Name(s):

School Name, City:

ABSTRACT

Category:_____

- Behavioral Science
- Computer Science
- Mathematics

- Biological Science
- Earth / Space Science
- Physical Science/Physics

- Biotechnology
- Chemistry
- Environmental Science
- Technology/Engineering

Abstract Writing Instruction

Length of the Abstract

To be considered for publication in the *Proceedings of the NCSAS Annual Meeting*, an abstract describing the project of 250 words or less is required. The 250 words do not include the title, student name(s), school name, city or space between words.

Contents of the Abstract

The abstract should be a self-contained summary of the research. It should include a brief introduction, problem statement, methodology, results, and conclusions. It should not include graphs, pictures, tables, acknowledgment or references.

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A copyright transfer form signed by the author(s) and a parent (or a legal guardian) must be mailed or faxed to Executive Director, NCSAS, Box 2418, Durham, NC 27715. The copyright transfer form can be found on the NCSAS website at www.ncsas.org. The Fax number is 919-416-2890.

Abstract Form Submission Method

The abstract form must be emailed to ncstudentacademyscience@gmail.com as a MS word document attachment. No other form of abstract submission will be accepted for publication. Please proofread your abstract and have someone else proofread it before submitting it. If the abstract is eligible for publication, it will be included in the NCSAS *Proceedings* with any necessary editing.

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To be considered for publication, the abstract and the copyright consent form must be received by no later than April 30th, 2014 5 pm EST.

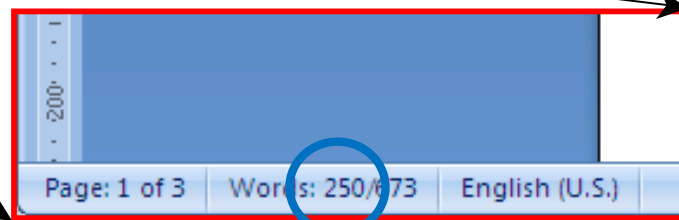
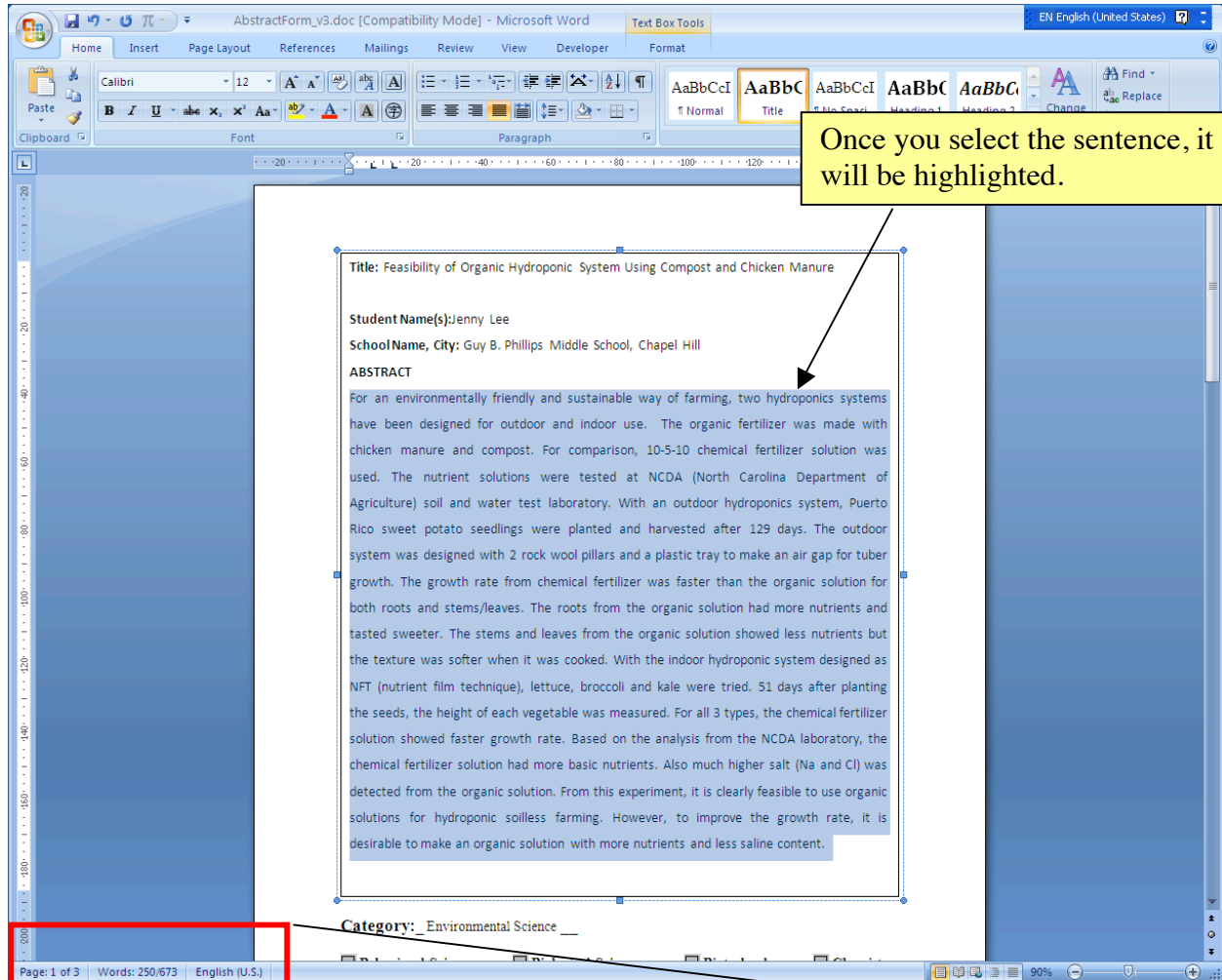
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FAQs

1. How to check the number of words in your abstract?

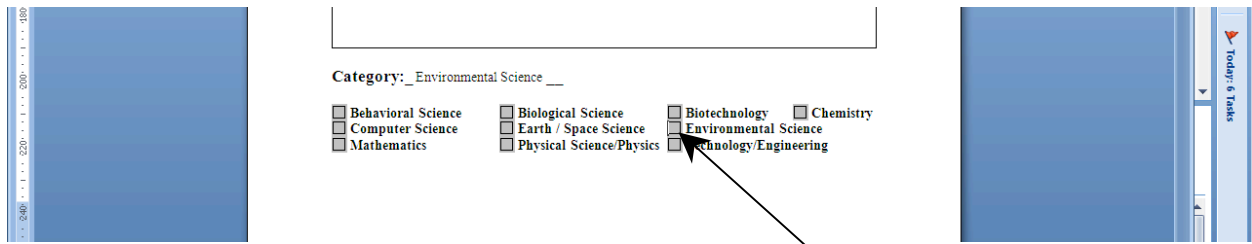
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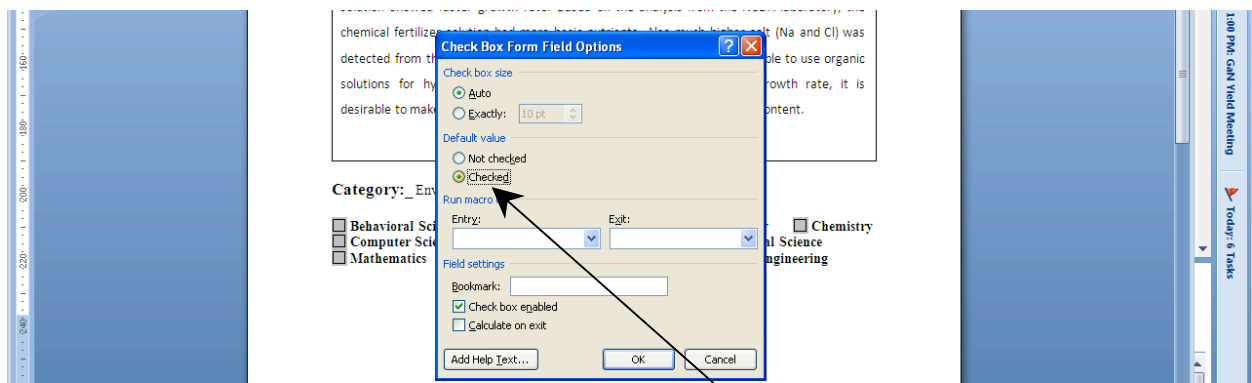
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- Double Click the check box. If your category is “Environmental Science”, then double click the check box at the left side of the Environmental Science category.



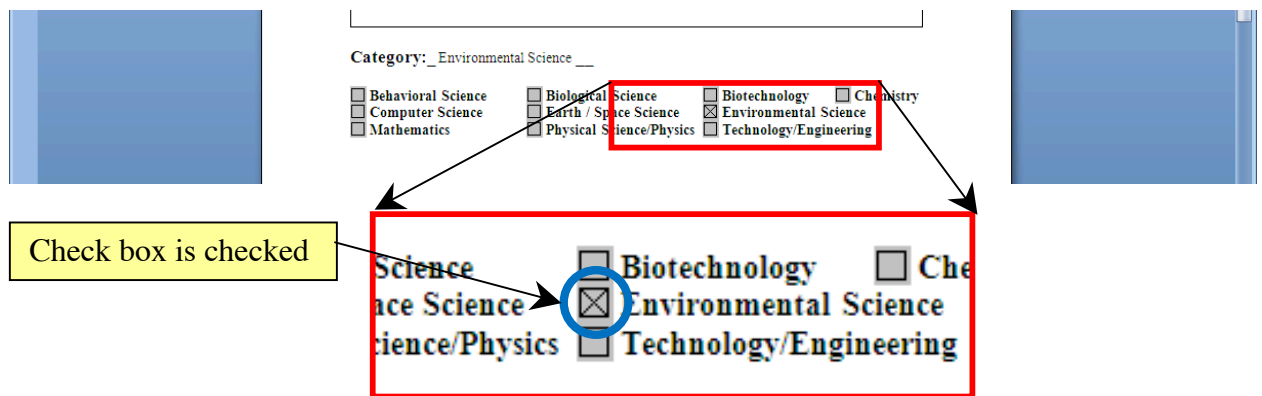
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3. What font should be used?

It is recommended to use Calibri size 12. No bold, italic nor underline. The spacing is 1.5 lines
However, if you use different font, Editors of NCSAS will change it as needed.

4. Any other questions?

Please contact ncstudentacademyscience@gmail.com .

5. Is there any example Abstract?

Yes. Please see the next page.

Title: Feasibility of Organic Hydroponic System Using Compost and Chicken Manure

Student Name(s): Jenny Lee

School Name, City: Guy B. Phillips Middle School, Chapel Hill

ABSTRACT

For an environmentally friendly and sustainable way of farming, two hydroponics systems have been designed for outdoor and indoor use. The organic fertilizer was made with chicken manure and compost. For comparison, 10-5-10 chemical fertilizer solution was used. The nutrient solutions were tested at NCDA (North Carolina Department of Agriculture) soil and water test laboratory. With an outdoor hydroponics system, Puerto Rico sweet potato seedlings were planted and harvested after 129 days. The outdoor system was designed with 2 rock wool pillars and a plastic tray to make an air gap for tuber growth. The growth rate from chemical fertilizer was faster than the organic solution for both roots and stems/leaves. The roots from the organic solution had more nutrients and tasted sweeter. The stems and leaves from the organic solution showed less nutrients but the texture was softer when it was cooked. With the indoor hydroponic system designed as NFT (nutrient film technique), lettuce, broccoli and kale were tried. 51 days after planting the seeds, the height of each vegetable was measured. For all 3 types, the chemical fertilizer solution showed faster growth rate. Based on the analysis from the NCDA laboratory, the chemical fertilizer solution had more basic nutrients. Also much higher salt (Na and Cl) was detected from the organic solution. From this experiment, it is clearly feasible to use organic solutions for hydroponic soilless farming. However, to improve the growth rate, it is desirable to make an organic solution with more nutrients and less saline content.

Category: _ Environmental Science _

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|---|---|---|------------------------------------|
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| <input type="checkbox"/> Computer Science | <input type="checkbox"/> Earth / Space Science | <input checked="" type="checkbox"/> Environmental Science | |
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