

Freshmen Summer Research Ideas

Name: _____ Conference Day (circle one) July 21 22 28 29 at _____ time

Conference (check one) _____ In person (in room 87 at GHS) or _____ Virtual (Teams meeting link)

- *If you will be out of town, but **can** still do a virtual conference, select a time and write “virtual” next to your name. I will email you the link if you cannot find it on the CMS website.
- *If you will be out of town and **cannot** attend a virtual conference during the sign-up time, you will meet with your research teacher when school begins.

All freshmen are required to complete this form electronically and place the completed form in the Freshman Research Proposal dropbox in the “Godwin Center for Medical Sciences” Schoology course BY 9 am on **June 11, 2025**. Do NOT make this into a google doc and share with the teacher. Upload the word document as an attachment. You can find this document at the CMS website:

<https://medicalsciences.henricoschools.us/> Failure to do so will result in a zero on this assignment. This is just a preliminary form where you are trying to formulate a research idea. Your research idea is an idea that YOU will experiment on and do actual research using equipment and the scientific method. Sign up for a meeting with Mrs. Ostrom on **July 21, 22, 28 or 29** to review your project ideas (link below). Final approval for a research idea will be given by the scientific research teacher in the first month of school.

<https://www.signupgenius.com/go/10C0948ABAF2CA4F5C25-research>

Directions:

1. After you have looked over the “Choosing a Biological topic” sheet, pick a topic of interest and research it.
2. To begin your research, use a search engine (google.com, bing.com, etc.) and narrow the topic down. Look through **multiple** sites and get an idea as to what areas are covered by your topic and what areas interest you. For example, if you have an interest in botany, start by looking up “plant research” and see what scientists are currently looking at. From there, you may find that the articles and research on plant hormones interest you- you have just narrowed your topic down to plant hormones.
3. Find background information on this topic. What is known about this topic? What terminology is used in the information about this topic? Is there a lot of information out there about this topic? What else would you like to know about this topic that you may be able to research?
4. Once you have a more specific topic, find out what research is currently being done on the topic on Science News for Kids (sciencenewsforkids.org) or Science News (sciencenews.org). If your topic does not generate any hits at the Science News websites, try using alternative science research sites (sciencedaily.com, eurekalert.org or any other sites that you are familiar with that gives news in science). If these sites do not work, then you may want to reconsider your topic.
5. Find two of the articles from these science news sites that deal with your topic and save the URL and/or print them out (you will need these again in the first month of school in September).
6. Using the articles and background information you have found, think of a possible research idea that deals with your topic and fill in the information below.
7. It is always better to have more ideas and have a choice versus just one idea. Repeat steps 1-6 with a different topic of interest OR the same topic- it is up to you. Fill in the remaining research ideas so you have a total of 3 research proposal ideas. Hopefully one of them has the potential to be a successful research project for your freshman year.

Research Idea #1

Topic (highlight the appropriate topic)

Human Biology

Medicine and Health

Zoology

Psychology

Environmental Science

Sports Science

Botany

Other: _____

1. Title of Experiment: _____
 2. What is the Independent Variable? _____ What are the levels of your IV (you must have at least 4 levels - include a control, if applicable): _____
 3. You must have 25 trials per level, So, you need _____ per level for a total of _____ trials
 4. What is the Dependent Variable? _____ How will you measure the DV? _____ Include your unit of measurement.
 5. Explain EXACTLY how you would conduct this experiment (don't leave out any details). Step by step procedure.
 6. Please search for a SDS (safety data sheet) for every “chemical” you have in your procedure. Please upload the SDS forms with this document on the due date.
 7. Please list the materials needed for this experiment. Please list the total cost for the experiment based on the materials needed. CMS will purchase certain equipment, but not disposables, upon request.
 8. Why is this important in the real world? _____
 9. Who would benefit from knowing the results? _____
 10. What do you hope your research will show? _____
 11. Why is this interesting to you? _____
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Research Idea #2

Topic (highlight the appropriate topic)

Human Biology

Medicine and Health

Zoology

Psychology

Environmental Science

Sports Science

Botany

Other: _____

1. Title of Experiment: _____
 2. What is the Independent Variable? _____ What are the levels of your IV (you must have at least 4 levels - include a control, if applicable): _____
 3. **You must have 25 trials per level, So, you need _____ per level for a total of _____ trials**
 4. What is the Dependent Variable? _____ How will you measure the DV? _____ Include your unit of measurement.
 5. Explain EXACTLY how you would conduct this experiment (don't leave out any details). Step by step procedure.
 6. Please search for a SDS (safety data sheet) for every "chemical" you have in your procedure. Please upload the SDS forms with this document on the due date.
 7. Please list the materials needed for this experiment. Please list the total cost for the experiment based on the materials needed. CMS will purchase certain equipment, but not disposables, upon request.
 8. Why is this important in the real world? _____
 9. Who would benefit from knowing the results? _____
 10. What do you hope your research will show? _____
 11. Why is this interesting to you? _____
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Research Idea #3

Topic (highlight the appropriate topic)

Human Biology

Medicine and Health

Zoology

Psychology

Environmental Science

Sports Science

Botany

Other: _____

1. Title of Experiment: _____
2. What is the Independent Variable? _____ What are the levels of your IV (you must have at least 4 levels - include a control, if applicable): _____
3. **You must have 25 trials per level, So, you need _____ per level for a total of _____ trials**
4. What is the Dependent Variable? _____ How will you measure the DV? _____ Include your unit of measurement.
5. Explain EXACTLY how you would conduct this experiment (don't leave out any details). Step by step procedure.
6. Please search for a SDS (safety data sheet) for every "chemical" you have in your procedure. Please upload the SDS forms with this document on the due date.
7. Please list the materials needed for this experiment. Please list the total cost for the experiment based on the materials needed. CMS will purchase certain equipment, but not disposables, upon request.
8. Why is this important in the real world? _____
9. Who would benefit from knowing the results? _____
10. What do you hope your research will show? _____
11. Why is this interesting to you? _____