A GUIDE TO WRITING A CAUSE AND EFFECT RESEARCH PAPER

What is a Cause and Effect Research Paper?

You’re probably wondering what this “freshman research paper writing assignment” is all about. Someone may have even told you, “It’s this paper that they make you write during your freshman year on topics like fish, turtles, birds or other science stuff.” Well, that’s not exactly right . . . or wrong. Actually, all students entering Richmond Community High School (RCHS) (freshmen and transfer sophomores) are required to write a cause and effect research paper that has an environmental science theme during their first year at the school. Each year, this research paper focuses on the student’s mandatory freshman mini-mester trip to the Chesapeake Bay.

The assignment is designed to be an introduction to the research paper process for students that includes careful, comprehensive reading and understanding of a chosen topic; clear organization; documentation of citations; list of references; and adherence to a prescribed format. Students will complete the research paper before the minimester experience, and will present it orally in the Spring of freshman year. In addition to being a graduation requirement for RCHS, the completion of a well-written cause and effect research paper will help develop students’ logical reasoning, decision-making, research, time management and public speaking skills.

Because the research paper has an environmental science theme, ninth grade science teachers have committed to providing time to monitor and assist students with the preparation of this important writing assignment. The English/language arts teachers will also be available periodically to support students. Special tutorial sessions will be held after school and during select activity blocks to assist students with preparing the research paper; session dates will be announced during morning community meetings, family meeting and in science and English classes.
**Cause and Effect: the two big questions**

Simply put, a cause and effect paper answers the questions ‘what?’ and ‘why?’ by showing the factors behind an observation. Asking ‘what’ brings out aspects of the current affairs; in other words, the effects. If we then ask ‘why?’ it takes us back to the causes for the effects. It is extremely important that the research paper clearly identifies both cause and effect in order to show their relationship.

Issues that impact the Chesapeake Bay include flooding, pollution, human population growth, global warming, economic and social situations… and much more! Let’s say you are interested in the problem of erosion. Along the Chesapeake Bay tributaries, soil erosion is an effect, and one major cause for this effect is loss of vegetation cover in the riparian zone. For another approach, we could identify a current event as a cause, and then anticipate the effects likely to show up in the future. Restoration of marshland by planting vegetation (a cause) is likely to produce the effect of decreased soil erosion.

So relax! You don’t have to just write about fish, birds or turtles – but you will be expected to write about something of interest that relates to your study of the Chesapeake Bay and environmental science.

**IMPORTANT NOTE:**

*The writing of a cause and effect research paper will require time and effort. This assignment cannot be completed in a few hours one evening. You must begin early and work efficiently at selecting a topic, gathering data, preparing an outline, writing a rough draft and preparing a final draft. You should rely heavily on members of the RCHS teaching staff for assistance and support. You should also plan to utilize all of the resources available at the school in preparing your cause and effect research paper. Remember, the teachers are here to support you, not to write the research paper for you!*
Planning the Research Paper

The success of your research paper assignment will depend, to a great extent, on the amount of planning you put into the effort. Your science teachers will introduce the project to you and you will have several weeks to collect data, prepare an outline, rough draft, tables, charts, and graphics and finalize the research paper.

The following is a list of the planning stages for developing your research paper. It is recommended that these steps be discussed during some of your class sessions before beginning on the project. Familiarize yourself with the writing assignment first by reading this step-by-step “Guide to Writing a Cause and Effect Research Paper.”

1. Select possible topics for your research paper; brainstorm, meet with advisor, and narrow your topic.
2. Write and submit your thesis statement.
3. Plan for the information search (books, articles, online magazines etc. in the library) and utilize notecards to gather information from your sources.
4. Prepare and submit an outline of the research paper.
5. Following the guidelines for the layout (format) of the research paper in this guide, write and submit a rough draft; develop a work schedule for completing the research paper.
6. Using reader feedback, revise rough draft and write and submit final paper.
7. Prepare and give an oral presentation.

STEP ONE: Selecting a Topic for the Research Paper

A list of topic ideas for cause and effect research papers is provided below. This list is provided merely to stimulate your thinking; you should select a topic of interest to you and related to one of the areas you’ve studied in your science classes. Before you begin, you must present your
topic to the teacher for approval. The teacher will sign the “Research Paper Topic Approval Form” after reviewing and approving your topic.

1. Effects of Noise Pollution on Animal Life Along the Chesapeake Bay
2. Effects of Over-Harvesting of the Blue Crab Population of the Chesapeake Bay
3. Causes and Effects of the Increase in the Population of White Tail Deer Along the Chesapeake Bay
4. Causes and Effects of Beach Erosion Along the Chesapeake Bay
5. Social and Economic Effects of the Collapse of the Oyster Industry in Chesapeake Bay communities
6. Effects of the Human Population Increase Along the Chesapeake Bay
7. Effects of European Settlement on Native Peoples in the Chesapeake Bay watershed
8. Effects of Deforestation on the Migrant Bird Population along the Chesapeake Bay
9. Effects of Climate Change on the Chesapeake Bay
10. Effects of Ground Water Contamination on the Chesapeake Bay
11. Effect of Invasive Plant Species on the Chesapeake Bay Watershed
12. Effects of Water Pollution on the Oyster Population of the Chesapeake Bay
13. Effects of Pesticide and Fertilizer Use by Virginia Farmers on the Chesapeake Bay

STEP TWO: Writing a Thesis Statement

The THESIS STATEMENT is that sentence that contains the focus of your research paper and tells the reader what the research is going to be about. Although it is certainly possible to write a good research paper without a thesis statement (many narrative essays, for example, contain only an implied thesis statement), the lack of a thesis statement is likely a clear symptom of a research paper that will lack focus. You should think of the thesis statement as an umbrella: everything that you carry along in your research paper has to fit under this umbrella, and if you try to take along too many packages that don't fit, you will either have to get a bigger umbrella or something is going to get wet.
The thesis statement is also a good test for the scope of your writing. It is important to remember that if you try to do too much, you end up doing less or nothing at all. Can a good research paper be written about animal and plant species indigenous to the Chesapeake Bay? At best, such a research paper would be vague and very scattered in its approach. Can we write a good research paper about animal life native to the Chesapeake Bay? Well, that’s better, but that’s still an awfully big topic, something you might be able to handle in a book or a Ph.D. dissertation, but certainly not in a research paper meant for Richmond Community High School.

Can we write a paper about the fish population native to the Chesapeake Bay? Now we're narrowing down to something useful, but once we start writing such a paper, we would find that we’ve still got too much information to effectively address the topic. If we wrote about the causes of the decline in the blue crab population along the Chesapeake Bay, now we have a focus that we can probably write about in ten or more pages (although more, certainly, could be said) and it would likely be a good cause and effect paper. The trick to writing a good thesis statement involves limiting your research to the work that can be accomplished within a certain number of pages.

The thesis statement usually appears near the beginning of a paper. It can be the first sentence of an essay, but that often feels like a simplistic, unexciting beginning. It more frequently appears at or near the end of the first paragraph. Remember, when writing your thesis statement clearly state whether you are discussing causes, effects, or both. Introduce the main idea, using the terms "cause" and/or "effect."

**An example of a thesis statement** is as follows: Although the Delmarva fox squirrel was once numerous on Virginia’s Eastern Shore, it is now an endangered species because of predation, competition for habitat, and land use by farmers and developers.
STEP THREE: Utilizing Note Cards to Gather Information

Note cards are an important step in writing your research paper and should not be taken lightly. Note cards should include all the information necessary to write your research paper, as well as all the information you will need to cite the sources, in APA format style, for your paper. Start with a fresh pack of 3” x 5” cards. Lined cards are easier to write on; consider color coding your cards by topic to keep your paper organized from the start.

As you read each source, write down any notes or quotes that could be useful in your paper. Devote an entire note card to each idea or note. A good rule of thumb is to prepare three times as many note cards as you think you will need; if you think something might be useful, write it down. Don't ever, ever pass over information because you're just not sure whether it will be useful! As you read your potential sources, you will find that some are helpful, others are not, and some will repeat the same information you already have. This is how you narrow your list down to include the most solid sources.

For this paper, you are expected to have approximately twenty unique sources, and you will be required to prepare and submit at least 150 notecards with research information.

As you take notes, paraphrase information taken from sources. This reduces the chances of committing accidental plagiarism. If at any time you write down information word for word as a direct quote, be sure to include all punctuation marks, capitalizations, and breaks exactly as they appear in the source, and include quotation marks. Avoid using abbreviations, contractions and code words as you record notes. Your own writing can look completely foreign to you a few days or weeks later.

You will need to cite every piece of researched information you use in your paper – so be sure that every notecard has citation information! On the back of each notecard, include all information needed to cite your source, and information you will need to find the source again if
needed. Before you leave any source, double-check your notes and your citation information for accuracy.

**Notecards: Notes side**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Paraphrased information about the topic..... info info info info info info info info etc</th>
</tr>
</thead>
</table>

**Notecards: Source citation side**

<table>
<thead>
<tr>
<th>Source type</th>
<th>where you found it</th>
</tr>
</thead>
<tbody>
<tr>
<td>APA format citation for source</td>
<td></td>
</tr>
</tbody>
</table>

**Examples!**

**Laughing Gull nesting behavior**

When faced with a lack of space, Laughing gulls will compete for nesting sites; they have been observed to raid each others’ nests and even cannibalize the young of neighboring nests.

<table>
<thead>
<tr>
<th>Book</th>
<th>Ms. Schultz’s room</th>
</tr>
</thead>
</table>

Remember: make one card for every fact, and be sure each card has the complete citation information on it. You can’t use a fact that you cannot properly cite!
STEP FOUR: Preparing an Outline of the Research Paper

The outline will help you organize your paper and, believe it or not, simplifies the writing process; time spent preparing the outline will result in time saved writing the paper. The outline also helps the writer ensure that the thesis statement is strong and worth the argument or position taken. To prepare an outline for a research paper, you will need to have a clear thesis statement, and factual information from reliable sources (your set of note cards!) to support your claim or position.

Begin by reading your cause and effect thesis statement again. On new blank note cards, write down possible ideas for main topics that support the statement. Depending on the thesis statement, three to five main topics are usually needed to make a strong argument.

Re-arrange these outline note cards with the major topics in a reasonable order that will flow when supporting the thesis statement. For example, in our soil erosion paper, the first major topic may be information on the history of soil erosion along the Chesapeake Bay. The second major topic could include current issues and statistics, and the third major topic could explain future issues. Remove any topics that aren’t strong and relevant to the thesis statement.

Assign Roman numerals to each major topic. Rename the major topics to make them clear and concise. For example, a thesis statement about the endangered Delmarva fox squirrels of Virginia’s Eastern Shore may have the following as a major topic: "II. Major populations of the Delmarva fox squirrel have declined drastically by the early part of the 20th century." Placing Roman numerals and creating clear topic headings creates a formal presentation and makes it easier for the reader to identify the information that supports your thesis statement.
Finally, create the outline on paper. Enter the Roman numerals and major topic headings together. Follow each major topic with a description of what the reader will learn in each paragraph, and assign letters to each description. A sample outline is provided below.

**Sample Cause and Effect Research Paper Outline**

I. The Delmarva fox squirrel was once well distributed between extreme southeastern Pennsylvania, the Delmarva Peninsula, and Southern Southampton County, Virginia where its chosen habitat consisted of large mature stands of loblolly pines or open white oaks and gum swamps.
   A. Historical data on forest coverage

II. Major populations of this large light-gray squirrel declined dramatically by the early part of the 20th century.
   A. Predation increased during this time period.
      i. Predation by raptors increased due to reduced other prey items
      ii. Predation by domestic canines due to human encroachment
      iii. Predation by humans for fur or food
   B. Competition for resources by the common grey squirrel forced the Delmarva fox squirrel out.
      i. Comparisons of mating and nesting behaviors for grey and Delmarva fox squirrels
      ii. Comparisons of food sources for grey and Delmarva fox squirrels
      iii. Grey squirrel distribution patterns then and now
   C. Widespread land-use by farmers and real estate development eliminated the fox squirrel’s habitat.
      i. Land use patterns over past 50 years

III. In recent years the fox squirrel has been placed on the endangered species list and is protected in hunting season, but its habitat does not have the same protection from man.
   A. Endangered Species listing and hunting law
   B. Current numbers of Delmarva fox squirrels
   C. Recovery plan
      i. Habitat restoration efforts
   D. Future outlook
STEP FIVE: Preparing a Rough Draft of the Research Paper

At its simplest, writing the rough draft is like copying your note cards onto paper. Following your outline, use the information from your notes, phrasing it in complete sentences and filling in the gaps with transitions words and with your understanding of the topic. **After every fact from a notecard, include the in-text APA style citation!** Don’t try to go back later to add these in; you will never be able to find each fact within your paper and match it with the proper source.

**In-text APA citations are very simple! You do not need to footnote; a references section at the end of the paper will provide your readers with all details about your sources.**

When *paraphrasing*, you only have to reference the author and year of publication in the body of your paper. See these examples:

According to Jones (1998), APA style is a difficult citation format for first-time learners.

APA style is a difficult citation format for first-time learners (Jones, 1998).

Occasionally you may *directly quote* from another work. In this case, you need to use quotation marks, and include the author, year of publication, and the page number for the reference (preceded by "p.").

According to Jones (1998), "Students often had difficulty using APA style, especially when it was their first time" (p. 199).

Jones (1998) found "students often had difficulty using APA style" (p. 199); what implications does this have for teachers?

If you have developed a good set of paraphrased notes, your rough draft will likely be completed very quickly.
Your paper should be divided into three parts: introduction, body and conclusion.

The purpose of an introduction is to acquaint the reader with the rationale behind the work, with the intention of defending it. It places your work in a theoretical context, and enables the reader to understand and appreciate your objectives. This is where your thesis statement will appear. The writer should identify the effect or effects in the introduction. The key question is, “What caused this?” The following is an example of an introduction to a cause and effect research paper:

The endangered Delmarva fox squirrel was once well distributed between extreme southeastern Pennsylvania, the Delmarva Peninsula, and Southern Southampton County, Virginia where its chosen habitat consisted of large mature stands of loblolly pines or open white oak and gum trees. Although the Delmarva fox squirrel was once numerous on Virginia’s Eastern Shore, it is now an endangered species. Conservationist succeeded in having the Delmarva fox squirrel placed on the federal endangered species list in 1967 because of loss and fragmentation of its habitat due to timber harvesting and converting forested land into farms, expanding housing developments, highways, roads and commercial property. This research paper will examine the cause and effects of the decline in population of the Delmarva fox squirrel along the watershed of the Chesapeake Bay.

When you write the body of the research paper you should divide it into two segments, the causes in one segment and the effects in the other one. Then you can simply support your position with the research results you have collected on the notecards. The conclusion of the research paper should contain some final thoughts stemming from your research efforts.

Finally, include a references page. In this section you will give credit to those individuals and sources that provided information for the paper. Type the word “References” at the top of the paper; then simply list all sources used to prepare your research paper in alphabetical order, using the proper APA format. You have all of the needed information on the backs of your notecards! Follow the instructions for specific APA formats for various types of
source materials (books, websites, periodicals, interviews, scientific papers, government databases, etc.)

The following are some mechanical matters to keep in mind as you start your rough draft:

- Use your outline: fill it in to develop your draft.
- Write or key your rough draft rapidly; don’t be concerned about getting every word and comma exactly right the first time.
- If you don’t particularly like how a section is sounding, go ahead and keep writing.
- If you get stuck, start on another section of the research paper and come back later.
- Remember to ALWAYS include your in-text citations! Citations are the one aspect of a paper that you cannot go back and add in later. Every time you use a fact from a notecard, be sure that you cite the source author, year, and if quoting, page number.
- Include your references (your 20 sources) on the references page, following APA format.
- The paper rubric will be used to give you feedback on your rough draft as well as to evaluate your final paper. Focus more on the facts for the rough draft.

STEP SIX: Writing the Research Paper

The writing of your research paper should be a breeze at this point if you have followed the steps listed previously. Using feedback from your reader(s), revise and rewrite your rough draft into a final paper format. Remember to refer to the rubric for all specific requirements and grading criteria.

STEP SEVEN: Oral Presentation

The final stage of your research will be to share your findings with the community. We will have oral presentations in the spring, when you will need to produce and deliver a 10-12 minute PowerPoint presentation on your research. You will need to include factual information and visual aides – perhaps photos from the mini-mester trip!
APPENDIX I: Quick Guide

I. Definition of the Cause and Effect Research Paper

A cause and effect research paper reports the writer’s research findings and evaluates this information, putting into a “what/why” context. Literally, a cause and effect research paper involves searching through what others have written about a subject. This paper requires the use of numerous sources. The writer must show originality and imagination is reporting the findings of others.

II. The Characteristics of the Cause and Effect Research Paper

An effective cause and effect research paper must fulfill the following requirements:

- Indicates a careful, comprehensive reading and understanding of the topic
- Establishes, in its introduction, a thesis to be developed in the course of the paper
- Follows a clear organization
- Includes quotations, paraphrases or précis that support the thesis
- Includes documentation in the form of parenthetical notes (in-text citations.)
- Includes a list of references in a specific format (APA, for this assignment)
- Exhibits careful, thorough, documentation of sources of ideas
- Follows a carefully prescribed format

III. Paper Specifics

Margins: One inch on all four sides – Double spaced
Font Size: 12 Point Only
Font: Times New Roman or Times Roman
Paper: 8.5 inches by 11.0 inches, 20 pound white paper
Length: Ten to twelve (10-12) pages of text

If you include graphs, charts, tables and etc. within your text, they may not be included in the page count.

Appendices should contain a copy of your proposal (word processed); any letters you sent out; any questionnaires or surveys used; lesson plans, evaluations; pictures; or other printed materials pertinent to your thesis.

All pages in the appendices must meet the margin requirements.

Do not forget your reference page. Include electronic sources in proper format. (20 references required)
There should be no handwritten material in your research paper. Put a blank sheet of paper at the end of your paper.

IV. Paper Format
A. Papers must be word processed. You must retain “Two hard copies” and two disk copies of your paper that can be immediately retrievable if you plan to type at school as well as home. Make sure that the formats of the programs used are compatible. Outlines, drafts and final papers will be submitted both electronically and in print format. There are no acceptable excuses for not being able to retrieve your paper at the appointed time.
B. Your draft and final papers must include a cover sheet following specific guidelines.
C. Thesis statement and outline should precede text of paper on a separate page.
D. Include the title at the top of the first page of text of your paper.
E. Do NOT indent the first paragraph of your paper.
F. Specific documentation guidelines will be provided at an appropriate time during the year.

V. Other Concerns
A. Proofreading: Review your paper for spelling, grammar and punctuation.
B. Documentation: Use APA documentation.
C. Absence of Conclusion: Do not just stop your paper. Write a conclusion.
D. Appropriate Voice: Do not forget the third person objective voice requirement. Use of first person and a “chatty” account of your personal trials and tribulations are not acceptable.
E. Long Quotations: Remember the rule for setting off long quotations.
F. Appendices: Margin requirements for all entries are the same as for paper text; appendixes do not count towards page count.
G. 150 notecards: needed for writing paper. Students should prearrange a scheduled time with their parents to do research at the VCU Library, the main branch of the City Public Library, or the Virginia State Library.
H. Rough Draft Due Date: (____________________) at the designated time.
I. Final Paper due Date: (____________________) at the designated time.
Richmond Community High School
Environmental Science Research Paper

Various Studies of Ecological Changes in the Chesapeake Bay

Font: Times New Roman or Times Roman

Font Size

Submitted by John Doe

In Partial Fulfillment of the Environmental Science Requirement
APENDIX III: Paper Rubric

Richmond Community High School Environmental Science Research Paper

Student Name ________________________________  ID Number ______________________________

Title of Paper __________________________________________________________________________________

1 = Poor  2 = Weak  3 = Average  4 = Good  5 = Excellent

Quality and development of ideas: 25 points

Well-developed paper; supported by facts, examples and quotations. Thesis and conclusion clearly stated and supported.

APA format in-text citations must be used. All citations must be in references page; all references must appear as in-text citations within the paper.

Reference page: 15-20 references required. References should be approximately 5 books, 5 periodicals, 5 website references, and 5 peer-reviewed journal articles. Reduce points for less than 15 references.

(NOTE: Any paper without in-text citations and reference page are considered to be plagiarized and receive a grade of zero for the entire assignment.)

1 2 3 4 5 Subtotal _________ X5 = ___________

Organization, relevance, movement: 25 points

Paper flows from idea to idea. Citations are relevant to development of the argument. Cause and effect are clearly related. Paper has a thesis statement and outline.

1 2 3 4 5 Subtotal _________ X5 = ___________

Style, flavor, originality: 15 points

Original ideas are presented, explored and supported. Work cannot be plagiarized; multiple long quotes are not appropriate.

1 2 3 4 5 Subtotal _________ X3 = ___________

Wording and phrasing: 15 points

Paper uses 3rd person objective voice. Wording and phrasing are not stilted or awkward.

1 2 3 4 5 Subtotal _________ X5 = ___________

Proper format: 20 points

Grammar, sentence structure, punctuation, spelling

1 2 3 4 5 Subtotal _________ X1 = ___________

Manuscript form, legibility

Paper is double-spaced, has 1 inch margins all around. Font is 12 point Times new Roman or Times Roman; paper is legible and printed out on 8.5 x 11.0 inches 20 pound paper.

1 2 3 4 5 Subtotal _________ X1 = ___________

Paper length

10 -12 pages of double-spaced text, Times New Roman or Times Roman 12-point font. 1-9 pages = zero points.

1 2 3 4 5 Subtotal _________ X2 = ___________

Total grade ____________________ %

Comments: See reverse of this sheet
Parent/Student/Advisor Research Paper Signature Form.

We have read and discussed all of the requirements for the RCHS freshmen research paper and are aware of the time constraints and the need to follow the specifics in order to complete this project on schedule and successfully.

Signatures Required

Parent/Guardian Signature: ___________________________ Date: ____________

Date:

Student Signature: ___________________________ ____________

Date:

Advisor’s Signature: ___________________________ ____________

NOTE: This sheet must be removed and returned to your science teacher or the research paper project coordinator before beginning the research paper assignment.