

Writing the Paper

Your paper will analyze a current issue in paleontology or paleoclimatology.

- You choose the topic, either from the list provided, or from websites on paleontology in the news.
- The paper will be a **synthesis** of information about the topic, and an **analysis** of the current state of the evidence. Your paper should answer a question about the issue, so start by framing that question.

Minimum requirements:

- **Papers that do not meet the minimum requirements will be returned ungraded and considered late.**
- The paper must be **6-10 pages of text in 12-point Times or Times New Roman font, not including** graphics or reference list.
- The reference list must include a **minimum of 10 citable sources**. All of the sources must be **cited in the text**.
- The paper must have **sections with headings**, including an introduction.
- The paper must include at least **two graphics** – ideally one figure (diagram or graph) and one table (chart). The purpose of the graphics is to communicate information that is difficult to communicate in text. The graphics are **NOT** there to adorn the paper.
- Citations and the reference list will be in **APA style**.
- Each draft must be submitted with the **appropriate checklist**. There must be evidence on the checklist that you used it (i.e., checks ;-)
- Each draft of the paper must be **cleared through Turnitin as plagiarism-free**. This typically means an originality report of 5% or less.

Structure of the Paper (each Big Idea is a separate section with a heading):

- Intro
 - Thesis
 - Context for the thesis
 - Summary of big ideas in the order they appear in the paper
 - Transition
- Big Idea #1 (give it a title)
 - Assertion
 - Evidence with citation (Author, year)
 - Evidence with citation
 - Summary and transition
- Big Idea #2
 - Assertion
 - Evidence with citation
 - Evidence with citation
 - Summary and transition
- Etc. until you get all your Big Ideas out
- Conclusion/Recommendation

Fundamentals

1. **Introduction:** You will write your introduction in a specific way. Many of you were taught the inverted triangle intro, where you start general and finish with the specific thesis statement. I want you to learn a different approach that is often used in science.

Start strong. **Your very first sentence needs to convince me to read the paper.** There should be no suspense, no "catching the reader's interest". There should be no bland, "Many factors are important in thinking about climate change" kind of openings, and no cute anecdotes. Please refer to the handout **How to Write an Introduction.**

2. The paper must be a **synthesis of information from many sources**, not a series of summaries. **Organize the paper by ideas, not by individual authors.** Do not just list each author and their arguments. Instead, group authors and sources with similar approaches and focus your discussion on the **idea**, not the authors. Here are two examples.

DO NOT do this: "Jones (2006) says that life originated on Mars and fell to Earth on a meteorite. Smith (2005) argues that life began inside the earth and moved to the surface. Goober (2003) says that life originated in pools at the Earth's surface."

DO this: "There are three major theories on the origin of life: that it originated in space and traveled to Earth on meteorites or comets (Doily, 1999; Jones, 2004); that life evolved in geothermal environments inside the earth and later moved to the surface (Smith, 2001; Tootsies, 1999); and that life originated in pools on the earth's surface (Goober, 1997; Smartguy, 1990). There are serious questions remaining for each of these models. If life originated in space....."

Because what matters are the facts and the evidence, not the words of other people, **you may not use any quotes in your paper.** This is because:

- In science, the authority is in the evidence, not in the author. The words used to describe the evidence are not relevant.
- When you use quotes, you are giving control of the structure and substance of the paper to other people (the authors of the quotes). This very often leads to disorganized, repetitive papers.

DO use headings in the body of the paper. Your headings should show your Big Ideas, or any other organization that helps the reader easily understand the structure of the paper.

REMEMBER that you must cite evidence for your arguments, and that **every** use of someone else's arguments must include a citation.

3. **Conclusions.** This is where you summarize the status of the different views on the issue and make your argument as to which is best supported by the evidence.

4. **References Cited.** Include an **alphabetical** list of the references you have cited in your paper. **Do not** include references you did not directly cite. Your references should be in GSA style. See the Project Webpage for a link to the GSA style guide.

5. **Graphics.** You **MUST include at least two graphics in your paper – at least one picture (called a figure) and at least one chart (called a table).** You will probably need more graphics for your paper to communicate effectively.

- The figure or table must have a **label**. The label should look like this:

Figure 1. Caption (citation)

Figure 1. Length/width ratio of *Olenellus* cephalons (Smith, 2012)

- You must **refer to the figure or table in the text** like this (Table 1) or like this:

Large mammal extinctions moved eastward across North America during the Pleistocene, as shown in Table 1.

- The figure or table **must be useful** and **should help communicate your point**. Do not include a picture just to have a picture.
- The figure or table must be **readable and focused**. You can scan a picture from one of your sources – do not take a picture of it with your phone.
- Graphics can be included in the text where they are referenced, or lumped together at the end of the paper.

6. **Voice and Tone:** The tone should be somewhat formal and definitely authoritative.

- No slang, no "I".
- Avoid a conversational tone.
- Mix up complex and simple sentences.
- Use active voice wherever possible.

7. **Sentence structure and mechanics**

- Read your paper out loud to find the problems in sentence construction.
- Watch out for sentence fragments and run-on sentences.
- Use your grammar checker (the mysterious green underlining you turn on the Preferences menu of Word).
- Have someone else read the paper, preferably out loud while you listen.

8. **Write too much.** It's always a good idea to write a couple pages more than you need. That gives you room to tighten up the text. Every paper has bad writing in it. If you only write 6 pages, you have to keep the bad stuff. If you write 8 or 10 pages, you can afford to just keep the very best stuff.