

# How to Write a Research Paper as a High School Student

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## What is a research paper?

A research paper poses an answer to a specific question and defends that answer using academic sources, data, and critical reasoning. Writing a research paper is an excellent way to hone your focus during a [research project](#), synthesize what you're learning, and explain why your work matters to a broader audience of scholars in your field.

The types of sources and evidence you'll see used in a research paper can vary widely based on its field of study. A [history research paper](#) might examine primary sources like journals and newspaper articles to draw conclusions about the culture of a specific time and place, whereas a biology research paper might analyze data from different published experiments and use textbook explanations of cellular pathways to identify a potential marker for breast cancer.

However, researchers across disciplines must identify and analyze credible sources, formulate a specific research question, generate a clear thesis statement, and organize their ideas in a cohesive manner to support their argument. Read on to learn how this process works and how to get started writing your own research paper.

## Choosing your topic

### Tap into your passions

A research paper is your chance to explore what genuinely interests you and combine ideas in novel ways. So don't choose a subject that simply sounds impressive or blindly follow what someone else wants you to do – choose something you're really passionate about! You should be able to enjoy reading for hours and hours about your topic and feel enthusiastic about synthesizing and sharing what you learn.

We've created these helpful resources to inspire you to think about your own [passion project](#). Polygence also offers a [passion exploration](#) experience where you can dive deep into three potential areas of study with expert mentors from those fields.

### **Ask a difficult question**

In the traditional classroom, top students are expected to always know the answers to the questions the teacher asks. But a research paper is YOUR chance to pose a big question that no one has answered yet, and figure out how to make a contribution to answering that question. So don't be afraid if you have no idea how to answer your question at the start of the research process — this will help you maintain a motivational sense of discovery as you dive deeper into your research. If you need inspiration, explore our database of research [project ideas](#).

### **Be as specific as possible**

It's essential to be reasonable about what you can accomplish in one paper and narrow your focus down to an issue you can thoroughly address. For example, if you're interested in the effects of invasive species on ecosystems, it's best to focus on one invasive species and one ecosystem, such as [iguanas in South Florida](#), or one survival mechanism, such as [super colonies in invasive ant species](#). If you can, get [hands on](#) with your project.

You should approach your paper with the mindset of becoming an expert in this topic. Narrowing your focus will help you achieve this goal without getting lost in the weeds and overwhelming yourself.

## **Preparing to write**

### **Conduct preliminary research**

Before you dive into writing your research paper, conduct a literature review to see what's already known about your topic. This can help you find your niche within the existing body of research and formulate your question. For example, Polygence student [Jasminta](#) found that researchers had studied the effects of background music on student test performance, but they had not taken into account the effect of a

student's familiarity with the music being played, so she decided to pose this new question in her research paper.

**Pro tip:** It's a good idea to skim articles in order to decide whether they're relevant enough to your research interest before committing to reading them in full. This can help you spend as much time as possible with the sources you'll actually cite in your paper.

Skimming articles will help you gain a broad-strokes view of the different pockets of existing knowledge in your field and identify the most potentially useful sources. Reading articles in full will allow you to accumulate specific evidence related to your research question and begin to formulate an answer to it.

Draft a thesis statement

Your thesis statement is your succinctly-stated answer to the question you're posing, which you'll make your case for in the body of the paper. For example, if you're studying [the effect of K-pop on eating disorders and body image in teenagers](#) of different races, your thesis may be that Asian teenagers who are exposed to K-pop videos experience more negative effects on their body image than Caucasian teenagers.

**Pro Tip:** It's okay to refine your thesis as you continue to learn more throughout your research and writing process! A preliminary thesis will help you come up with a structure for presenting your argument, but you should absolutely change your thesis if new information you uncover changes your perspective or adds nuance to it.

Create an outline

An outline is a tool for sketching out the structure of your paper by organizing your points broadly into subheadings and more finely into individual paragraphs. Try putting your thesis at the top of your outline, then brainstorm all the points you need to convey in order to support your thesis.

**Pro Tip:** Your outline is just a jumping-off point – it will evolve as you gain greater clarity on your argument through your writing and continued research.

Sometimes, it takes several iterations of outlining, then writing, then re-outlining, then rewriting in order to find the best structure for your paper.

## **Writing your paper**

### **Introduction**

Your introduction should move the reader from your broad area of interest into your specific area of focus for the paper. It generally takes the form of one to two paragraphs that build to your thesis statement and give the reader an idea of the broad argumentative structure of your paper. After reading your introduction, your reader should know what claim you're going to present and what kinds of evidence you'll analyze to support it.

### **Topic sentences**

Writing crystal clear topic sentences is a crucial aspect of a successful research paper. A topic sentence is like the thesis statement of a particular paragraph – it should clearly state the point that the paragraph will make. Writing focused topic sentences will help you remain focused while writing your paragraphs and will ensure that the reader can clearly grasp the function of each paragraph in the paper's overall structure.

### **Transitions**

Sophisticated research papers move beyond tacking on simple transitional phrases such as “Secondly” or “Moreover” to the start of each new paragraph. Instead, each paragraph flows naturally into the next one, with the connection between each idea made very clear. Try using specifically-crafted transitional phrases rather than stock phrases to move from one point to the next that will make your paper as cohesive as possible.

In her [research paper on Pakistani youth in the U.S.](#), Polygence student Iba used the following specifically-crafted transition to move between two paragraphs: “Although the struggles of digital ethnography limited some data collection, there are also many advantages of digital data collection.” This sentence provides the logical link between the discussion of the limitations of digital ethnography from

the prior paragraph and the upcoming discussion of this techniques' advantages in this paragraph.

## **Conclusion**

Your conclusion can have several functions:

- To drive home your thesis and summarize your argument
- To emphasize the broader significance of your findings and answer the “so what” question
- To point out some questions raised by your thesis and/or opportunities for further research

Your conclusion can take on all three of these tasks or just one, depending on what you feel your paper is still lacking up to this point.

## **Citing sources**

Last but not least, giving credit to your sources is extremely important. There are many different citation formats such as MLA, APA, and Chicago style. Make sure you know which one is standard in your field of interest by researching online or consulting an expert.

You have several options for keeping track of your bibliography:

- Use a notebook to record the relevant information from each of your sources: title, author, date of publication, journal name, page numbers, etc.
- Create a folder on your computer where you can store your electronic sources
- Use an online bibliography creator such as Zotero, Easybib, or Noodletools to track sources and generate citations

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## Reference

Tylor, C (2023), How to Write a Research Paper as a High School Student, Polygence blog/ How to Conduct and Showcase Research, <https://www.polygence.org/blog/research-paper-how-to>