

APA Science Fair Research Paper

The Purdue OWL: <http://owl.purdue.edu>



Valerie New, M.Ed., Library Media Specialist
Glenn Hills High School



Your Learning Objectives For This Lesson On Writing Your Final Science Fair Research Paper

- Learn about the concept of plagiarism
- Learn the reasons for using a citation style, like APA
- Correctly utilize and identify APA citation style



Before You Begin: What Is Plagiarism?

According to the Merriam -Webster dictionary, the verb to plagiarize means:

“to steal and pass off (the ideas or words of another) as one’s own : use (another’s production) without crediting the source”

According to Grammarly:

The inclusion of the word “steal” in this definition, includes instances when another’s ideas or words are intentionally used without crediting the source. Even accidentally using another’s ideas or words without proper citation, due to carelessness, falls under this definition since your work tries to “pass off” another’s work as your own.

In our tech -forward culture, the simple act of copy -and -paste can seem harmless, but it has serious consequences in academic and professional settings.



Five Reasons Plagiarism Usually Occurs

According to Plagiarism Today, There Are 5 Reasons Plagiarism Occurs...

- 1) Lack Of Confidence – When a writer doesn't feel as if they are up to the task they are given, they are often tempted to steal.
- 2) Lack Of Time – If there is poor time management or lack of focus, writers might find themselves in a situation where they don't have enough time to finish a task.
- 3) A Writer Doesn't Care/Laziness
- 4) A Writer Doesn't Think They Will Get Caught
- 5) A Writer Made A Mistake



Five Ways To Avoid Plagiarism In Your Writing: The First Way

Grammarly offers these five ways to avoid plagiarism in your research writing:

First, Cite Your Source...

- When alluding to an idea or wording that's not your own, add a citation in your writing that identifies the full name of the source, the date it was published, and any other citation element that's required by the style guide you're adhering to.



Five Ways To Avoid Plagiarism In Your Writing: The Second Way

Second, Include Quotations...

- If you insert a source's words into your writing, verbatim, one of the most simple yet obvious ways to avoid plagiarism is by using quotation marks around the text to denote that the words aren't your own. A direct quote should also cite the source so that readers know who the quote is from.



Five Ways To Avoid Plagiarism In Your Writing: The Third Way

Fourth, Present Your Own Idea...

- Instead of parroting the source's ideas or words, explore what you have to say about it. Ask yourself what unique perspective or point you can contribute in your writing that's entirely your own. Keep in mind that if you're alluding to a source's ideas or words to frame your own point, you'll still need to apply the guidelines above to avoid plagiarizing.
- If you're writing on the same topic for multiple assignments, it can be tempting to recycle some of your previous words—this is called “self-plagiarism”. The risk involved with self-plagiarism is just as high if the publisher or your instructor didn't give you permission to reuse your old work.



Five Ways To Avoid Plagiarism In Your Writing: The Fourth Way

Fourth, Present Your Own Idea...

- Instead of parroting the source's ideas or words, explore what you have to say about it. Ask yourself what unique perspective or point you can contribute in your writing that's entirely your own. Keep in mind that if you're alluding to a source's ideas or words to frame your own point, you'll still need to apply the guidelines above to avoid plagiarizing.
- If you're writing on the same topic for multiple assignments, it can be tempting to recycle some of your previous words—this is called “self-plagiarism”. The risk involved with self-plagiarism is just as high if the publisher or your instructor didn't give you permission to reuse your old work.



Five Ways To Avoid Plagiarism In Your Writing: The Fifth Way

Fifth, Use A Plagiarism Checker...

- While conducting your research on a topic, some phrases or sentences might stick with you so well that you inadvertently include them in your writing without a citation. When in doubt, using an online plagiarism checking tool can help you catch these issues before submitting your work.
- Grammarly also offers a plagiarism checker that scans your text for borrowed content for free. These tools let you know whether or not parts of your writing are plagiarized—and some even highlight the specific words or sentences of concern and identify where the text originated from.
- These suggestions can be helpful in avoiding plagiarism in your work and is worth the effort. In addition to being more aware of what constitutes plagiarism, figuring out how to avoid plagiarism ultimately takes daily practice.



Your Scientific Experimental Research Paper...

- Teachers ask students to format their papers in the same style so both the writer and reader are not distracted by style choices a student may make. The consistency allows the teacher to focus on the student's work and not on the look of the paper. For science fair research papers, we use APA.
- APA style focuses on achieving the goals of accuracy, ethics, and intellectual rights within scientific writing.
- Your paper will describe your experimental research
- Your paper will include a title page, main body, and reference list. There is a third component called an abstract. However, your high school teacher probably does not require an abstract.



Writing Style

- Do not use contractions (which means that you will NEVER use the word **it's** in an essay/research project)
- Use American spelling of words (i.e. neighbor and NOT neighbour).
- In a formal essay, never write in the first person (me, I, my)
- Refer to the research
- Use active voice
- Keep your writing clear, concise, and bias-free



General APA Formatting Guidelines

**TEACHERS MAY ADAPT THESE GUIDELINES FOR THEIR OWN PURPOSES.
PLEASE FOLLOW YOUR TEACHER'S REQUIREMENTS.**

The Basics:

- All papers are typed on A4 size paper (210mm x 297mm)
- Double-space everything
- Use 12 pt. Times New Roman font
- Every page of your essay should include page numbers in the top, upper right corner
- Leave only one space after punctuation
- Set all margins to 1 inch on all sides (2.54 cm.) – “Normal” margins
- Indent the first line of paragraphs one half-inch
- Remove extra spaces between paragraphs
- Titles in the text are treated differently than in the reference page:
 - Capitalize all words that are four letters long or longer.
 - Use italics for the titles of longer works referred to in your paper (books, websites, movies)
 - Use quotation marks when referring to titles of shorter works in your paper (articles, webpages, short stories)



Formatting: Title Page

Your teacher will give you the APA Checklist. Follow the examples found on this checklist.

- Include your page number in the top, upper right corner. The Title Page is page number 1.
- Information should be centered and in the top half of the page, center each of the following lines:
- Title of the Paper (should not be more than 12 words long and can take up 2 lines if needed)
- Your Full Name
- Course/Class Name
- Your Teacher's Name
- Your paper's due date
- In college lab reports, headers are expected to separate the sections of your paper. In most high school papers, your teachers will not expect you to use headers.



Example of a Student Title Page

Sample of an APA format title page for a student paper:

1-inch margins

Effects of Pollution: An Arctic Environmental Study

Colin Kaye

Department of Biology, Demesne University

ENVR 121: Dynamic Earth

Dr. Katherine Hashimoto

February 1, 2020

- Title case
- Bolded
- Centered

- Centered
- Double-spaced
- Times New Roman font, size 12



Main Body (Text)

- PAGE NUMBER on the top of each page, upper right corner
- TITLE centered, bold print
- INTRODUCTION: An outline of the specific problem and the author's research strategy.
- In addition to the introduction, most scientific or professional papers (or even college papers) have additional sections or guidelines. Your high school teacher will probably not require these additional sections or guidelines.



Example of a Main Body (Text)

Sample body for a student paper:

Page number
only

2

Effects of Pollution: An Arctic Environmental Study

Indent

This paragraph should be your introduction. The introduction presents the problem and premise upon which the research was based. It goes into more detail about this problem than the abstract.

All other paragraphs in your paper should also be indented.
Also, double space all the lines in your paper.



Learning How To Use A Citation Style To Avoid Plagiarism

When writing your research paper, you must cite the following:

- A direct quotation
- A statistic
- An idea
- Someone else's opinion
- Concrete facts not considered “common knowledge”
- Information not commonly known
- Information taken from the computer (CD ROMS, internet, etc.)
- Illustrations, photographs, or charts – if not yours

Source: Silverman, Jay, Elaine Hughes, and Diana Roberts Weinbroer. Rules of Thumb: A Guide for Writers. New York: McGraw Hill, 2002.



General Rules About Citing

- Ideally, no more than 25 percent of your paper should be direct quotations
- Paraphrase as much as you can
- Use direct quotations when citing a statistic or original theory
- Use author's words if they capture a point exactly



Do I Still Need To Cite If I Am Paraphrasing And Summarizing?

You must still acknowledge your source if you...

- Paraphrase: Put someone else's ideas into your own words
- Summarize: Condense someone else's words or ideas



APA Citation Basics

- When using APA format, follow the author-date method of in-text citation. This means that the author's last name and the year of publication for the source should appear in the text, like, for example, (Jones, 1998). One complete reference for each source should appear in the reference list at the end of the paper.
- If you are referring to an idea from another work but **NOT** directly quoting the material, or making reference to an entire book, article or other work, you only have to make reference to the author and year of publication and not the page number in your in-text reference.



Examples of Parenthetical In-Text Citations using APA Format

Below are examples of how reference citations would look in your paper using the APA format.

"If you copy a sentence from a book or magazine article by a single author, the reference will look like this. A comma separates the page number (or numbers) from the year" (Bloggs, 2002, p. 37).

"If you copy a sentence from a book or magazine article by more than one author, the reference will look like this" (Bloggs & Smith, 2002, p. 37).

"Sometimes the author will have two publications in your bibliography for just one year. In that case, the first publication would have an 'a' after the publication year, the second a 'b', and so on. The reference will look like this" (Nguyen, 2000b).

"When the author is unknown, the text reference for such an entry may substitute the title, or a shortened version of the title for the author" (The Chicago Manual, 1993).

"For reference citations, only direct quotes need page numbers" (Han, 1995).

"Some sources will not have dates" (Blecker, n.d.).



Visuals & Results: Data Displays

- Data displays should be well constructed and planned
- Consider whether a data display is the most ideal form of communication
- Avoid using shading or colors for emphasis. Instead use white space and italic or bold lettering.
- Don't use too many data displays
- Edit data and graphical displays the same way you would a paper – check for typos, grammatical errors, and mechanics
- Effective and attractive data displays will add to the purpose of a paper



Visuals & Results: Tables

- Label tables with an Arabic numeral and provide a brief but clear title. The label and title appear on separate lines above the table, flush-left and single-spaced.
- Cite a source in a note below the table.

Table 1

Top 3 NBA Season Leaders 2019

TEAM	POINTS PER GAME
Milwaukee Bucks	119.8
Houston Rockets	119.1
Dallas Mavericks	116.8

Note: This data was collected on December 31, 2019.
Retrieved from <http://stats.nba.com/teams/>

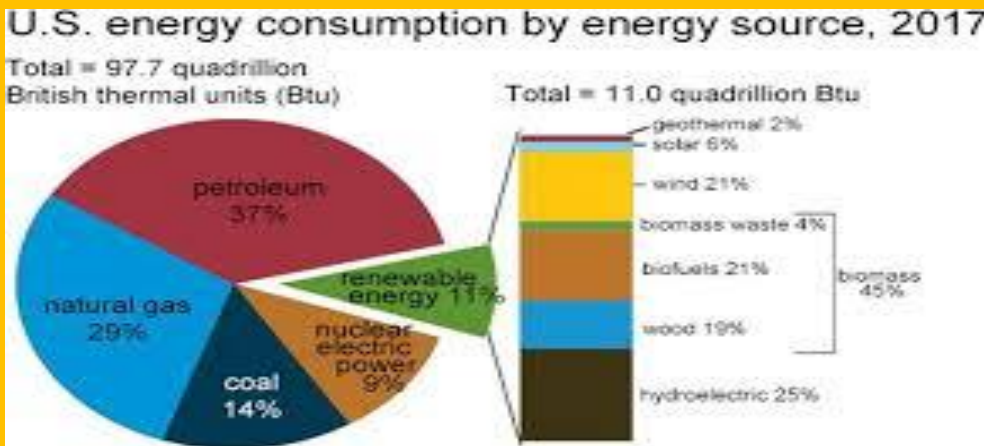


Visuals & Results: Figures

- Label figures with an Arabic numeral and provide a brief but clear title. The label and title appear on separate lines above the figure, flush-left and single-spaced.
- Cite the source in a note below the figure.

Figure 1.

US Primary Energy Consumption by Energy Source, 2018



Note: This data was available from Technology and Economics of Smart Grids and Sustainable Energy on www.researchgate.net



Visuals & Results: Statistics

- Statistics should be clearly written and expressed so the reader can comprehend the data.
- Statistics should always include enough information to enable the reader to understand the analysis
- If descriptive statistics are used in a table or figure, it is not necessary to repeat them in the text although you should mention where the information can be found.



Reference Page

- Center the word “References” at the top of the page. Do not bold it.
- Double-space reference entries
- All lines after the first line of each entry in your reference list should be indented one-half inch from the left margin. This is called hanging indentation.
- Order entries alphabetically by the author’s surnames



Reference Basics

- When referring to the titles of **books, chapters, articles, reports, webpages**, or other sources, capitalize only the first letter of the first word of the title and subtitle, the first word after a colon or a dash in the title, and proper nouns.
 - Note again that the titles of academic journals are subject to special rules (next slide).
- Italicize titles of longer works (e.g., books, edited collections, names of newspapers, and so on).
- Do not italicize, underline, or put quotes around the titles of shorter works such as chapters in books or essays in edited collections.



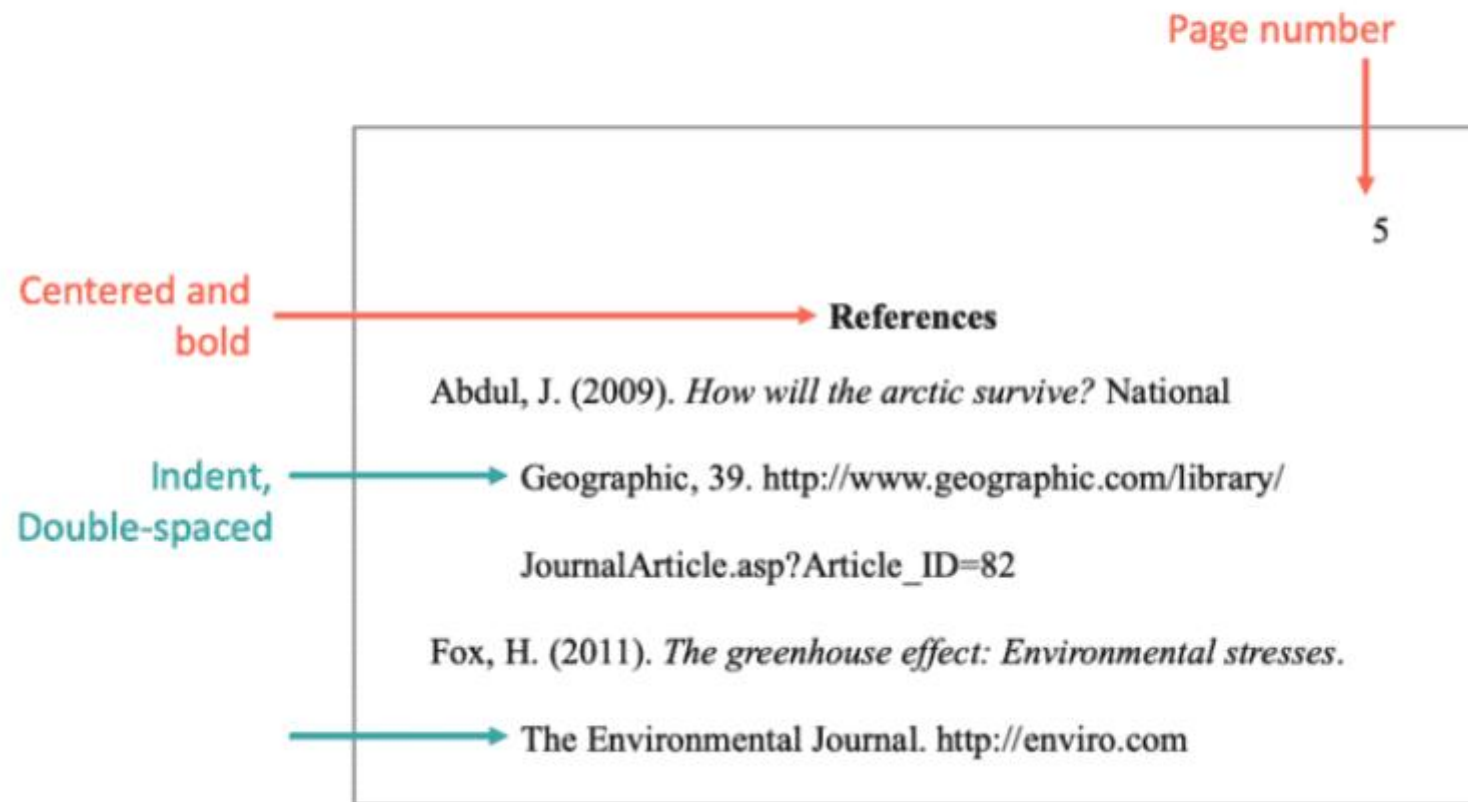
Reference Basics

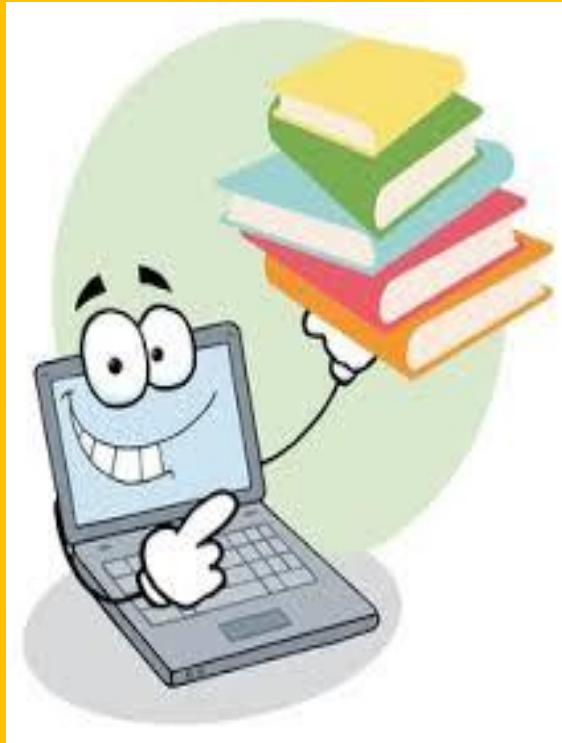
- All authors' names should be inverted (i.e., last names should be provided first).
- Authors' first and middle names should be written as initials.
 - For example, the reference entry for a source written by Jane Marie Smith would begin with "Smith, J. M."
 - If a middle name isn't available, just initialize the author's first name: "Smith, J."
- Give the last name and first/middle initials for all authors of a particular work up to and including 20 authors. Separate each author's initials from the next author in the list with a comma. Use an ampersand (&) before the last author's name. If there are 21 or more authors, use an ellipsis (but no ampersand) after the 19th author, and then add the final author's name.
- Reference list entries should be alphabetized by the last name of the first author of each work.
- For multiple articles by the same author, or authors listed in the same order, list the entries in chronological order, from earliest to most recent.



Reference Basics

Sample reference page for a student paper:





Let's Look At Some
Reference
Examples...



Reference: Periodicals

- Author's last name, initials. (date). Title of article. *Title of Periodical*, volume # (issue #), page #(s). DOI
- For references from an online source with no DOI, include the homepage URL for the journal, magazine, etc., in this format: <http://www.xxx.xxx> .
- Newspaper and magazine articles: Format with the same author-date system, but also include month and day of publication, if possible.
- Newspaper Article:
Seelye, K. Q. (2015, January 21). Decree reflects rift in Boston over 2024 Olympics. New York Time. <http://www.nytimes.com/sports/olympics>
- Magazine Article:
New, V. A. (2025, September 8). Retirement plans for the exhausted librarian. *Education Weekly*. <https://www.edweek.org/article.cfm?id=retirement-plans-for-the-exhausted-librarian>



Reference List: Books

Basic Format For Books

Author, A. A. (Year of publication). *Title of work: Capital letter also for subtitle.*
Publisher Name. DOI (if available)

Stoneman, R. (2008). *Alexander the Great: A life in legend.* Yale University Press.

Edited Book, No Author

Editor, E. E. (Ed.). (Year of publication). *Title of work: Capital letter also for subtitle.*
Publisher. DOI (if available)

Leitch, M. G., & Rushton, C. J. (Eds.). (2019). *A new companion to Malory.* D. S. Brewer.



Reference List: Books

Edited Book With Author or Authors

Author, A. A. (Year of publication). *Title of work: Capital letter also for subtitle* (E. Editor, Ed.). Publisher. DOI (if available)

Malory, T. (2017). *Le morte d'arthur* (P. J. C. Field, Ed.). D. S. Brewer. (Original work published 1469-70)

A Translation

Author, A. A. (Year of publication). *Title of work: Capital letter also for subtitle* (T. Translator, Trans.). Publisher. (Original work published YEAR) DOI (if available)

Plato (1989). *Symposium* (A. Nehamas & P. Woodruff, Trans.). Hackett Publishing Company. (Original work published ca. 385-378 BCE)

Note: When you cite a republished work, like the one above, in your text, it should appear with both dates: Plato (385-378/1989)



Reference List: Books

Edition Other Than The First

Author, A. A. (Year of publication). *Title of work: Capital letter also for subtitle* (# edition). Publisher. DOI (if available)

Belcher, W. (2019). *Writing your journal article in twelve weeks: A guide to academic publishing success* (2nd ed.). University of Chicago Press.

Article Or Chapter In An Edited Book

Author, A. A., & Author, B. B. (Year of publication). Title of chapter. In E. E. Editor & F. F. Editor (Eds.), *Title of work: Capital letter also for subtitle* (pp. pages of chapter). Publisher. DOI (if available)

Note: When you list the pages of the chapter or essay in parentheses after the book title, use "pp." before the numbers: (pp. 1-21). This abbreviation, however, does not appear before the page numbers in periodical references. List any edition number in the same set of parentheses as the page numbers, separated by a comma: (2nd ed., pp. 66-72).

Armstrong, D. (2019). Malory and character. In M. G. Leitch & C. J. Rushton (Eds.), *A new companion to Malory* (pp. 144-163). D. S. Brewer.



Reference List: Books

Multivolume Work

Author, A. A. (Year of publication). *Title of work: Capital letter also for subtitle* (Vol. #). Publisher. DOI (if available)

David, A., & Simpson, J. (Eds.). (2006). *The Norton anthology of English literature: The Middle Ages* (8th ed., Vol. A). W. W. Norton and Company.



Reference Page: Other Print Sources

Entry In A Dictionary, The Thesaurus, Or Encyclopedia With A Group Author

Institution or organization name. (Year). Title of entry. In *Title of reference work* (edition, page numbers). Publisher name.

Merriam-Webster, Incorporated. (1997). Goat. In *Merriam Webster's collegiate dictionary* (10th ed., pp. 499-500). Merriam-Webster, Incorporated.

Entry In A Dictionary, The Thesaurus, Or Encyclopedia With An Individual Author

Lastname, F. M. (Year). Title of entry. In F. M. Lastname (ed.), *Title of reference work* (edition, page numbers). Publisher.

Tatum, S. R. (2009). Spirituality and religion in hip hop literature and culture. In T. L. Stanley (ed.), *Encyclopedia of hip hop literature* (pp. 250-252). Greenwood.



Reference Page: Social Media & Other Online Communities

➤ Tweet:

Hanks, T. [@tomhanks]. (2019, July 9). *Look at the cool beach clothes I got for my 63rd Birthday! Hanx!* [Image attached] [Tweet]. Twitter. <https://twitter.com/tomhanks/status/114858899359784768>

➤ Instagram:

National Geographic. [@natgeo]. (2020, February 8) Adelie penguins get ready for a plunge off the Antartic Peninsula [Photograph]. Instagram. <https://www.instagram.com/p/B8TfPO4Fyr8/>

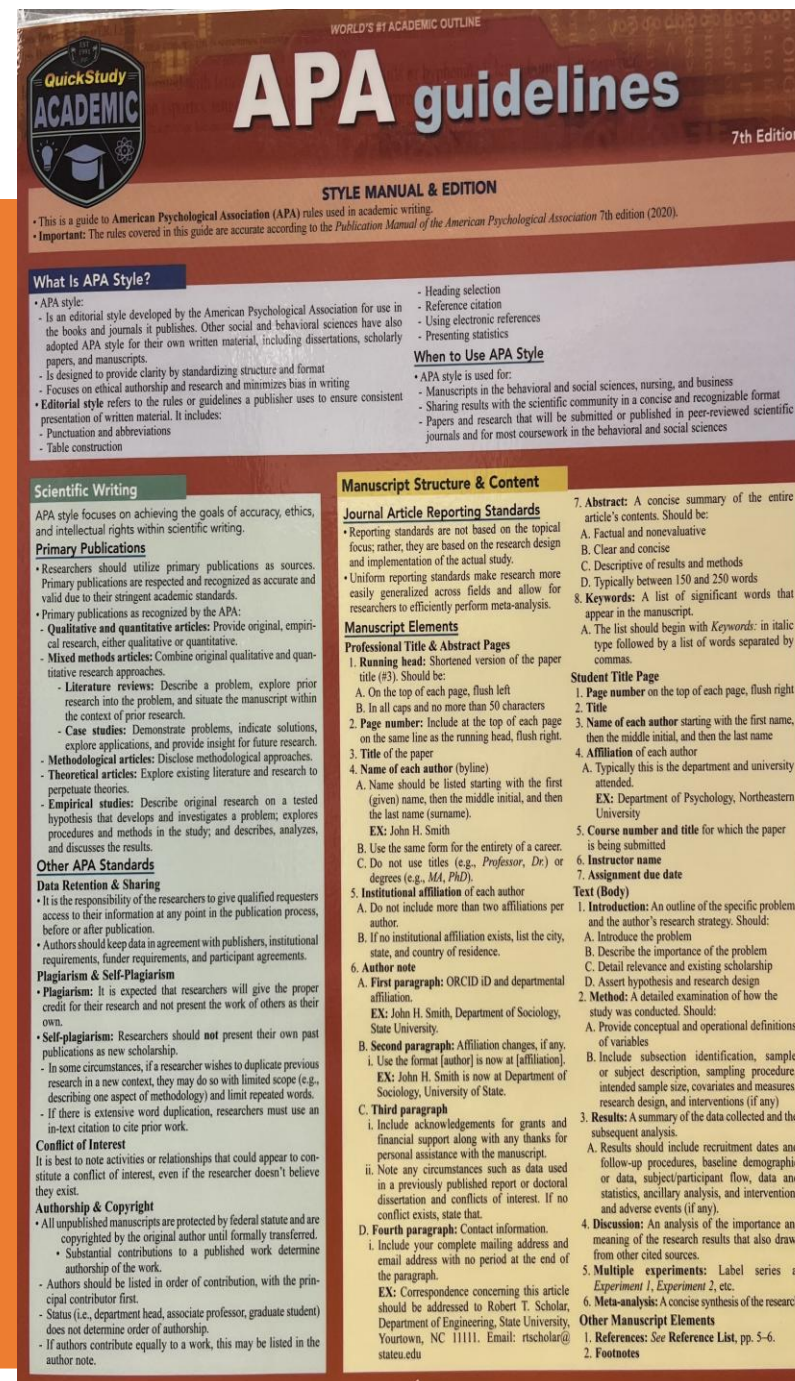
➤ Please see the APA Guidelines QuickStudy Laminated Reference Guide for more information on references. Your science teacher will sign out a copy to you soon.



Reference

You will be signing out APA Guidelines QuickStudy Laminated Reference Guide, 7th Edition from your science teacher. You might sign this out for individual use or group use depending on the quantity we have. Please adhere to the following:

- The guide is not to leave your classroom. You are to use it in your science teacher's classroom only.
- If the guide is damaged or not returned, you will be charged the full replacement amount of \$6.95.



The Purdue OWL: <http://owl.purdue.edu>

