Science communication

Editing Wikipedia can be daunting for newcomers, especially as a student editor contributing to Wikipedia for the first time as a class assignment. This guide is designed to help you create or expand articles about science on Wikipedia.

Be accurate

Wikipedia is a resource millions of people use to inform themselves about the world of science. Your work for this class will be read by thousands of people, so it's important to be accurate.

By documenting and sharing facts about scientific topics, you'll help Wikipedia provide a wider spectrum of information about the world. With great power comes great responsibility!

Understand the guidelines

Take time to read and understand the suggestions here to make the most of your contributions to Wikipedia. If you post something that doesn't meet those guidelines, it may take up valuable volunteer time that could have been spent improving content.

If you aren't comfortable working within these guidelines, talk to your instructor about an alternative, off-wiki assignment.

Engage with editors

Part of the Wikipedia experience is receiving and responding to feedback from other editors. Don't wait until the last day to make an article contribution, or you may miss out on important comments, advice, and ideas from others. Know that volunteers from the Wikipedia community might respond or ask questions about your work. If they do, make sure to acknowledge it. Discussion is a crucial part of the Wikipedia process.

Avoid close paraphrasing

Use your own words. Plagiarizing by copying-and-pasting is against the rules. Close paraphrasing, which is when most of the words are changed but the structure and meaning of the original text remains, is also not okay.

Plagiarism is a violation of your university's academic honor code. Plagiarism on Wikipedia will be caught by other editors, and there will be a permanent online record of plagiarism tied to your account. Even standard resources, such as descriptions in textbooks or abstracts in academic journals, are under copyright and should never be directly copied.

The best way to avoid plagiarism is to make sure you really understand your material, draw from a number of different sources, and write about it in your own words.

Be bold!

Everyone on Wikipedia wants to make it the best it can be. Take the time to understand the rules, and soon you'll be contributing important knowledge to a resource you and millions of other people use every day.

Wiki Edu

Choosing an article

Choose an underdeveloped topic that has a lot of literature in independent, peer-reviewed sources. You might search for interesting, plentiful sources first, then choose an article based on what you find. Look for "start" and "stub" class articles (an article's rating can be found on its talk page).

For more guidance, see the *Finding Your Article* training: https://dashboard.wikiedu.org/training/students/finding-your-article

Thinking critically

How do you identify sources you can use to build your Wikipedia article? Your sources should be reliable, published, and generally reviewed by a third party for accuracy. Readers are trusting you to represent a topic fairly — that means researching to find underrepresented views and being skeptical of extreme or sweeping claims.

Using reliable sources

Wikipedia requires "secondary sources." These are sources that summarize one or more primary or secondary sources, usually to provide an overview of the topic.

Citing peer-reviewed articles or books

To find peer-reviewed sources, search databases like Web of Science, JStor, and ProQuest. Research articles can tell you about the findings of a study, but they can't say much about the importance or long-term consequences of those findings. Cite review articles and textbooks instead, as these sources can put research findings in context and comment on their importance. Only consult research papers as a supplement.

Citing press articles

Try to use review articles whenever possible. New scientific discoveries can be newsworthy, though, and so may be covered in secondary sources that write about science. Make sure that if you use a news source, it has a reputation for fact-checking, like the 'Science'

sections of the *New York Times*, *The Atlantic*, or *FiveThirtyEight*. Avoid sources that report on the hype around a discovery, rather than the science. And be careful not to cite sources that link back to a university's press release. You can't use published research to demonstrate the importance of that published research (this is circular).

In general, don't cite:

- press releases
- blog posts
- university websites

Evaluating sources

Learning to evaluate sources is a core component of engaging critically in your field and on Wikipedia. The communication of scientific topics informs the public's decision-making around policy, voting, personal health, and more. Thus, presenting the facts accurately is vital.

Consider the **author**. Authors published in a peer-review process are preferred to authors who self-publish. If you cite an article in the press, make sure the author is a well-known science journalist (perhaps with the title "science correspondent") or a scientist themselves.

Consider the **content**. Be skeptical of a source that makes sweeping claims without citing multiple cases of published research. If you're looking at a popular press article, dig into the sources that the author has cited. If it's unclear how the author is backing up their claims or the author relies too heavily on a single source, that article probably isn't reliable. It's always better to use a scholarly source to contribute the same information, if you can find one.

Consider the **publisher**. Work cited should come from a reliable, academic publisher of books and textbooks in scientific fields, such as Wiley or the Oxford University Press.

For more on reliable sourcing, see | *shortcut* WP:RS .

Developing your article

How to approach your topic

Every article will be unique, but there are some general sections that readers and other editors will expect to see. You can add, remove, or reorder them as appropriate for your topic.

Keep in mind that most research and discoveries don't deserve a stand-alone article, but may form an important part of an article about the broader topic. In those cases, you may still include sections from the general outlines below as you incorporate information into the existing article.

Writing about research

• Lead section
• History of related research (background, or context)
• Findings and evidence
• Alternative hypotheses or conflicting evidence
• Impact and implications

Don't get caught up in explaining sample sizes, means, standard errors, or methods. Stick to essential findings and what other sources have said about the impact of the research.

For a good example, see the article for the *Alvarez hypothesis*.

Writing about a new discovery

• Main conclusions of the discovery/research
• Context/history of the research
• Discovery or excavation process
• Impact on existing research or hypotheses

For good examples, see articles for *CRISPR* and *Homo naledi*.

Writing about researchers

Consult the *Editing Wikipedia articles: Biographies* handout, available at
https://wikiedu.org/biographies

Take a look at articles about similar topics to see what important aspects of the subject they cover. Consider incorporating relevant categories, sections, and wikilinks from that article into the one you're editing.

Understanding tone

Students are well equipped to translate science for general audiences. Remember that your intended audience isn't an instructor, classmate, or colleague in the field who already understands your topic. You should be pitching your work at a fairly well-informed general reader. Only use technical terms when necessary. If you must use one, briefly describe it and/or wikilink to a relevant Wikipedia article.

Put the most relevant, interesting information about a topic at the beginning of the article. Don't include peripheral information; articles should be as long or short as needed to cover the topic fully.

Depicting information accurately

Unlike many academic papers, Wikipedia doesn't permit original research. Wikipedia is an encyclopedia, a place to find a summary of what other literature says. It's not a place for interpretation or analysis. Never use material from different sources to suggest a conclusion that isn't *explicitly* stated by those sources. If one reliable source says A, and another says B, resist the temptation to connect A and B in your article.

You can find out more about Wikipedia's policies on Original Research at | *shortcut* WP:NOR.

What's a shortcut?

The text WP:NOR is what's known on Wikipedia as a *shortcut*.

You can quickly type shortcuts like this into Wikipedia's search bar to pull up specific pages.

Wrapping up

Key points

As you start writing, keep these guidelines in mind:

- Make sure your topic is notable, i.e. it has significant coverage in independent, reliable secondary sources.

- Before citing a source, evaluate it for reliability based on its author, content, and publisher.

- Summarize content found in reliable sources in your own words.

- Write for a general audience. Don't assume people have subject matter knowledge. Always provide a short, plain-English explanation of technical terms in parentheses.

- Let the facts speak for themselves. Depicting information accurately means resisting the urge to add your own analysis.

- Be sure you're writing impersonal, fact-based encyclopedia content, not an essay or blog post. See the *Editing Wikipedia* brochure linked from your Dashboard for a refresher on the difference in tone.

Final thoughts

- Don't procrastinate! Writing good, reliable Wikipedia articles takes time. Don't wait until the last minute. If you get stuck, always ask your instructor for extra time, rather than adding content to Wikipedia that doesn't meet these guidelines.

- Remember to link to other pages on Wikipedia so readers can learn more about topics you mention.

- If you have additional questions about contributing to Wikipedia, you can ask the Wikipedia Content Expert listed on your course page.

- Check back on your page. It can be interesting to see how your article grows, but you may also have comments and suggestions from other editors, and want to get involved in new developments.