

A jIAPS guide to writing a great scientific article: 17 golden rules



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<https://iaps.info/jiaps>

The following advice is by no means set in stone, but are suggestions towards an initial foundation for good writing. Everyone develops their own methods according to what works best for them, but it's always good to reassess your writing whatever stage you are at.

1. **Find an idea.** Sometimes this is the most challenging part of writing. Ideas arise in all sorts of ways and at the most unexpected of times. Scan the news, science magazines, [arXiv](#), or ask around in your department for any interesting research that might serve as inspiration.
2. **What type of article are you writing? What is your message?** Have it clear in your mind what you want to get across. Is it a particular scientific discovery? Or the latest developments in a new and exciting (niche) field? Perhaps you want to write about a scientific instrument or a concept. You must know the message that you are trying to convey before hand touches pen (or keyboard), which will help inform your article and the style of your writing.
3. **The best articles are laid out like a story** (yes, even science articles). In order to communicate well, the reader must both be enticed to read on, and be able to easily follow where the article is taking them. There should be a clear beginning, a middle and an end, linked by a thread throughout.
4. **Paragraphs.**
 - a. Not too many and not too few. We recommend 5-7 paragraphs for 700 words.
 - b. Each paragraph should also have its own beginning, middle, and end, linking to the previous paragraph whilst providing a link to the next.
 - c. Focus on conveying one point per paragraph, and continue carrying on the thread of the entire article. It helps to plan the focus of each paragraph before writing. (Don't worry if this changes, you don't have to stick to it.)
 - d. Don't be afraid to keep linking and referring back to the main message in every paragraph.
5. **Headings.** This is not compulsory, but you can use (quirky) headings to help separate your article into sections. Usually 2-3 paragraphs per section.
6. **Title.** Feel free to let your creativity shine here, to entice your audience to read on. We don't mean clickbait titles; the title should realistically reflect what your article is about.

You could use a pun or phrase your title as a question to make it more interesting.

7. **Who is your target audience?** In our case, it's mostly physics students attending ICPS. You need to ensure that a 1st year physics undergrad student will understand your article. The best articles avoid jargon, but this doesn't mean dumbing down the science.
8. **Try to avoid using equations.** If you have to use equations, use them sparingly (1 or 2 max!) and ensure you explain them in a way that your target audience can understand.
9. **Images.** Every article should have at least one image (but not more than 2 or 3), with a caption (no jargon here either). The image could be a photograph, a plot, an artistic illustration, an infographic, etc. The image should be relevant, add to the article, and may help the reader understand a concept difficult to explain in words. Make sure you give credit and refer to the image in the main text.
10. **Cut out unnecessary words.** Keep sentences succinct and to the point. Don't ramble! For example, instead of "make an assessment", use "assess".
11. **Avoid repetition.** Try not to use the same word over and over again (e.g. "conducted"). But equally, don't just use any word you find in a thesaurus, make sure you know its meaning and that it's appropriate for the context.
12. **Use the active voice and crisp verbs.** That means no flowery language! [Read here](#) to learn more about using the active voice, avoiding gobbledegook, and using strong verbs.
13. **Try the [Hemingway Editor](#).** A fantastic resource which helps you to edit your text.
14. **Keep it short.** Just because we've given you a limit of 700 words doesn't mean you have to fill it. Use an amount of words appropriate to the story you are telling.
15. **Bibliography.** Use numbered citations, i.e. (1), otherwise known as the Vancouver reference style. [This guide](#) explains everything you need to know about citing and referencing in this system.
16. **Correct typos and spellcheck.** We won't penalise you if English isn't your native language, but that's no excuse not to check for typos and grammar mistakes. It's an easy thing to check and is available for free on editors or online e.g. Google Docs, MS Word, LibreOffice.
17. **REREAD AND EDIT THE ARTICLE BEFORE YOU SUBMIT.** This is the most crucial step of writing. Ever. If possible, write the article at least a week before submitting, so that you can leave it for a few days before reading it again afresh.