

Writing in the Sciences

□ Overview

- Two categories: social sciences and natural sciences
 - Social Sciences: psychology, anthropology, political science, sociology, education, and economics
 - Natural Sciences: biology, chemistry, engineering, geology, and physics.
- Writing in the sciences focuses on informing the reader on new discoveries, and assisting readers in discovering truth through facts and solid data.
- The actual research work is distinct from reading and writing. The practical work of experiments, simulations, and calculations eventually becomes the basis for writing.
 - In this way, writing is often regarded as secondary though no less important.
- The use of detailed conventions regulating structure are common.
 - Many fields in the sciences use IMRAD (intro-methods-results-discussion) or AIMRD. These templates usually have the added bonus of allowing for quicker, more efficient writing.

□ Style

- There are certain generalities about writing in the sciences. As always, consult with your instructor on specific rules. But here are a few to ponder for your own writing:
 - formal tone; third person voice; avoid personal references and needless adjectives; writing is clear, concise, and precise; simple language with short sentences.

□ Jargon

- The main function of jargon, or technical terminology for a profession or group, is compression, not to sound sophisticated. Jargon should not be used to be deliberately obscure, or to make your writing needlessly difficult.
 - Tip: Think about audience. Are you writing for fellow scientists or the general public? How might both substance and style change?

□ **Passive vs. Active Voice**

Historically, the sciences have encouraged the passive voice (ex: The element radon was discovered in 1900), which helps to emphasize objectivity. But there has been a movement more recently to move away from the passive voice in the sciences, a shift that more readily acknowledges the role of observer or investigator in the shaping of knowledge. Please consult with your instructor on preference for voice in your written work.

□ **Tense**

Most common: present and past (with future and present perfect a distant third and fourth respectively).

- Use present tense when making assertions about nature or concepts, or what is currently accepted as being true.
 - Ex: "A poor diet increases the risk of cardiovascular disease."
- Conversely, use past tense when describing what you or someone else did or asserted, as used in the methods section or with a hypothesis that has been disproven.
 - Ex: "The world was thought to be flat. . ."
- Future tense may be used when you lay out your plan in a proposal.
 - Ex: "In my final project, I will compare survival strategies in salt creek tiger beetles and water scavenger beetles."
- Use present perfect when describing what you have done repeatedly in the past, continuing up to the present. This could also be an action or state that occurred at an indefinite time in the past, such as "we have talked before."
 - Ex: "Over the past several years I have collected data on salt creek tiger beetles and water scavenger beetles."

The use of past tense is one of the key differences between writing in the humanities and sciences.

- In the humanities, writers are engaging in a conversation that takes place in the eternal present (unless writing in history).
 - Ex: "Shakespeare compares the poet's lover to a summer's day."
- The sciences see the contribution of any individual as adding progressively to an ordered sequence of investigations, and the past tense helps convey this temporal progression.