**When writing for the sciences, your language should be clear, concise, and precise. Here are some ways to achieve this style while maintaining the characteristic objectivity of science writing.**

**Use active and passive voice verbs appropriately:**

In an active-voice sentence,the subject is the doer of the action expressed by the verb:

**Subject (doer/actor) active verb object of verb (receiver of the action)**

*We analyzed the data.*

In a passive-voice sentence, the subject is the receiver of the action expressed by the verb:

**Subject (receiver of action) passive verb (**helping verb + past participle of a transitive verb)

*The data was analyzed.*

Active voice sentences are clear, direct, and usually more concise than passive sentences. They make your writing more vigorous and engaging.

|  |  |
| --- | --- |
| **Passive and wordy:** | Specimens were collected and slides were made by the researchers. |
| **Active and concise:** | Researchers collected specimens and made slides. |

* When using active voice with first person point-of-view (*I analyzed, we tested*), avoid statements that suggest subjectivity or personal bias—*I feel, We believe*, etc.
* Passive voice is useful, appropriate, and unavoidable in some instances, such as when the doer is unknown or when it is unnecessary or unimportant to name the doer (*The element radon was discovered in 1900*), when the idea can only be expressed in passive voice (*Bacteria are found on most surfaces*), or when you wish to focus on the research and not the researcher (*Data from three randomized trials were factored into the results).* Also, because science writing should convey objectivity, some professors prefer that students use the passive voice, particularly when writing lab reports. Be sure to follow your professor’s instructions.

**Prefer single verbs, not wordy or compound verb phrases:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Wordy:** | perform an analysis | is in violation of | proceed to examine | has an encounter |
| **Concise:** | analyze | violates | examine | encounters |

Hint: Look for *nominalizations*—the noun form of the verb (e.g., analysis/to analyze)—to check for this wordy construction.

**Don’t use more words than you need; avoid needless and inflated phrases:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Inflated phrase:** | for the purpose of  | on a daily basis | due of the fact that | at this point in time | subsequent to |
| **Concise term:** | for | daily | because | now | after |

HINT: Circle prepositions to help you spot wordy prepositional phrases that can be pared down to a single word.

**Place subjects and verbs close to one another to aid sentence clarity:**

When the subject and *verb* are separated by a long phrase or clause, readers may lose track of meaning.

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| --- |
| **Unclear:** The osmoregulatory organ, which is located at the base of the third dorsal spine on the outer margin of the terminal papillae, *expels* excess sodium ions under hypertonic conditions. |
| **Clear:** Located on the outer margin of the terminal papillae at the base of the third dorsal spine, the osmoregulatory organ *expels* excess sodium ions under hypertonic conditions. |

Note how the revised sentence substitutes a phrase (located . . .) for a clause (which is located . . .), further reducing wordiness and aiding clarity.

**Eliminate excessive qualifiers and redundancies:**

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| --- | --- | --- | --- | --- |
| **Redundant:** | completely finished | perfectly clear | component part | past experience |
| **Concise:** | finished | clear | part | experience |

HINT: Check your adjectives and adverbs to find unnecessary modifiers.

**Use clear, direct, simple words over showy, complex, or ‘fancy’ words:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Fancy or complex:** | **Simple and clear:** | **Fancy or complex:** | **Simple and clear:**  |
| indicator | sign | endeavor | try |
| penultimate | next to last | optimal | best |
| facilitate | help | methodology | method |
| elucidate | show | impact (verb) | affect |

**Use detailed, specific, and concrete language:**

|  |  |
| --- | --- |
| **Vague:** | **Specific:** |
| The development rate was fastest in the higher temperature treatment. | The development rate in the 30\*C temperature treatment was ten percent faster than the development rate in the 20\*C temperature treatment.  |

Works consulted in the creation of this document:

<https://cgi.duke.edu/web/sciwriting/index.php>

<http://www.writing.utoronto.ca/advice/specific-types-of-writing/296-writing-in-the-sciences>

<http://writingcenter.unc.edu/handouts/sciences/>

**OFFICE OF WRITING AND LANGUAGE SERVICES, LOYOLA UNIVERSITY, ML 241, 865-2297**