



How to.... Present and past tense

When writing an essay or a paper, it can be difficult to decide whether you should use the past or present tense. It may be helpful to stick to these simple rules. Hopefully you learned most of these in your high school English classes (past tense). In case you have forgotten (present perfect) some of them, or are still confused (present continuous), here is the summary.

The 12 Verb Tenses - Usage

| | Past | Present | Future |
|--------------------|--|---|--|
| Simple | <p>I ate pizza yesterday.</p> <p>To indicate a past habit – or an action already completed.</p> <p>Can be used with or without adverbs of time.</p> | <p>I eat pizza everyday.</p> <p>To express habits or general truth.</p> <p>To indicate a future event on a designated date as part of a plan or arrangement.</p> <p>With 'mental action' verbs: <i>like, love, want, need, believe, etc.</i></p> | <p>I will eat pizza tomorrow.</p> <p>To indicate an action, condition, or circumstance which hasn't taken place yet.</p> |
| Continuous | <p>I was eating pizza when you arrived.</p> <p>To indicate uncompleted action of the past (with or without time reference)</p> <p>To indicate persistent habits of the past (with <i>always, continuously, forever, etc.</i>)</p> | <p>I am eating pizza right now.</p> <p>To indicate action going on at the time of speaking.</p> <p>To indicate temporary action which may not be happening at the time of speaking.</p> <p>With a habitual action verb, especially to indicate a stubborn habit.</p> | <p>I will be eating pizza when you arrive.</p> <p>To indicate what will be going on at some time in the future.</p> <p>To indicate planned future events.</p> |
| Perfect | <p>I had eaten all of the pizza when you arrived.</p> <p>To indicate a completed action of the past that happened before another event took place.</p> | <p>I have eaten all of the pizza.</p> <p>To indicate past action which is not defined by a time of occurrence.</p> <p>To indicate an action which started in the past and has continued up until now.</p> | <p>I will have eaten all of the pizza by the time you arrive.</p> <p>To indicate an action that will be complete before another event takes place.</p> |
| Perfect Continuous | <p>I had been eating pizza for 2 hours when you arrived.</p> <p>To indicate an action in the past that began before a certain point in the past and continued up until that time.</p> | <p>I have been eating pizza for 2 hours.</p> <p>To indicate an action which started at some point in the past and may or may not be complete.</p> | <p>I will have been eating pizza for 2 hours when you arrive.</p> <p>To indicate an action that will have happened for some time and will not be complete yet at a certain point in the future.</p> |

Table from: <http://www.easypacelearning.com/all-lessons/grammar/1198-12-verb-tenses-table-learning-english-grammar-tenses>



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So what does that mean for my scientific writing?

Let's take a closer look at the simple, continuous and perfect tense, focusing on the situations you will encounter most often when writing your essays, internship reports and manuscripts.

Simple past

For experiments that were conducted (and finished) at a given time in the past, use the past tense. For instance, you will write:

"We performed an immunoprecipitation experiment with Flag-tagged protein."

"They were able to pull down the protein complex."

"Yamanaka first described induced pluripotent stem cells in 2006."

Simple present

For something that is happening now, use the present tense.

Also use the present tense for things that are always true or generally accepted to be true. Please note, that many people also consider this to be the case for when you discuss the published literature: a peer-reviewed paper can be considered to have become general scientific knowledge (see the perfect present below).

"Our group studies stem cells."

"Cancer arises due to the accumulation of genetic mutations."

"The combination of Oct4, Klf4, Sox2 and c-Myc is sufficient to generate induced pluripotent stem cells (Takahashi and Yamanaka, 2006)."

NB: If in the same paragraph you would then go on to discuss specific experiments from that publication in more detail, you would switch to the past tense again:

"By screening 24 different transcription factors, the authors found that the use of these factors was the most potent combination."

Continuous past and present

You use these to indicate an activity that was (or is) happening all the time, or that was never finished (either because it got interrupted or because it is still ongoing).

"We are currently studying whether the same is true in rats."

"Watson and Crick were not making any progress until they met Rosalind Franklin."



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Perfect present

You use this to indicate an activity that began at some point in the past, but which has not yet finished or for which there was no clear starting point. To my opinion, one could argue that this might also be the correct tense to use when describing the literature. Rather than assuming a finding to be generally true (simple present), you could consider scientific truths to be “true until disproven”.

“We have been refining our analyses ever since.”

“Many scientists have tried to solve this problem.”

“The combination of Oct4, Klf4, Sox2 and c-Myc has been shown to be sufficient to generate induced pluripotent stem cells (Takahashi and Yamanaka, 2006).”

A few final remarks

1) Look at the subtle differences you can convey if you make proper use of these tenses. Even worse, you might confuse people if you use them incorrectly:

“We have studied Wnt-signaling for fifteen years” means that the group is still working on this exciting signal transduction pathway, whereas *“We studied Wnt-signaling for fifteen years”* indicates that they are now doing something completely different (of course I don’t understand why anyone would ever want to do that).

2) Take a look at the message you are trying to convey! The meaning can change dramatically depending on the tense you use.

“This type of research is not done with human stem cells” implies a general truth and (in this context) immediately brings an ethical argument/reason to mind. In contrast, the sentence *“This type of research has not been done with human stem cells”* simply implies that no one has gotten around to doing it yet for any number of reasons (because of experimental difficulties, or because there simply hasn’t been time or money).

So the bottom line is: use this knowledge to your advantage to make subtle statements in your writing, but do make sure that you use your tenses correctly to prevent confusion!

For more information/background, check out these pages:

http://www.uri.edu/artsci/com/Logan/teaching/html/wrt333/notes/S&R/2_verb_tense.htm

http://services.unimelb.edu.au/_data/assets/pdf_file/0009/471294/Using_tenses_in_scientific_writing_Update_051112.pdf

<http://writingcenter.unc.edu/handouts/verb-tenses/>