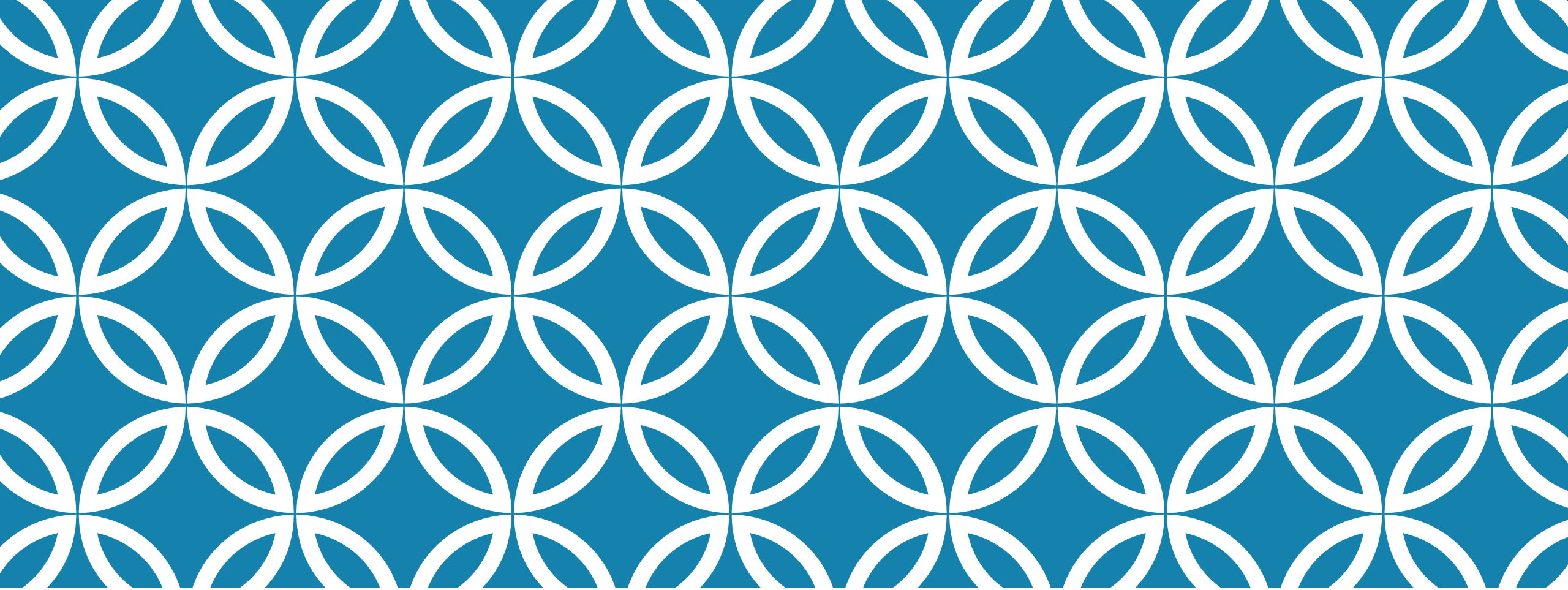

USING TENSES IN SCIENTIFIC WRITING

WHAT DO TENSES DO?

Verb tenses present a relationship between

- the present moment (now), and,
- another moment or period in time (which may be long or short).

These moments or periods may be in the past, present or future.

TENSE USE

IN THE ABSTRACT

type of information	verb form (tense or commonly occurring verbs)	examples
giving background details	present tense	*The industry is already well known for its efforts to improve the eco-efficiency of its processes*
describing the research activity	simple past tense, present perfect tense	*The study focused on 2 main areas* *The framework for life cycle analysis has been developed*
describing the methods	simple past tense (active or passive)	*We carried out a series of field tests* *A large number of samples were tested for fracturing*
reporting results	simple past tense	*Results indicated that the problem is even more serious than previously predicted* *The third model proved to be more durable than the other four*

stating conclusions	present tense verbs indicating tentativeness : • is possible • is likely • appears • seems • might modal auxiliary verbs • can • may • could • might	*This indicates that there <u>are</u>, in fact, several factors contributing to the decrease* *It <u>appears</u> that the incidence of human error cannot be eliminated at any stage* *There <u>might</u> be a need for revising the list of criteria within the next 5-10 years*

INTRODUCTION

Your introduction needs to include background information which is generally **accepted as fact in a discipline**. You also need to explain why the research you are reporting is important. It is usually presented in **the present tense**.

Example: Genomics provides crucial information for rational drug design.

You will need to refer to existing research relevant to your work, and you can indicate your opinion of the research you are writing about by careful tense selection. For example, when you use **the present tense** you are indicating to the reader that you believe that **the research findings are still true and relevant**, even though the original research may have been conducted some time ago.

Example: *Many of the lakes and wetlands in the region are located in craters or valleys blocked by early Pliocene lava flows (Ollier & Joyce, 1964).*

METHODS

In your methods section it is customary to use a form of the **simple past tense** to describe what you did in your study. Passive voice is often used. Examples:

Total phosphorous (TP) and total nitrogen (TN) were measured in the laboratory using standard procedures.

The standard protocol was followed for the preparation of the media from stock solutions.

Past passive

Three 2 litre samples were taken at a depth of between 0.1 and 0.5 m at the down-wind end of each wetland.

Past active

Each of the three groups took 2 litre samples at a depth of between 0.1 and 0.5m at the down-wind end of each wetland.

DIAGRAMS AND FIGURES

If you use figures or diagrams to help explain what you did, refer to the figure or diagram using **the present tense**.

Examples:

Table 1 above demonstrates the success of cloning in various animal species.

Figure 2 below shows methylation in the container.

RESULTS

Past tense for results obtained In the results section, use the past tense to detail the results you obtained.

Examples:

Overall, more than 70% of the insects collected were non-phytophagous.

Results indicated that prolonged exposure to ultra-violet radiation had a positive correlation with the development of melanomas.

DISCUSSION

Present tense to explain significance of results

In your discussion section, you will explain the significance of the results. The present tense is normally used for this. Example: *Removal of vegetation for agricultural purposes appears to negatively affect the water quality of streams.*

Past tense to summarise findings, with present tense to interpret results

Writers may use the past tense to summarise their findings, in combination with the present tense to explain or interpret what the results mean.

Examples: *Leaf carbon and phenolic content did not differ across sites, indicating that the response of secondary plant chemicals such as phenolics to water is complex.*

CONCLUSION

In the final section of your thesis or report you summarise the main findings and the major implications of the study, point out any limitations, and offer suggestions for future research. To do these things you may use a combination of tenses.

Example: *Although the study found evidence of tillage and irrigation within the study area, from the data collected it was not possible to determine if the effects of agriculture upstream cause (or caused) higher levels of total nitrogen downstream. Further studies are therefore necessary to determine the effects of agriculture on the health of Stringybark Creek.*