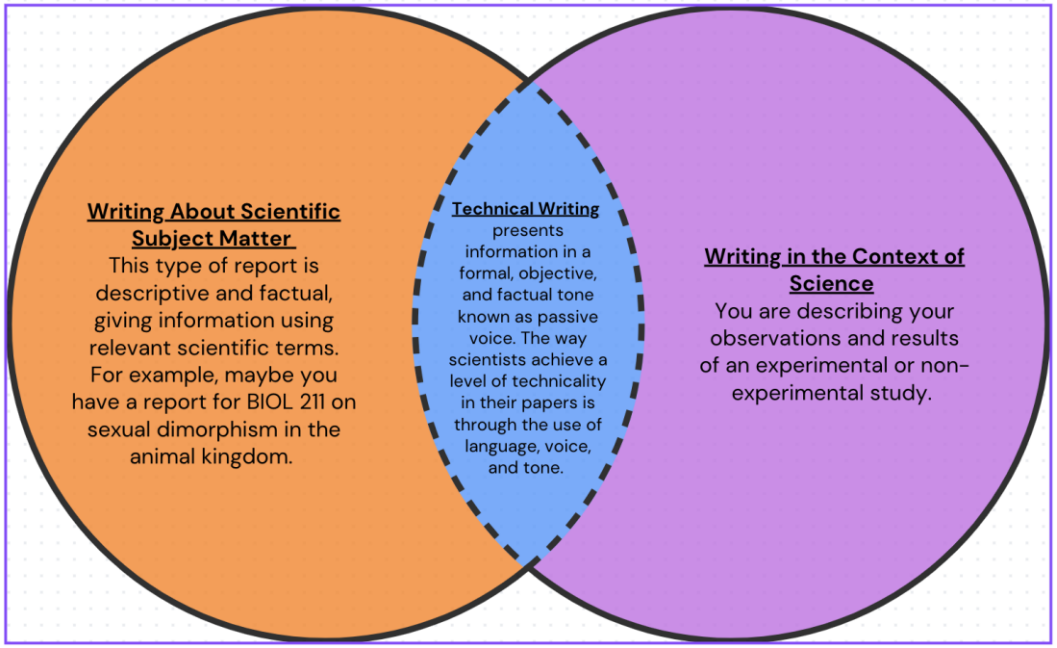
Writing in the Sciences

Title

- Your title should minimally describe your research and tell the reader your result(s) in an interesting way.
- Good title: Genome-wide screening of aberrant DNA methylations is associated with gene expression in mouse skin cancers
- Bad Title: Unusual DNA causes skin cancer

Abstract

- The purpose of an abstract is to extract the most important in your paper and present it to potential readers in a clear and concise way. Remember, the abstract is often the first thing potential researchers look at (besides the title), so it has to be good!
- A great abstract explains:
  - The experimental topic/issue
  - How the experiment(s) was/were done
  - What the key observations were
  - What the observations mean



Introduction

- An introduction is used in scientific writing to provide intellectual context, state the significance of the experimental problem, and summarize previous research done on the subject.
- Collect references before writing your introduction
- Take notes on the references you find
- Write your introduction first – it will help you understand the significance behind your research in the first place

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Information gathered from Moriarty MF. *Writing Science Through Critical Thinking.* Sudbury (MA): Jones and Bartlett Publishers; 1997.

Writing in the Sciences

Materials and Methods

- The purpose of a materials and methods section is to describe the steps you took in your experiment in order to achieve your results. The materials and methods section will be the most technical (and therefore easiest) section to write, so write your materials and methods early on.
- Assume your readers are familiar with common procedures, such as running a GEL or using a centrifuge.
- Include the concentrations of reagents used, the brand names of any software products or field tools used, and the settings used on any lab equipment used (EX, 1500 RMP).
- Some materials and methods sections use subheadings to isolate different experiments performed. This is an organizational tool many scientists use when writing their materials and methods section.

Results

- The results section describes the direct outcome of your experiment and includes any important values, tables, and figures. DO NOT INTERPRET YOUR RESULTS HERE.
- A great results section includes the following:
- What's the reason? Provide the reader with the reasoning behind doing your experiments. Ex.) In order to test the viability of [...] Ex) To determine the keratinocyte rate of proliferation, [...]
- What did you do? Ex) A Western blot was performed and [...]
- What did you see? Refer to tables and figures Ex) Figure 2 shows the prominent fluorescence [...]

Discussion

- The purpose of a discussion is to tell the reader what your results mean. You will interpret your results and describe what they mean for the scientific community.
- What are the next steps/procedures for this scientific issue? How does this relate to the greater scientific issue (Big Picture)?

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