

# Scientific Writing: Bowtie Structure Method

## Introduction

- Start with interesting/exciting context
- Previous research relevant to work
- Research question, and how it's different
- Hypothesis + reasoning behind it
- Brief summary of design that leads into what's coming next

## Discussion

- Conclusions: did you prove your hypothesis?
- Errors and how they affected the data.
- Reconcile findings with other research.
- Next steps: what questions remain?
- Big picture: show why this work matters.

## Methods/Results

- Specific to your study
- As concise as possible
- Methods: as little info. as reader needs to replicate
- Results: data and interpretation, but no conclusions on how it relates to experimental question

**Introduction:** Provides macroscopic importance for experiment, presents relevant knowledge in the field, and any gaps in existing knowledge the experiment sets out to fill. Additionally, presents hypothesis and brief summary of experiment.

**Methods:** Briefest and most technical portion. Writer is obligated to present only the barest of information about how experiment was performed. Assumed reader is similarly educated and can follow the procedure without excessive details.

**Results:** Like methods, this section is fairly sparse. Expected to present the raw data and statistical analysis, via both text and visual form (graphs, tables, etc.). Some commentary on the accuracy of the data can be included, but generally not expected to discuss conclusions.

**Discussion:** Typically most verbose section. Writer should form conclusions about data and provide evidence for their rational. Any errors in experiment should be addressed, as well as avenues for further experimentation. Should also connect with broader questions in the field.