**BEFORE YOU BEGIN:** Know your audience! This is critical when presenting any idea. Make sure that you explain the appropriate terms clearly and do not overshoot or undershoot the expertise of your review panel. DO YOUR RESEARCH. Find out more about your clever idea, so that you could educate a scientific friend on your topic. How can you improve an existing process or procedure.

**YOUR FIRST DRAFT:** When you start to write a scientific document, you should always begin with an outline: Title of chapters (or sections), followed by descriptive headings and subheadings that will help tell your story and frame your argument (maybe even key words and phrases if you have some. Recalling that scientific arguments are hierarchical, you start big picture, and then hone in on your key ideas.

After the outline is edited and clear then the majority of your time should be spent making clear and telling illustrations. Once the images and outline are pieced together, the story really tells itself; there is no worries for writers block, you simply discuss the relevance of each image, and then add some gluing sentences (or segues) to put it all together. The breakdown of your time should be as follows:

1. Figures and Illustrations – 40%
2. Initial draft (text) – 25%
3. Revision – 35%
   A) Yourself - be a Butcher – 15%
   B) Peer Review – 10%
   C) Corrections – 10%

Being the butcher of your own prose is difficult because you become emotionally attached to the language; especially after spending so much time writing. DO NOT try and edit your initial text; simply write in point form (brainstorming), and get the key points down. In scientific writing, LESS IS MORE!!! Try to be succinct, with each sentence making a point. Editing is best down early in the morning, the next day after writing. This is when you are most likely to be your own worst critic. Not to mention you have just had a night to forget about what you wrote.

**BEFORE YOU SUBMIT:** Everyone has his or her own quirks and style. While some of the points below are style related, most are common to scientific writing. Before submitting your draft to Dr. Koivisto, here are some general considerations.

- Avoid inconsistent Capitalization. Molecular and atomic names are not capitalized unless they start a sentence. Acronyms and Proper (people and places) names are capitalized (*i.e.*, Grignard).
- As a general rule, try not to repeat words in a sentence (*i.e.*, “Another example of the X reaction is the intramolecular X reaction”). There are lots of words in the English language; let’s try to use more of them.
- All non-English words and phrases (*et. al.*, *in vivo*, *in situ*, *vis à vis*, *in vacuo*, etc.) should to be italicized.
- Describing literature does not need to start with “X and co-workers discovered that...” It is redundant when considering that you will reference the sentence.
- Although the following is a colloquial expression that should be avoided, when you would like to say “has been shown in literature” you need a reference.

- References should be in a consistent style & reference numbers go after the punctuation,¹ and they appear as formatted below. Cross-reference your references as shown above, starting with the number 1 and proceeding chronologically.

- You should use Mendeley or Endnote in all drafts of your written work, so start building your reference library from the start.

- Use Greek letters (symbol font) were appropriate – α, π, etc. Symbols (δ, π, °C, 3 × 100 mL etc.) can be found under Symbol font or by INSERT → SYMBOL → Symbol browser – make sure you use the appropriate symbols.

- Always put a space between the number and the unit (3 g; 5.0 mL; 85 °C, 12 hr, etc.), but do not put a space between a multiplier (i.e., 75%). Remember that if the unit is named after a person, then it should also be capitalized (1 Watt = 1 W)

- ‘Since’ as a replacement for ‘because’ should not start a sentence for the same reason that ‘because’ does not start a sentence. ‘Since’ when referring to time, can start a sentence.

- Avoid the contractions, the possessive and apostrophes when possible.

- When debating between “which or that” – always choose that

- Never start a new paragraph with ‘Also/However/Moreover’ etc. A new paragraph is designed to move on to the next line of inquiry or thought. By this very premise, then we do not need bridging words to link clauses.

- In scientific writing each sentence stands alone. Therefore
  - “this” cannot be used in sentence without an explanation.
  - Never use ‘it’ in a sentence, unless the subject is clearly used previously in the same sentence.
  - Avoid starting a sentence with ‘these’ (what is the subject?)

- Do not start a sentence with ‘Because/But/And’.

- When you submit a digital copy of your document use a naming system that makes sense (e.g., do not use ‘paste into this’ as a title for your e-file).

- Avoid one-sentence paragraphs.

- Remember this is proposal is supposed to educate and convince your readers, so it is important that a peer can follow and learn from this.

- Cross-reference your figures, tables and schemes. Make sure you refer to your Figure or Scheme in the body of text (both words are capitalized because you are referring to a title).

- Avoid unquantifiable adjectives like ‘very/best/bunch’ etc.

- Avoid colloquial or cliché expressions when writing.
  - Never use ‘It was found that’, just use what was found without saying this phrase.
  - The use of phrase ‘On the other hand’ could simply be replaced with ‘Conversely’.
  - The use of phrase ‘It is also possible’ could be replaced with ‘Furthermore it is possible’.

- Schemes do not ‘explain or mention’, instead they ‘show/depict/outline’ etc. (Whenever referring to schemes/figures, never say ‘as explained by’ or as mentioned in the
scheme/figure, instead use ‘as shown by’ or ‘as depicted by’ or ‘as outlined in’ the scheme/figure).
- Read your sentences aloud so you can hear your errors.
- Some people should always trust their grammar checker and use it
- Avoid submitting the same mistakes twice, because this demonstrates poor receptivity to feedback. Make sure you cut and paste from the most up to date/accurate document.
- Don’t repeat yourself – Make sure you exhaust the idea before going on the next one.
  o For example, if you are talking about energy demand in sentence 1, there should not be an energy fragment in sentence 4.
- Less is more! If you can say the same thing in fewer words that is always better.
- Do not write something that you do not understand ... Ignorance shimmers in the written word.

References