GETTING STARTED with STEM WRITING

Do you encounter any of these? Don't Know □ Prefer Pressure Afraid to Write Don't Know □ **COMMON BARRIERS** Too Busy¹ of a Deadline1 Something Bad What to Write How to Start TO WRITNG: **TIPS TO** Start Small: **Invent Your Own** Write Anyway: Collaborate to Start with what you **Determine what OVERCOME** Set aside short An ugly, rough first Motivation: Create Motivate: Schedule **know:** Start writing vou don't know: draft is still a useful but focused an earlier deadline a meeting with a the easiest part with Figure out what you WRITING friend, advisor, or start, and no one blocks of time for for vourself and the content vou need to brainstorm **BLOCKS:** writing tutor.2 needs to see it yet! know the best. small steps/goals. prioritize. or research further. Choose a method that fits your writing needs **TOOLS AND TECHNIQUES** TO GET STARTED:

Guiding Questions:

Write out your core goals by addressing Who your audience is and Why and What you are writing.

Using Models & Guides:

Find examples or templates of your document to use early in the process, and fit content into that format.

Brainstorming & Idea Mapping:

Jot down topics, ideas, examples, or details (can be in no particular order). Cluster into themes, prioritize, and turn into an outline.

Outlining:

List and organize main topics and ideas. If you have a template, start with section headings, and map out your flow of ideas.

Start with the easiest part:

Start writing the easiest part with the content you know best (no need to write in the order it is read).

Start with Figures:

List, sketch, or storyboard possible images or figures first, and then structure the written ideas alongside or around them.

Free Writing or Free Speaking:

Just write, type, or speak (and record) without hesitation about wording or details that interrupt your flow of ideas.



FLIP OVER PAGE FOR MORE DETAILS & EXAMPLES FOR THESE TECHNIQUES...

¹See also handout: "Procrastination and How to Avoid It: Making the Most of Your Writing Time," http://www.writing.caltech.edu/resources

²Make an appointment with a tutor in the HWC who can help you learn more about these techniques: http://writing.caltech.edu/tutoring



TOOLS AND TECHNIQUES TO GET STARTED WRITING:

Answer Guiding Questions



Who is my audience?

- Your target audience determines format, style, and language choices.
- Consider who they are, what they want to read, and what info they need.

Why am I writing?

- What is your core reason to communicate? (e.g., filling gaps in research knowledge, surprising new findings, new methods)

What am I writing?

- What templates, examples, author's instructions can you find/use?
- What are your core messages?
- What content do you have vs. need?

Brainstorming & Idea Mapping





- (1) With no concern for order, begin jotting down ideas, topics, or content that you want to include.
- (2) Group similar or linked concepts (e.g., connect bubbles or reorder lists), perhaps arrange ideas from general to specific (from top to bottom of list, or central vs. periphery bubbles).
- (3) Organize according to the **format for** your document (or see Outlining).

Freewriting



Write whatever comes to mind on the topic, ignoring grammar and organization.

Free-speaking



If you more easily or clearly communicate verbally, record/transcribe what you say aloud, whether alone or to someone.

Start with the easiest part

For example, you don't have to write the Abstract or Intro first. Methods may be easiest to start if not yet finished Results. Or writing Results may reveal what to include in the Discussion or Conclusions.

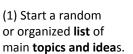
Using Models & Guides

Find examples or templates for your model choice of document. For articles, iournal websites often provide links to guidelines and templates (look for resource pages for authors).

Consider extracting and using **section** headings from your model (then see Outlining). Typical sections in an article:

Abstract Introduction Methods/Approach Results Discussion/Conclusions References

Outlining





- (2) Fit ideas into document structure or preferred organization, e.g.:
 - A. Abstract
 - B. Introduction
 - 1. Motivation
 - a. Idea 1
 - b. Idea 2 [perhaps figure idea...]
 - 2. Prior research gaps
 - 3. This research will...

...and fill in until ideas become sentences!

Start with Figures







You can "storyboard" your figures as sketches in the sequence they would appear in the text, which can tell the story visually to someone skimming.

Decide which visuals best fit your data or content (tables, plots, schematics, photos, etc.). Consider whether some visuals can be combined into one figure.

You can initially **note figure ideas within** your outline as placeholders and later treat them as your to-do items once ready to sketch or generate the figures.