College Writing Seminar (INTD100): Week 1 Notes

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Summary

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1. **Week 1**: *Concise writing I:* In Week 1, we will focus on creating concise writing that eliminates extraneous words and sentences from your writing.
    - Exercises: distilling complex scientific articles into shorter tracts of writing.
    - Exercises: reading popular scientific journal articles and discussing them in small groups
    - Exercises: Practice using analogies in communicating difficult or abstract scientific thoughts
    - Homeworks: Practice quotation and paraphrasing of experts in writing
    - Homeworks: practice descriptive detail by providing the reader with the correct details such that they understand something complex
    - Exploration topic: gravitational waves

Introductions, Technology Check

Introduction

1. Professor Jordan Hanson (Physics and Astronomy)
2. Syllabus, journal
3. **Coggle.it** accounts (mind-mapping and writing organization for concise writing)
4. Breakout rooms test
5. Simple exercise with Google Docs/Screenshare
6. **Summer reading assignment I**
   - Discuss the essay by James Baldwin in breakout rooms
   - Discuss answers to exercises
   - Sort out logistical issues
7. Homework: read article regarding discovery of gravitational waves by the LIGO/Virgo collaborations
8. Theme for Module 1: *Keep it simple.*

Summer Reading Assignment

Summer Reading Assignment - Screen Share, Breakout Rooms

1. Create a Google Document in your shared Whittier College Google Drive. All first-year students should be given a Google Drive shared space by Whittier College.
2. Create a enumerated list (1., 2., 3. etc.). Each item is to a separate mini-assignment, and each could take between a few minutes and an hour.
3. Item 1: This essay is in a narrative style, and is broken into several parts. Summarize part I in one paragraph, using 120 words or fewer. Note: The purpose of this exercise is to complete the summary in no more than a certain number of words. What key moments stand out in your mind? What is the central realization of the author at the end of the section?
4. Item 2: Repeat exercise 1, but instead use only twenty words. What happens in part I of the essay?

Summer Reading Assignment - Screen Share, Breakout Rooms

1. Item 3: Consider part III. Construct a tract of writing that a) defines and explains the poison metaphor the author describes at the funeral of his father, b) identifies the author's "cure" or cures for the poison, and c) provides several pieces of supporting evidence for the identification of the author's cure.
2. Item 4: Consider the final part of the essay, when the author describes the fight in the Hotel Braddock. Write a tract of between 200-400 words on the author's treatment of evidence and facts. What does the author have to say about the importance of facts about the fight to the people in that neighborbood? Notice the author's writing takes on the tone of a reporter regarding the ensuing riot. What facts stand out regarding the outcome?

Homework Article 1

LIGO Discovery of Gravitational Waves

Homework article 1.0:

`https://www.ligo.caltech.edu/news/ligo20160211`

- Please begin reading this article this week
- We will use it for in-class exercises regarding concise writing and article-mapping

Concise Writing I: Use the eraser

Concise Writing, 1

How do we create concise writing? Why is it important to be concise when writing for a scientific audience?

1. How...*Be alone.*
2. How...*Create an outline, mind-map or other plan*
3. How...***Use the eraser.*** An eraser is a tool. So is the delete button.
4. Why...Concise writing means fewer opportunities to be misunderstood
5. Why...Concise writing is easier to read
6. Why...Concise writing communicates abstract ideas into concrete form

Concise Writing, 1

Google Docs, Week 1. *Distill the following paragraph into a more conscise one.*

In order to measure the coefficient of friction of the rubber eraser, we placed the eraser on top of the plastic cover of the textbook and began to tilt it. We continued to record the angle as we tilted the textbook. Eventually, the eraser began to slide down the textbook. We recorded that angle as well, and we calculated the tangent of that angle. This was our first result for the coefficient of friction. Next, we repeated the experiment many times and calculated an average coefficient of friction from the many trials.
Pre-recorded content: editing this down.

Concise Writing, 1

Google Docs, Week 1. *Distill the following paragraph into a more conscise one.*

We set out to measure the specific heat of water by passing a wire through a bucket of water. The water was 1000 milliliters and the water had a current of 2 amps. The Joule heating equation tells us how many Joules of heat are produced in the wire which is radiated into the water. We recorded the temperature of the water over time and recorded it next to the time in seconds. We calcuated according to the Joule heating equation how many Joules per second was put into the water by the wire. By comparing the rise in temperature of the water and the current we can calculate the conversion coefficient, which is the specific heat of water. Pre-recorded content: editing this down.

Concise Writing II: Outlines and Mind-Maps

Concise Writing II

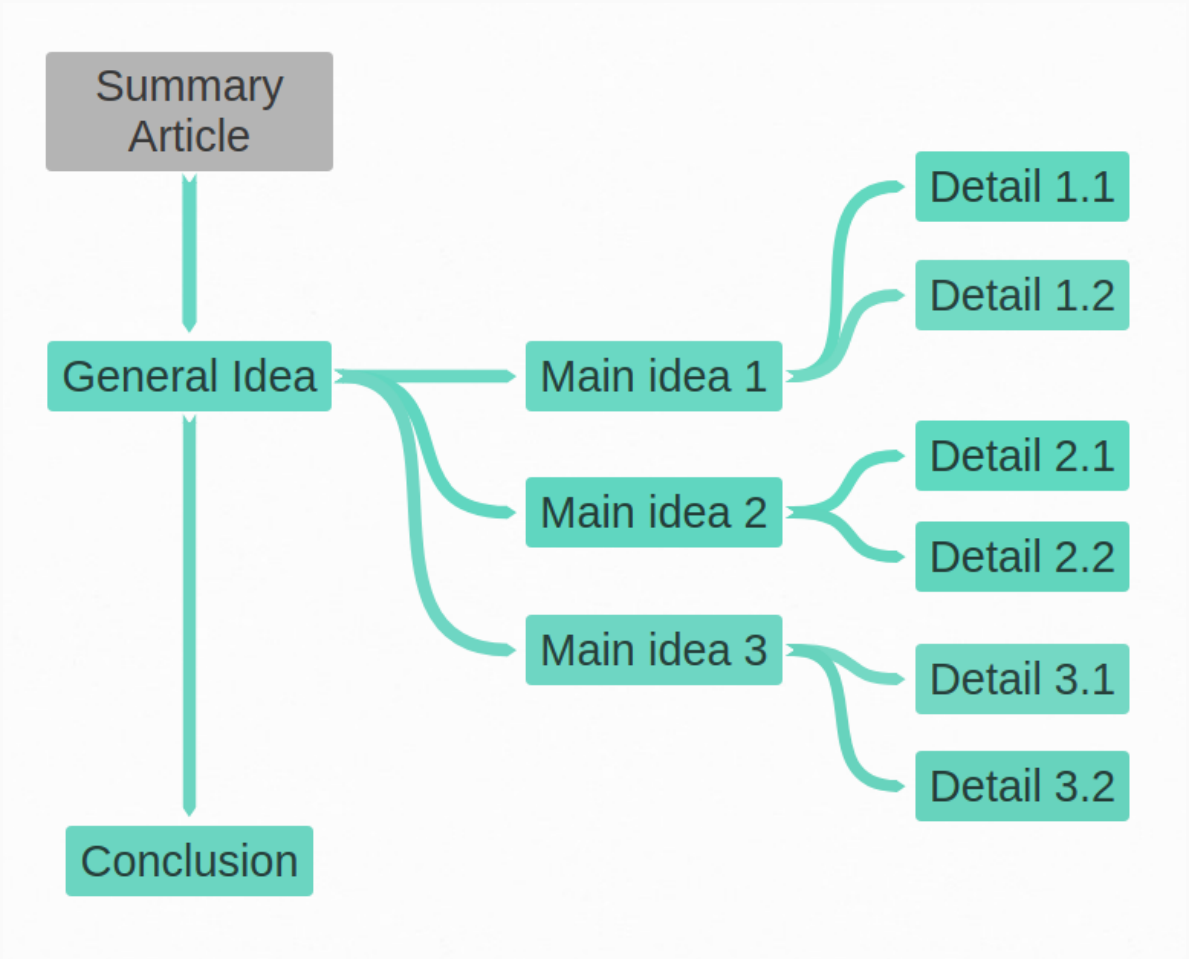

Figure 1: A typical outline or mind-map for a scientific article for a wider audience. For example, a summary of a field of research via Scientific American.

Concise Writing II

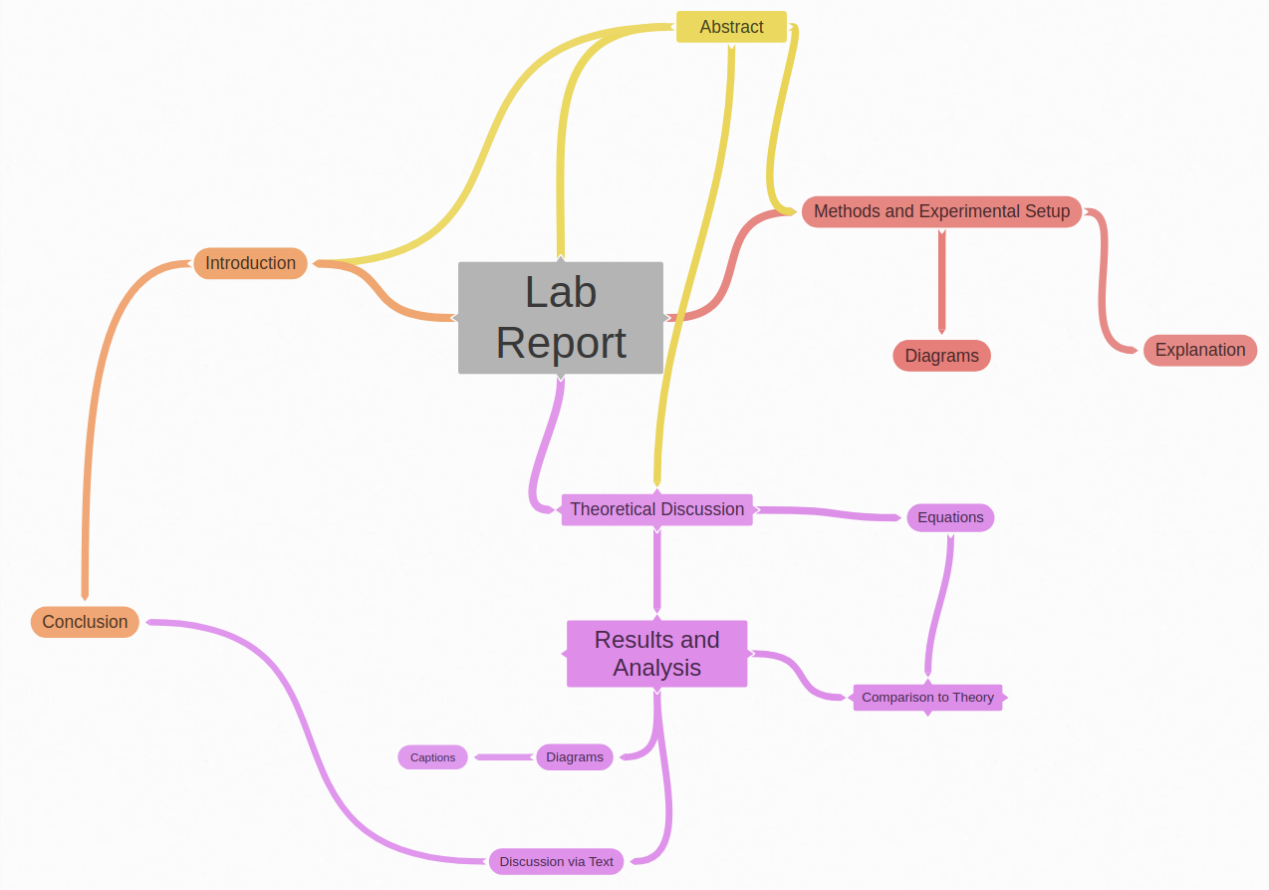

Figure 2: A typical outline or mind-map for a college lab report with an abstract.

Concise Writing II

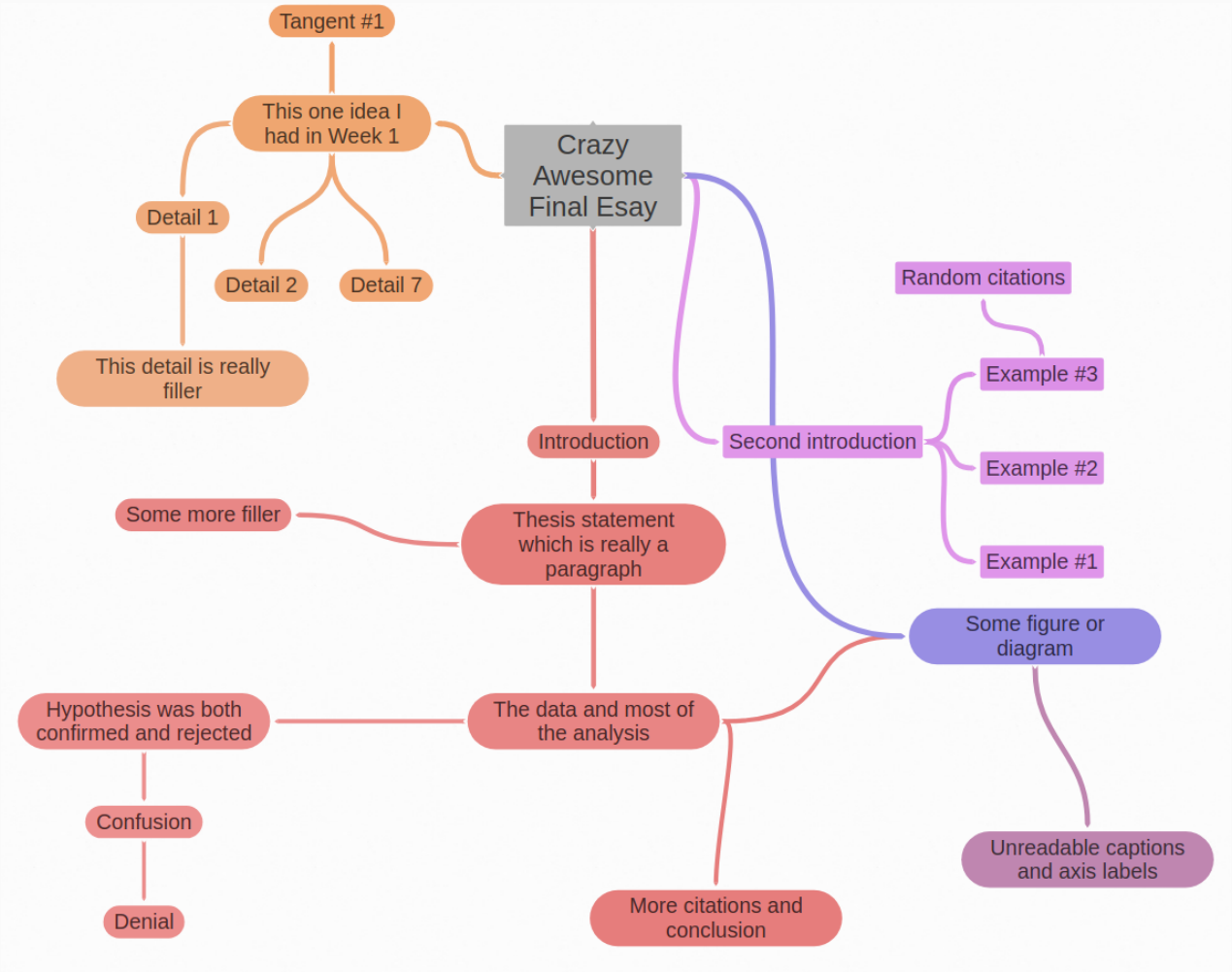

Figure 3: What I often find in first-year essays in my physics courses.

Concise Writing II

Coggle.it, Week 1.

1. Write a ≈ 200 word summary of what you read in the homework article.
2. Using Coggle.it, or the tool of your choice, create a mind-map or outline of the homework article regarding gravitational waves.
3. Think about your *nodes* and *connections*. Is there a way to simplify the outline?
4. Write a ≈ 200 word summary of what you read in the homework article, based on your outline or mind map.
5. Compare the two summaries.

Concise Writing II

Be alone.

The essay on Moodle Solitude and Leadership by William Deresiewicz.

Concise Writing II

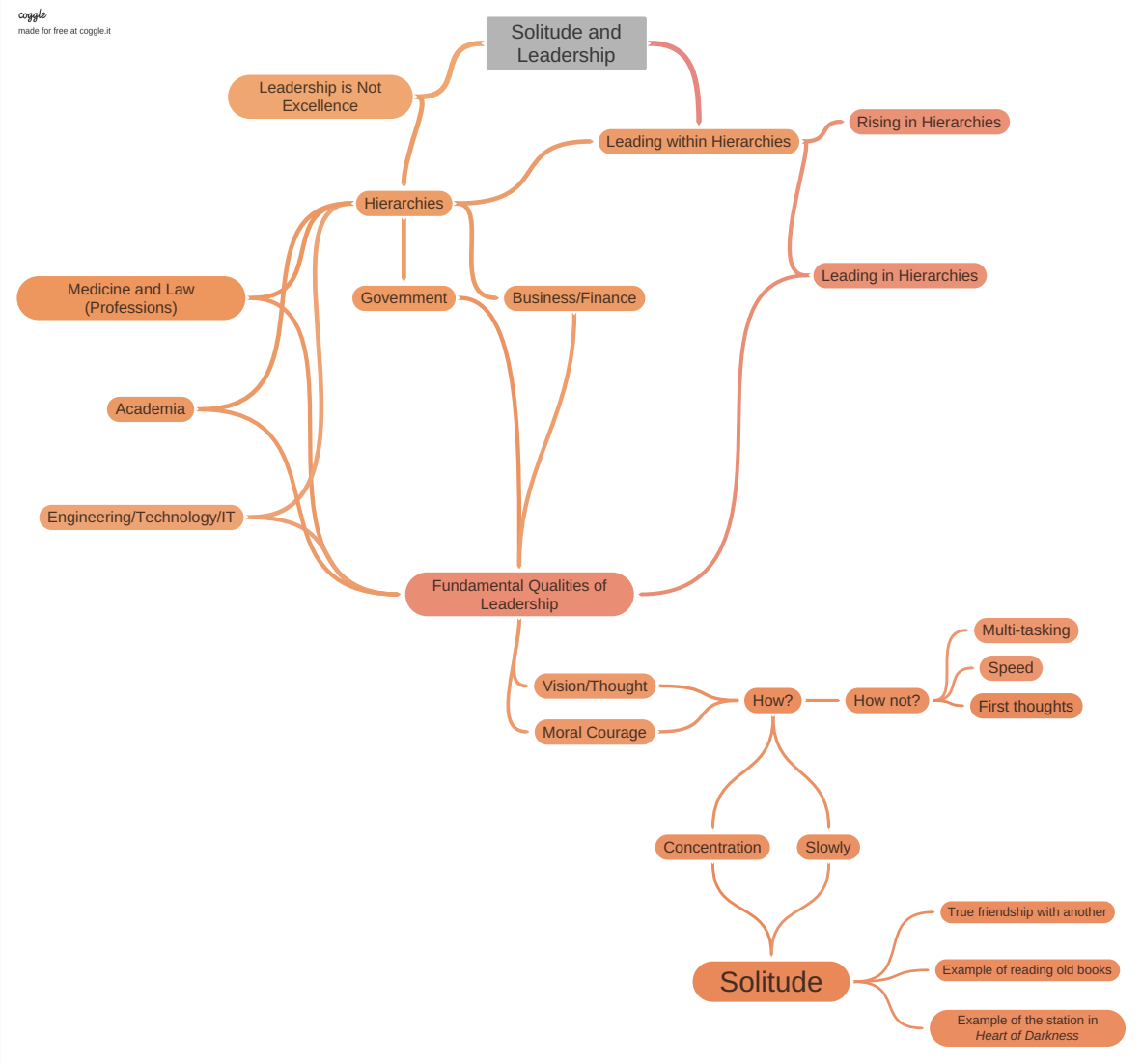

Figure 4: A map of the essay *Solitude and Leadership.*

Concise Writing II

1. What is the central theme of the West Point article about leadership and solitude?
2. What does it mean to work alone in the context of leadership? Leaders, by definition, are around other people.
3. Reflect on your writing *process*. If you cannot identify what process or processes you undertake to complete your writing, that's normal. Write down a list of steps in your journal that constitute your writing process.

Concise Writing II

An example process: my own for longer reports.

1. Make an outline, with enumeration and bullet points.
2. Walk away and think about something else
3. Re-do the outline, and ensure it has concrete goals and sub-goals.
4. *Identify any important graphics or tables, and work on those first.*
5. Begin writing:
   - Write the introduction first
   - Write the next section next, while cutting down the introduction
   - Write the third section next, while cutting down the second section...
   - Re-examine the whole structure periodically.

Concise Writing III

Concise Writing III

1. Exercises: Practice using analogies in communicating difficult or abstract scientific thoughts
2. Exercises: Practice quotation and paraphrasing of experts in writing
3. Exercises: hierarchy of detail

Concise Writing III: Analogies

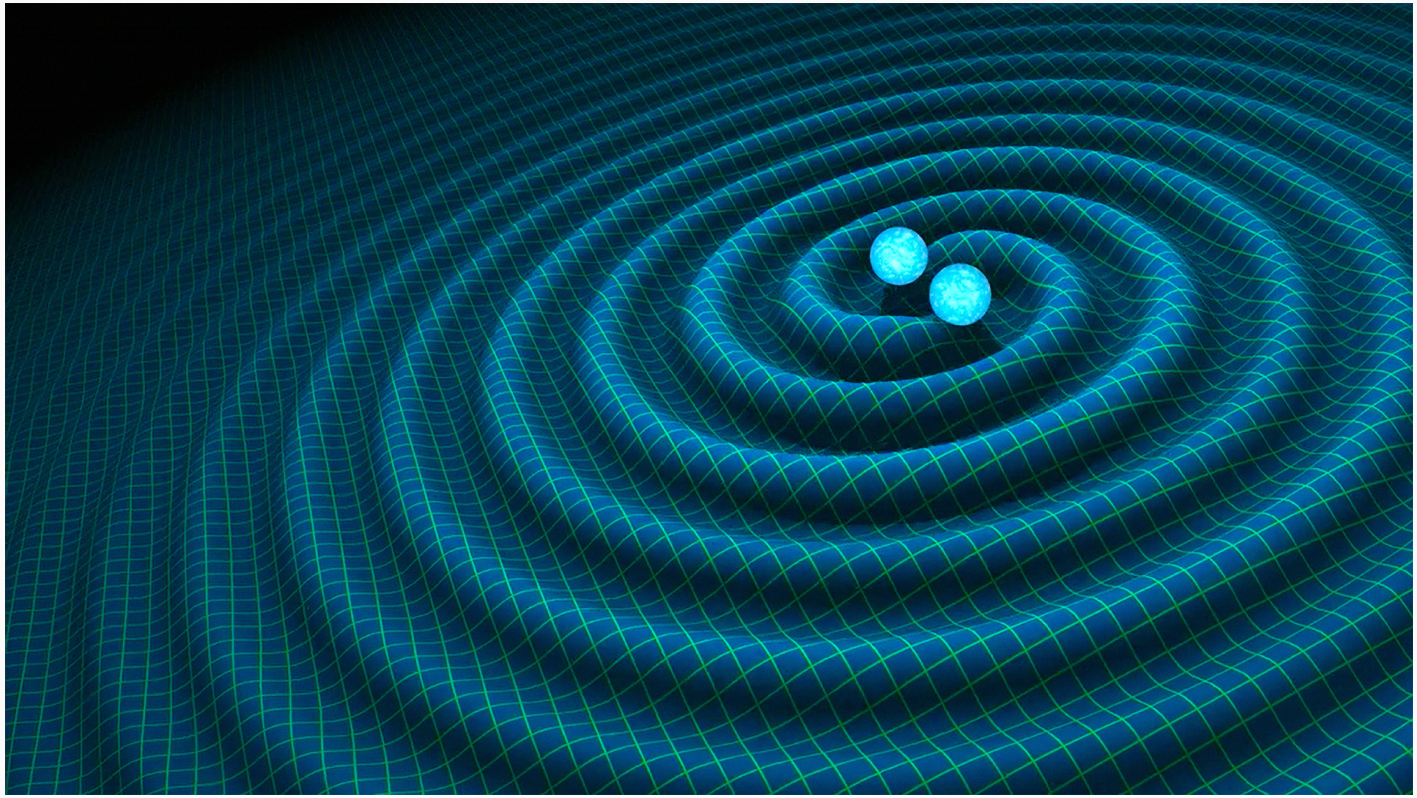

Figure 5: A graphic of spacetime in 2D when two black holes orbit.

Concise Writing III: Analogies

1. Exercise 1: Write three to four sentences describing the gravity waves that flow outward from the black hole pair, then *edit it down.*
2. Exercise 2: Write three to four sentences describing the gravity waves that flow outward from the black hole pair, **using an analogy or metaphor**, then *edit it down.* Potential analogies:
   - Water waves due to a pebble dropped into a still pool
   - Marble spiraling down a funnel
   - One of your own choosing...

Concise Writing III: Citations

Citations: Citing experts and technical references must be kept to a consistent style. Below are some examples of citations in scientific journals.

"Recently, the LIGO and Virgo collaborations published demonstrated the existence of black holes ≈ 100 times the mass of the sun [2]."

"The authors of [1] concluded that black holes larger than just a few times the mass of the sun do exist."

(More rare) "Figure 7 of [3] displays a mm-wave 16-element phased-array antenna system..." Notice the following:

- Structure and placement
- When is a citation required

Concise Writing III: Citations

1. Exercise A: Go to `arXiv.org` and browse for a scientific paper that you think looks interesting. You can find mostly physics, math, computer science and engineering papers, but also things like quantitative biology. Once you find one, search for it on Google Scholar.
2. Exercise B: Once you find the webpage for your paper, determine the following:
   - The journal title, volume, and number (or year)
   - The lead authors or collaboration
   - The article title

   Determine whether it is a *conference proceeding* or a *peer-reviewed article.*

Concise Writing III: Quoting and Paraphrasing Experts

...

Concise Writing III: Hierarchy of Detail

...

Conclusion

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Bibliography


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