

# Sythesize Evidence Tool

## Reasoning & Reflection



Name: \_\_\_\_\_ Group Name: \_\_\_\_\_ Date: \_\_\_\_\_

You are fortunate to live in a time and society where information is readily available. In fact, most likely you are within arm's reach of a device that will easily take you to your choice of a billion websites (Pappas, 2016). If you do a search on Google or Google Scholar on any topic of interest, you will likely get a lot of "hits." Making sense of all of the information that comes up after an internet search is not easy. It may take some time to sort through all of what you found to determine what is and is not relevant. It also will take some time to synthesize the information you found to determine overall what it is saying on any given point.

This tool is meant to help you specifically synthesize evidence that you have found after a deeper dive into the issue you are investigating. In particular, this tool will help you make sense of the evidence you have found in technical reports and peer-reviewed journal articles. You are likely not an expert in the topic you're researching, but you can absolutely still get useful information from evidence and work to make sense of evidence to support your understanding of an issue. This tool will help you see how.

Pappas, S. (March 18, 2016). How Big Is the Internet Anyway? *Live Science*. Retrieved from: (<https://www.livescience.com/54094-how-big-is-the-internet.html>)

**Creating an explanation.** Your assignment is to find scientific and technical information that explains what will happen if we collectively choose to do a particular "option" for solving a problem. In particular, the evidence you find should explain if doing the "option" will result in an outcome that satisfies a particular criterion that you've been assigned.

For this tool, we'll use the following "option" and "criteria" as an example:

Option: More restrictions on irrigation

Criteria: Conserve water

**We will use the above option and criteria as an example, but please answer the following questions using the criteria and option that you've been assigned.**

My assigned Option: \_\_\_\_\_

My assigned Criteria: \_\_\_\_\_

1) (6 points) For this tool, please respond to the following questions below using 3 different sources of evidence. Each should be a peer-reviewed journal article or other technical report that describes a study that has been conducted or a summary of research results.

**Evidence #1**

Describe the evidence. What were the findings of the report?

Please give the full citation:

**Evidence #2:**

Describe the evidence. What were the findings of the report?

Please give the full citation:

**Evidence #3:**

Describe the evidence. What were the findings of the report?

Please give the full citation:

---

IS THE EVIDENCE RELEVANT?

2) (3 points) You will need to think carefully about the relevance of the information that you found.

The evidence you find should help your explanation in at least one of two ways. The evidence should either:

- a) help explain a mechanism for HOW or WHY an option (more restrictions on irrigation) results in (more or less conservation of water), OR
- b) help explain HOW MUCH the criteria may be satisfied by an option (in other words, how much water might be conserved if we had more restrictions on farmers).

**Evidence #\_\_\_** will (circle at least one):

- a) help explain a mechanism
- b) explain how much

c) both

Why? What does this evidence help you explain?

**Evidence #** \_\_\_ will (circle at least one):

- a) help explain a mechanism
- b) explain how much
- c) both

Why? What does this evidence help you explain?

**Evidence #** \_\_\_ will (circle at least one):

- a) help explain a mechanism
- b) explain how much
- c) both

Why? What does this evidence help you explain?

---

#### WHAT POSITION DOES THE EVIDENCE SUPPORT?

3) (0.5 points) For each option and criteria combination, the evidence may pull in different directions. Consider two positions that the evidence could support:

Position X: If there are more restrictions on farmers, then we will conserve **more or a lot of** water

Position Y: If there are more restrictions on farmers, then we will conserve **less or a little** water

Now consider the option and criteria you've been assigned. Add the option to the first blank line for each position. Add the criteria to the second blank line for each position. One position should describe what happens if the option will successfully meet the criteria (for example, Position X above), and one position should describe what happens if the option does NOT successfully meet the criteria (for example, Position Y above).

Position A: If \_\_\_\_\_, then \_\_\_\_\_.

Position B: If \_\_\_\_\_, then \_\_\_\_\_.

The evidence may do one of four things:

- Support the position

- STRONGLY support the position
- Contradict the position (show its wrong)
- Have nothing to do with the position

4) (1.5 points) Provide reasoning for how the evidence relates to one of the positions:

A. Write the number of the evidence you are writing about.

B. Circle the appropriate word (strongly supports | supports | contradicts | has nothing to do with).

C. Write which position you are writing about

D. Then write your reason

Evidence # \_\_\_\_ strongly supports | supports | contradicts | has nothing to do with Position \_\_\_\_ because:

Evidence # \_\_\_\_ strongly supports | supports | contradicts | has nothing to do with Position \_\_\_\_ because:

Evidence # \_\_\_\_ strongly supports | supports | contradicts | has nothing to do with Position \_\_\_\_ because:

---

#### WHAT IS PLAUSIBLE?

5) (0.5 points) Circle the plausibility of each position [make two circles, one for each position.]

	Greatly implausible Or even impossible									Highly plausible
Position A	1	2	3	4	5	6	7	8	9	10
Position B	1	2	3	4	5	6	7	8	9	10

---

#### REFLECTION

Metacognition Moment:

6) (2 points) Do you think you have found enough evidence to determine how well your assigned option potentially satisfies your assigned criterion? Why or why not?

7) (1 point) If you could have found a particular set of evidence, what would it be?

8) (1 point) How well did you understand the evidence that you found?

Place an X that represents your thinking on a range of 1 to 5:

Understood everything

Didn't understand anything

1

2

3

4

5

Explain what you did or did not understand:

Self-reflection/emotion:

9) (1 point) Did you have any reaction (emotional or otherwise) to any of the information you found? What was it, and why?

10) (1 point) Did you feel that you could remain impartial to evidence you found? Why or why not?

Motivation:

11) (0.5 points) How interested were you in uncovering evidence to support or refute these positions?

Place an X that represents your thinking on a range of 1 to 5:

Only care about the grade

Really wanted to know

1

2

3

4

5

Epistemology:

12) (1 point) Some kinds of evidence are more or less certain than others, or are they all about the same in terms of certainty?

13) (1 point) When do you accept something as “true?” How do we know if something is “a fact?”