# Evaluating Scientific Sources Assignment

## Purpose

Being able to critically assess a scientific source is an important skill for an elementary and middle years science teacher, as well as for any scientifically literate citizen. It is easy to access so much information and there are so many teaching materials available online and beyond. As a teacher, you will always want to pause and evaluate the accuracy and usefulness of the information and resources you find.

In this assignment, you (plus one partner if you prefer) will choose a publicly scientific source, evaluate it, write a review of it, and write a reflection describing the process and criteria you used.

This assignment provides evidence for **course outcome #4**: *Critically assess everyday scientific resources and representations, such as textbooks, news media, social media, and children's books and games.*

## Steps

1. Decide if you will complete this assign on your own or with a partner. If you want to work with a partner, find one of your classmates to work with.
2. Locate and select a scientific source that you will evaluate in this assignment. You have many types of sources to choose from. To make this assignment more interesting, **I suggest you choose something that isn't obviously a good source** (e.g., do **not** choose a Science textbook or a national geographic documentary). Examples of sources you could explore:
   o A children's book that claims to teach science.
   o A game that claims to teach science. You can interpret this widely, including video games, board games, card games, etc.
   o An article from a news site that is on a scientific topic or finding.
   o An article, post, video, story, etc. from a social media site on a scientific topic or finding.
   o A science lesson or activity plan that you found on the web.
   o A documentary, movie, or episode on a scientific topic or finding.
3. Critically evaluate your chosen source.
   o I'd suggest developing a strategy to perform your evaluation before you start evaluating. For example, create a list of things you want to investigate and/or steps you want to follow.
4. Write a review of your source. The review should contain:
   o The name and location of your source.
   o A thorough description of your source including an overview of what it is and what it contains, what it says, what it attempts to teach, who wrote or created it, images, screenshots, etc.
   o An evaluation of the source and the information contained within it along with your justification(s).
     ▪ You could consider using a table to clearly display this section.
   o A statement describing if and how this resource could be used to teach elementary or middle years science.
     ▪ If possible, connect to curriculum outcomes and/or the Scientific Literacy Framework.

5. Write a reflection on the process you used to evaluate your source critically. Aim to answer these questions:
   - What steps did you follow? Why?
   - What questions did you investigate?
   - How did you reach your conclusions?
   - What would you do differently next time?
   - Where will you use this process in the future?
6. On Canvas, submit your review, reflection, and reference list using APA 7th edition as your citation style.
7. Optional: If you would like the opportunity to briefly share your source and review as a presentation to the class, please let me know.

## Assignment Format

- Please use 1.5 lines or Double as your line spacing option in your document
- Submit a .docx, .doc, or .pdf.
- Please use headings within your document to indicate the different sections of the assignment:
  - Review
    - Name and Location
    - Overview (this is where it will help to include images, photos, etc.)
    - Evaluation (could be included within the overview)
    - Use in Science Teaching
  - Reflection
- There are no specific word counts or page lengths for this assignment. I encourage you to use images to help explain your source, which can drastically alter the length of your document.
  - Generally, your Review section should be longer than your Reflection section.
  - If you have more than 1200 words in total, it is probably getting too long, but keep in mind, that images, tables, etc. can make a significant difference in how many words you need to clearly articulate your thoughts.

## Assessment Criteria

See the rubric on the next page.

**Evaluating Scientific Sources**

| Criteria | Ratings | | | | Pts |
|---|---|---|---|---|---|
| Source Selection | **2 pts** <br> **Excellent** <br> The chosen source is relevant, interesting, and challenging for the assignment. | **1.5 pts** <br> **Good** <br> The chosen source is relevant, but uninteresting or too easy for the assignment. | **0.5 pts** <br> **Below Expectations** <br> The chosen source is irrelevant, uninteresting, or too easy for the assignment. | | 2 pts |
| Source Evaluation | **8 pts** <br> **Excellent** <br> The source is evaluated thoroughly and critically, using relevant and appropriate criteria and evidence. The evaluation utliizes all aspects of a recognized method, such as the CRAAP test (it could be another method). | **6 pts** <br> **Good** <br> The source is evaluated adequately and fairly, using some relevant and appropriate criteria and evidence. The evaluation utilizes some aspects of a recognized method, such as the CRAAP test (it could be another method). | **4 pts** <br> **Minimal Pass** <br> The source is evaluated superficially or inconsistently, using few or vague criteria and evidence. | **0 pts** <br> **Below Expectations** <br> The source is evaluated poorly or not at all, using no or irrelevant criteria and evidence. | 8 pts |
| Review Quality | **6 pts** <br> **Excellent** <br> The review is well-written, clear, and organized. It contains all the required elements: name and location of the source, description of the source, evaluation of the source, and statement of the source's usefulness for teaching science. The review uses appropriate language, tone, and style for the audience and purpose. The review includes several images and other pertinent details to clearly describe the source. | **4.5 pts** <br> **Good** <br> The review is adequately written, clear, and organized. It contains all the required elements: name and location of the source, description of the source, evaluation of the source, and statement of the source's usefulness for teaching science. The review uses mostly appropriate language, tone, and style for the audience and purpose. The review includes some images and other pertinent details to clearly describe the source. | **3 pts** <br> **Minimal Pass** <br> The review is generally poorly written, unclear, or disorganized. It contains most of the required elements: name and location of the source, description of the source, evaluation of the source, and statement of the source's usefulness for teaching science. | **0 pts** <br> **Below Expectations** <br> The review is not written, incomprehensible, or chaotic. It contains less than half of the required elements: name and location of the source, description of the source, evaluation of the source, and statement of the source's usefulness for teaching science. | 6 pts |
| Reflection Quality | **4 pts** <br> **Excellent** <br> The reflection is thoughtful, insightful, and honest. It answers all the questions: what steps were followed and why, what questions were investigated, how conclusions were reached, what would be done differently next time, and where the process will be used again. The reflection demonstrates a deep understanding of the process and criteria of evaluating sources and how they relate to teaching science. | **3 pts** <br> **Good** <br> The reflection is satisfactory, reasonable, and sincere. It answers all the questions: what steps were followed and why, what questions were investigated, how conclusions were reached, what would be done differently next time, and where the process will be used again. The reflection demonstrates a basic understanding of the process and criteria of evaluating sources and how they relate to teaching science. | **2 pts** <br> **Minimal Pass** <br> The reflection is superficial, vague, or unconvincing. It answers some of the questions: what steps were followed and why, what questions were investigated, how conclusions were reached, what would be done differently next time, and where the process will be used again. The reflection demonstrates a limited or unclear understanding of the process and criteria of evaluating sources and how they relate to teaching science. | **0 pts** <br> **Below Expectations** <br> The reflection is absent, irrelevant, or dishonest. It doesn't clearly answer any of the questions: what steps were followed and why, what questions were investigated, how conclusions were reached, what would be done differently next time, and where the process will be used again. The reflection demonstrates no or incorrect understanding of the process and criteria of evaluating sources and how they relate to teaching science. | 4 pts |
| Referencing and Citing | **2 pts** <br> **Excellent** <br> The sources used for the assignment are cited correctly using APA 7th edition style. The reference list is complete, accurate, and consistent. Clearly explain if and how generative AI was used (if you did not use it, please indicate that). | **1 pts** <br> **Minimal Pass** <br> The sources used for the assignment are cited, but not using APA 7th edition style. Unclear if and how generative AI has been used. | **0 pts** <br> **Below Expectations** <br> The sources used for the assignment are not cited. | | 2 pts |
| | | | | Total Points: | 22 |