

Natural Inquirer Scientific Process Module



Unit 3, Lesson 2: Write a *Natural Inquirer* Article

Objectives:

- Students will be able to identify the different parts of the scientific process and understand how they relate to “doing science.”
- Student will be able to read, analyze, and explain scientific information.
- Students will be able to write and edit science writings.
- Students will be able to communicate clearly their study, the findings, and the implications to a larger audience.
- Students will engage in scientific inquiry.

Time Needed:

1 month or longer

Materials (for each student or group of students):

- *Natural Inquirer* monographs or articles
- Blank paper or notebook
- Writing utensil
- Research materials (e.g., books, Internet, magazines, newspapers)
- Camera (optional)
- Computer (optional)

In this lesson, students will apply what they have learned about the scientific process by engaging in the process from beginning to end, including:

- Identify a research question
- Conduct a literature search
- Modify the question (if necessary)
- Do an additional literature search (if necessary)
- Write an “Introduction” section
- Design data collection
- Design analysis

- Collect and record data
- Analyze data
- Write a “Methods” section
- Create charts, graphs, maps, illustrations, photographs, tables, etc., to summarize the data and analysis
- Write a “Findings” section
- Think about and discuss findings in light of all of the previous steps
- Write a “Discussion” or “Implications” section
- Write sections for “Thinking About Science” and “Thinking About the Environment”
- Identify any glossary words that might need to be defined
- Add citations (if necessary)
- Put all of the sections together into one article in the same format as *Natural Inquirer*

Methods:

Remind students that they will be creating a *Natural Inquirer* article based on their own research. Each student should choose a topic for research. Students can use the problems or questions they used in past lessons, or they can begin the process from the start using a new research problem or question. Student research topics can be from science topics that the class has covered or they can topics from *Natural Inquirer* publications which were interesting.

Once students have chosen a research topic, provide students some time to craft a research question and conduct a literature search. Pair students together and have them discuss their research questions.

After collecting the research, the students should write the "Introduction" section with a hypothesis or problem statement. Provide copies of *Natural Inquirer* monographs and articles and remind students to use the examples as they write their own article.

Next students should design their experiment or study and begin to record observations. During this time, they should write their "Methods" section. Additionally, their observations and records will be used in the "Findings" section. If a camera is available it would be great for students to also take pictures of their studies and experiments so that they can include visual documentation in their articles.

Once students have completed their study, they should write up their "Findings" section, including at least one chart or graph. Then students should work on the "Discussion" or "Implications" section.

At this time, students may also have an easier time writing the "Thinking about Science" and "Thinking about Environment" sections, so they should write the paragraphs for each of these sections. These sections are designed to give some background information to the reader about some of the most important topics or ideas discussed in the article.

Finally, students should compile all of their typed sections and pictures and create an article. At the end of the article, like in *Natural Inquirer*, students should create a glossary and add citations.