Natural Inquirer Compare and Contrast Generic Lesson Plan

Science Skills
Compare and Contrast

National Science Education Standards
Depends on the articles chosen.

Objectives
Students will read two science articles from the same topic area and compare and contrast the information presented in the articles using a Venn diagram.

Estimated Time
3 to 4 class periods (approximately 55 minutes each)

Materials

- *Natural Inquirer* (any edition; one per student)
- 2 sheets of paper per student
- Copies of the Venn diagram page

Procedure

For homework
Have students read "Meet the Scientists" and review the glossary of the first article. Then read "Thinking About Science" and "Thinking About the Environment". Students should think about and write one sentence summarizing the topic they think the article will address. Have students take one sheet of plain paper and create the following, using both sides of the paper **(see sample on next page)**. Divide each side into half with a solid line, then into quarters using a dashed line. Place their name at the top of the first page. Write Introduction in the first quarter, Method in the second quarter, Findings in the third quarter (beginning on the back), and Discussion in the last quarter.

Front side of prepared sheet

Student's name Introduction
Method

Back side of prepared sheet

Findings
Discussion

Day 1

Materials needed:

- *Natural Inquirer* article,
- pencils,
- prepared sheets;
- homework.

5 minutes

Introduce the *Natural Inquirer*. Explain that scientists do their research and write it up using a fairly standard format. The *Natural Inquirer* provides scientific articles for students. The format scientists use to write up their research generally, but not always, follows the following:

1. **Introduction** • Gives the background of and reasons for the research question or problem. The research question or problem is almost always found near the end of the introduction.
2. **Method** • Gives the method the scientist(s) used to collect and analyze their data.
3. **Findings** • Presents the findings. This usually, but not always, includes tables, charts, and graphs.
4. **Discussion** • Explains what the findings mean in light of the research question or problem presented in the Introduction. Explain that the sections they read for homework were added to give them additional background to better understand the upcoming article, which they will read in class.

5 minutes

Hold a class discussion about "Thinking About the Environment". What is the main idea of the paragraph? What are some ideas students have about what topic they think the article will address? What words or sentences did they use as clues?

10 minutes

Place students in groups of three to five. Have groups read the "Introduction" section aloud alternating readers (everyone in the group should have an opportunity to read). As each paragraph is finished, have students silently note what they think is the paragraph's main idea by writing this on the first quarter of their prepared sheet of paper, under the label "Introduction."

10 minutes
Have students repeat the above process with the "Method" section. This time, students will write the main idea of the paragraphs on the top part of the lower half of the first page. (Note: The students will not identify the research question again.)
5 minutes
Repeat the above process with the "Findings" section. This time, students will write the main idea of the paragraphs on the top quarter of the second side of the page.
5 minutes
Repeat the above process with the "Discussion" section. This time, students will write the main idea of the paragraphs on the bottom quarter of the second side of the page.

Homework
Have students read "Meet the Scientists" and review the glossary of the second article. Then read "Thinking About Science" and "Thinking About the Environment". Students should think about and write one sentence summarizing the topic they think the article will address. Have students take one sheet of plain paper and create the following, using both sides of the paper. Divide each side into half with a solid line, then into quarters using a dashed line. Place their name at the top of the first page. Write Introduction in the first quarter, Method in the second quarter, Findings in the third quarter (beginning on the back), and Discussion in the last quarter.

Day 2
Repeat the reading process above with the students for the second article.

Day 3
Students need their sheets of paper from both articles that should already be filled out. Place students in groups of three to five students. Have students review the articles by answering the reflection questions for each article. Have students complete the Venn diagram to compare and contrast the two articles. Write a paragraph describing the information presented in the Venn diagram.

Day 4 (Optional)
Complete a **FACTivity** from one of the articles.

Assessment
Student discussion, answers to the reflection questions, the completed prepared sheets, and Venn diagrams may be used for assessment of student comprehension.