

# Lesson Plan

## For homework

Have students read *Meet the Scientists* and review the Glossary. Then read *Thinking About Science* and *Thinking About the Environment*. After they have read these sections, have them write a paragraph that addresses the question in *Thinking About Science*. They should then 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.

The paragraph, sentence, and sheet of paper should be brought to class.

Student Name Introduction — — — — —
Method — — — — —

**Front side of prepared sheet**

Findings — — — — —
Discussion — — — — —

**Back side of prepared sheet**

## 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:

**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.

**Method** • Gives the method the scientist(s) used to collect and analyze their data.

**Findings** • Presents the findings. This usually, but not always, includes tables, charts, and graphs.

**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

Have a student read the Introduction section aloud. 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."

Hold a class discussion about the main idea of the section. Have students identify what the scientists wanted to study. Have the students restate this as a research question. (Example: *How do rising levels of carbon dioxide in the troposphere affect the amount of carbon sent to tree roots belowground?*)

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### 15 minutes

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.

### Homework

Have students complete the Reflection Sections for the Introduction, Method, and Findings sections by writing on the appropriate section of their prepared sheet, which is the section below the dotted line. Emphasize that these questions are not a test.

## Day 2:

### 15 minutes

Remind the students that they have read the Introduction, Method, and Findings sections. Review the article by discussing their answers to the Introduction, Method, and Findings Reflection Sections. Remind them of the upcoming section: Discussion.

### 10 minutes

Repeat the process used previously for the Discussion Section. This time, take 5 minutes after reading the section to discuss the reflection questions in class.

Now spend about 5 minutes discussing the implications of the article, from their perspective. Ask students to “fast forward” 25 years. The troposphere now has a greater percentage of carbon dioxide. The climate is warmer and rainfall patterns have changed with longer periods of either rain or drought. How will this affect trees around the world? How will it affect tree roots?

**Optional** • Do the **FACTivity** for the remainder of Day 2 and on Day 3:

In the last 10-15 minutes of class, introduce the **FACTivity**. Have the students read the first two paragraphs of the **FACTivity**. Have students develop and write one or two hypotheses for their inquiry, either individually, in groups, or as a class.

## Day 3

Continue with the **FACTivity**. The classroom time should be split about half between outdoor work and indoor work.

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

