



Natural Inquirer Scientific Process Module



Unit 1: Lesson 1: Who is a Scientist?

Background: Scientists are people who are curious about their world and want to learn new things about it. Rather than learning haphazardly, scientists use a general method to collect information, analyze it, and report it. Scientists want to share what they have learned with other people. Scientists are found in every discipline, such as biology, physics, chemistry, and environmental science; and psychology, education, history, and even religion. There is no topic of interest to you or your students for which scientists cannot be found.

Often students regard scientists as individuals found in laboratory environments wearing a lab coat and working with chemicals. However, as you will find as you explore the *Natural Inquirer*, scientists can be anyone and they represent a diversity of people, including women and men, people of different ethnic backgrounds, and those of all ages, talents, and interests.

The *Natural Inquirer* attempts to show that anyone who identifies and systematically solves a problem or answers a question is a scientist. Thus, every one of your students (and you as well) are scientists when you follow the general scientific process in your problem solving.

You may want to challenge your students to think about the times that they have been a scientist. This would be the times that they have tried to answer a question or solve a problem. Did they follow a scientific process in their problem-solving? This activity provides a chance for students to think critically about who scientists are and then invites students to share their ideas. The activity involves learning something about the environmental scientists who work in the USDA Forest Service. Then, the activity provides an opportunity to see if the activity has caused the student to broaden his or her concept of scientists by having students draw scientists at the beginning and end of the activity.

Objectives:

- Students will be able to identify at least two different perceptions of scientists.
- Students will be able to verbally describe different types of scientists in the USDA Forest Service and the work that these scientists do.
- Students will be able to verbally describe the differences and similarities between their before and after drawings of scientists

Time: 1-2 class periods

Materials:

- Any edition of the *Natural Inquirer*, a hard copy or downloaded from <http://www.naturalinquirer.usda.gov>
- Plain white paper
- Pencils
- Color pencils, markers, or crayons

Procedure:

1. Begin the lesson by asking students to close their eyes and visualize a scientist.
2. On a sheet of white paper, ask students to draw their idea of a scientist.
3. Once students have finished their drawings, ask if any students would like to share their drawings or discuss who they think a scientist is. After discussing and sharing pictures, pass out the *Natural Inquirer* journal.
4. Have students look at the beginning of each article and read the “Meet the Scientist” section.
5. After students have read the “Meet the Scientists” section of each article, hold a class discussion about scientists. Ask students if the scientist they drew matched up with the scientists they read about. If so, how? If not, why not?

Assessment:

Have students redraw their idea of a scientist after the class discussion and the *Natural Inquirer* activity. Are there differences? If so, what are they? Note: It will be important to discuss differences or similarities in gender, ethnic or racial background, age, and setting.

The before and after drawings can be displayed next to each other throughout the room, so that students can make observations and compare the drawings. You may want to have a discussion or you may also want students to write a short paragraph describing any changes and any similarities between the two drawings and why they made changes or kept some things the same. Additionally, students can be informally assessed through class discussion and participation.

Modifications:

For a greater variety of scientists, provide the students with several different *Natural Inquirer* journals or have the students go to the *Natural Inquirer* web site and meet all the scientists from all the journals we have published thus far. For an extra challenge, students can compare the work that scientists at the USDA Forest Service do compared to other scientists- what are the similarities and differences?

Students that have difficulty reading or doing other tasks can be paired with a partner or the educator may assist.

Extra Resources:

Link for Meet the Scientists on *Natural Inquirer* Web Site

<http://www.naturalinquirer.usda.gov/NIKids.cfm?act=viewExplore&explore=viewScientists>

Additional Information:

If you would like to send in some of the drawings to the *Natural Inquirer* staff we will be happy to scan them and post the drawings on the web.