their findings and see if the treatment is really affecting an area rather than something else that is not accounted for in the study.

Findings

- **Look at the pictures of the funnel traps and pitfall traps (figure 7 and 8). Why do you think that funnel traps captured more snakes?** *This is an individual question that should be supported with logic and reasoning.*
- **Do you think it is important for the scientists to use pitfall traps? Why or why not?** *Yes, it is important to use both types of traps because the pitfall trap did catch some snakes. Without using both types of traps fewer snakes would be captured.*

Discussion

- **Based on the scientists' findings, do you think this study should be done again at a later date? Why or why not?** *Since the scientists were concerned that the overall number of snakes captured was low and that the native habitat may not have been fully restored, it would be a good idea to try to do this study again and see what the results are at a future time.*
- **Based on the results of this study, do you think that restoration activity to reduce the chance of wildfire in the Bosque is a good thing for snakes? Why or why not?** *Students should be urged to look at the first paragraph of the "Discussion" section. It did not appear that snakes were affected positively or negatively by restoration activity. However, the scientists cautioned that the weather was dry, and that the native habitat may not have been fully restored at the time of the study. Students should realize that sometimes a question cannot be answered at the end of a study.*

Don't Judge a Soil by Its Color

Introduction

- **Explain why red soils are found either in strips or in round shapes following a wildfire.** *These are the shapes of the logs or the stumps that were burned in the wildfire.* **Do you think that more area is in red soils or black soils following a wildfire? Why?** *This is an individual question. Students should reason that there is far less land covered with old logs and stumps in the forest than is covered with brush and small trees. They may look at figure 1 for a clue.*
- **If nonnative invasive plants grow more rapidly than native plants, how might mycorrhizal fungi be affected?** *If invasive plants grow more rapidly, their roots may grow more rapidly as well. This would make the roots of invasive species more available to mycorrhizal fungi. The mycorrhizal fungi, therefore, may begin growing on the invasive roots to take advantage of the carbon they have to offer.*

Methods

- **Why do you think the scientists only took samples from the top 5 centimeters of soil?** *Students should be able to give an answer and back it up with logic. Although roots may go deeper than 5 centimeters, the scientists selected 5 centimeters as their limit because seedlings will usually root within the top 5 centimeters of soil.*
- **Why did the scientists wait a year to go back and identify the species of plants growing in the red and black soils?** *The scientists wanted to give the area 2 years after the wildfire to allow native or invasive species to spread into, take root, and grow in the area.*

Findings

- **Why do you think plants growing in red soil had fewer fungi growing on their roots than plants growing in black soil?** *This is an individual question, and students should back up their answers with logic. However, students should reason that the heat from the severe wildfire killed most of the fungi, and therefore less fungi was found growing on roots in the red soils.*
- **What effect did wildfire have on the growth of new plants in some of the areas that were burned?** *In the severely heated areas, the wildfire slowed the growth of new plants. The wildfire did not appear to affect the areas that were not severely heated (the areas with black soils). Plants were found to be growing again in those areas.*

Discussion

- **If logs and stumps on the ground cause a slower recovery of a forest following wildfire, should the logs and stumps be removed? Why or why not?** *This is an individual question and students should back up their position with logic. Students should be challenged to think of the animals who depend on logs and stumps for habitat, such as arthropods and small mammals.*
- **Do you think the fungi will ever come back to the areas of red soil? Why or why not?** *This is an individual question, and students should back up their position with logic. However, it could be that eventually, since native plants began to grow in red soil within 2 years, the mycorrhizal fungi would eventually come back and begin living on the plant roots again.*

What Is the USDA Forest Service?

The Forest Service is a part of the United States Department of Agriculture (USDA). It is made up of thousands of employees who care for the Nation's forest land. The Forest Service manages more than 150 national forests and almost 20 national grasslands. These are large areas of trees, streams, and grasslands. National forests are similar in some ways to national parks. Both are public lands, meaning that they are owned by the public and managed for the public's use and benefit. Both national forests and national parks provide clean water, homes for the animals that live in the wild, and places for people to do fun things in the outdoors. National forests also provide resources for people to use, such as trees for lumber, minerals, and plants used for medicines. Some people in the Forest Service are scientists, whose work is presented in the journal. Forest Service scientists work to solve problems and provide new information about natural resources so that we can make sure our natural environment is healthy, now and into the future.