You can create a pie chart from Table 2. A pie chart is a circle, and each section looks like a slice of the pie. A pie chart is a way of showing the relationship between values. The pie slices will be different sizes depending on the value *associated* with each slice. You will need a protractor to create your pie chart. Before you start, you need to know that every circle contains 360°. The circle and the dot have already been supplied. Draw a line from the dot to any place on the circle. This is your starting point. You can see that the rating of excellent will take up 16.4 percent of the circle. Multiply 360° by .164 (why should you use .164?). The answer is 59.04°. Use the protractor to mark 59.04° from your starting line. You may not be able to get it exact, but that is okay. Draw a line from the center dot to the outside of the circle to create a pie slice that is 16.4 percent of the circle. If you do this for each value, you will fill up the circle with pie slices of different sizes. Each slice represents one of the ratings. Color the pie slices different colors. Label your pie chart by writing down the rating each slice represents (for example, "excellent" and "very good").

Sample pie chart

Very easy

Easy

Very hard

Hard
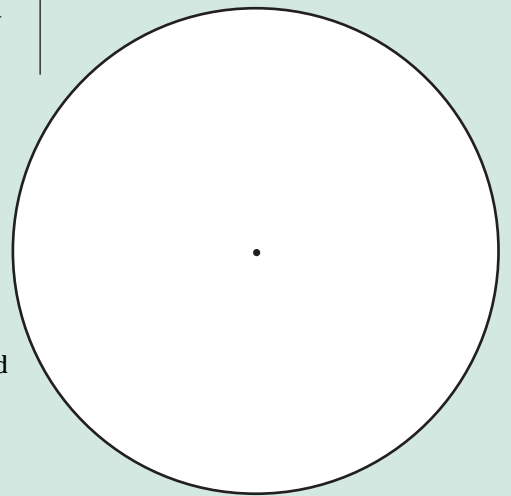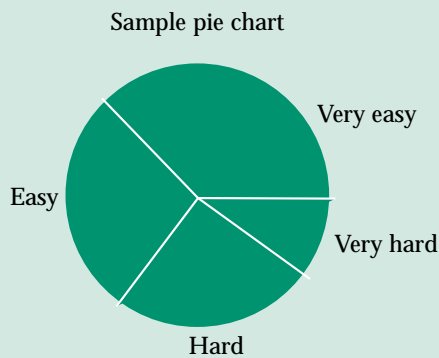
FACTivity

You have learned how important it is to evaluate education programs. Now you will have a chance to do it! You can either evaluate this article or another article from *The Natural Inquirer.* All students in your class must evaluate the same article. Have your teacher copy the student evaluation form on page 49 (or if you are on the website, go to the "Student's Corner"). Every student should have a copy of and complete this evaluation form. Once everyone has completed the form, it's time to summarize the results. When you summarize, you take all of the information collected from everyone and reduce it to a single number. Why do you think you need to reduce it? It would take a long time to present each student's response to each question. Instead, you calculate a class summary for each question.

Begin with question #2. Ask a student volunteer to write the class' responses on the blackboard. Count how many students answered each of the choices in question 2. Then,

The other 3 R's

To provide a place for the athletes to compete, 2002 Games planners had to build some new *facilities* in the natural areas surrounding Salt Lake City, Utah. The 2002 Games planners knew that mountainous natural areas could be easily damaged by people. Therefore, they did many things to protect the natural environment. Can you think of one of the ways they protected the environment? Here's a hint: You are holding it in your hands right now! (Or, you might be looking at it on a computer screen!) That's right! They developed environmental education materials, like *The Natural Inquirer.* When people learn more about a natural area, they can take better care of it. Do you know what the other 3 R's are? Fill in the blanks: Re_ _ _ _, Re_ _ _, and Re_ _ _ _ _.

you will need to calculate the percentage of the whole class each choice represents. Divide the number of students responding to each question by the total number of students in the class. If there are 25 students in your class and 11 of you said the article was very easy to understand, you will divide 11 by 25, or 25 into 11. The answer is .44, or 44 percent. You can do this with questions 2-9. What kind of change must you make to do this calculation with question 11? You will not be able to do this kind of summary for question 10. Instead, you can list everyone's response. You can make a table for each of the questions 2-9 and for question 11. You can also create a pie chart for each. See the example chart below.

After calculating the responses to these 11 questions and considering your findings, do you think that the article was easy or hard for your classmates to understand? Was it interesting or boring for your classmates? Do you think your classmates learned something from the article? How do you know? What other things can you say about the article, based on this evaluation?

When you have finished this FACTivity, have your teacher collect your forms and send them to Dr. Barbara McDonald, USDA Forest Service, 320 Green St., Athens, GA 30602-2044. Your responses will be added to the responses of students from around the country. Then, all of the responses from around the country will be summarized and listed on *The Natural Inquirer* website.

Question 2.

The article was:	Number of students responding	Percentage of Responses
Very interesting to understand		
Easy to understand		
Hard to understand		
Very hard to understand		
TOTAL		100 percent

From Hendricks, William W. and Watson, Alan E. (1999). Wilderness educators' evaluation of the Impact Monster program. *USDA Forest Service Research Paper RMRS-RP-15.*

Website
http://www.wilderness.net/leopold/
http://www.wilderness.net