

CHALLENGE TWO

Name of Challenge

Testing Soil for Nutrients

Statement of Challenge

You will use the more sophisticated Simplex soil test kit to test a soil sample for Nitrate, Phosphorus, and Potassium.

Specifications

- A. You must test a fresh soil sample for its levels of Nitrate, Phosphorus, and Potassium using the Simplex soil test kit.
- B. You must write a three paragraph summary report on the importance of primary nutrients, your test results, and your interpretations of the results.
- C. Locate the **Challenge Lab Work Sheet** in the module area and answer the questions as you work through the challenge.

Equipment and Materials

- A. Simplex Soil test kit and soil testing booklet
- B. Fresh soil sample, preferably from a familiar area that supports plant growth
- C. Distilled water

Challenge Two Continued

Basic Instruction

- A. In the *Simplex Soil Testing* booklet, read the section on Nitrates, Phosphorus, and Potassium.
- B. Next, read the section on "Tests for Easily Soluble or 'Active' Soil Constituents General Data and Suggestions" on pages 19 and 20. This section explains how to clean the equipment before and after use and gives an overview of the testing procedures.
- C. Follow the directions on page 20 under "Extracting the Soil Sample" to create the soil extract.
- D. Follow the directions for testing.
- E. Use the information you read in Step A and your results to write a summary report. In the first paragraph of your report, explain the importance of the nutrients that you tested and symptoms of plants when excesses or deficiencies are present in the soil. In the second paragraph, summarize your test results. You may choose to present your results in a table. In the third paragraph, write your interpretations of the results. When writing your interpretations, address the following: Based on your results, what should the plant growth in the soil you tested look like? If possible, visit the site where the soil sample was obtained. Is the appearance of plant growth consistent with what you would expect according to your test results? What factors could you attribute to the condition of the soil? What recommendations for soil amendments could you make?