

Unit 2 Handout 38

Lesson 2: 25-27 Reading Graphic Organizer

**Purpose:** To read about the nutritional needs of plants.

**Guiding Questions:** How are plants affected by different levels of nutrients?

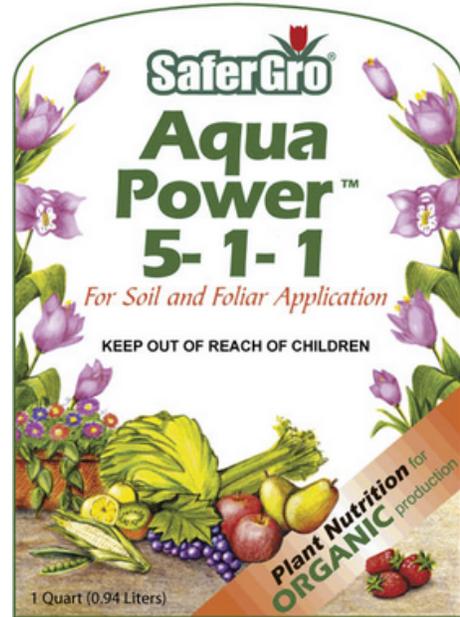
**Instructions:** First read pages 25-27. Then, answer the questions below.

1. What is food for plants? Why is it considered food?  
 Glucose (sugar) is food for plants. It is considered food because it is a source of energy for plants.
  
2. What is "plant food" commonly sold in stores?  
 Plant food sold in stores is a mixture of substances that plants need for proper growth. Plant food is also known as fertilizer.
  
3. Why is the product "plant food" a misleading name?  
 The name is misleading because plant food isn't food for plants; it does not contain energy plants need.
  
4. In the table below, list the three macronutrients and what each does for the plant.

Macronutrient	What it does this macronutrient do for the plant?	What happens to the plant if it lacks this macronutrient?
Nitrogen	Promotes the growth of healthy leaves.	A lack of nitrogen results in light green leaves, thin stems, and lower leaves turning yellow and brown.
Phosphorous	Promotes strong, healthy roots and helps flowers bloom.	Leaves become dark, plant may turn purple/blue and leaves may drop off.
Potassium	Helps plants withstand dramatic temperature change and protects from disease.	Leaves turn brown, curve downward, and droop.

5. Plant food is usually listed as a proportion of three numbers (example: 29-3-4). Below is an example from a plant food label. How much of each macronutrient is found in this fertilizer?

5 percent nitrogen  
1 percent phosphorous  
1 percent potassium



6. What is the proportion of our fertilizer? Why was this particular proportion selected for our plant systems?

Our fertilizer is a 12.5 solution of 20-20-20. It has equal proportions of the three macronutrients. That makes it a good all-purpose fertilizer.