

Chapter 37 Worksheet Soil and Plant Nutrition A.P. Biology

Ms. Turner

Nutritional Requirements of Plants

1. Describe the chemical composition of plants, including the

- Carbohydrate (carbon, hydrogen, oxygen) – most abundant elements in dry weight of a plant.
- Nitrogen, sulfur, and phosphorus – relatively abundant in plants.
- A plant's nutritional needs are met with water, minerals, and sunlight.

a. percent of wet weight as water. 80–85%

b. percent of dry weight as organic substances. 95%

c. percent of dry weight as inorganic minerals. 5%

2. Explain how hydroponic culture is used to determine which minerals are essential nutrients.

- In a hydroponic culture, the roots of a plant are bathed in certain nutrients only to find out what is really necessary for plant growth.
- Water is aerated to provide oxygen to the roots.
- Very exactly defined solutions will keep plants healthy. (Ex. potassium)
- Leaving out a specific nutrient gives very specific symptoms. Most common symptoms are little growth and discolored leaves.

3. Distinguish between macronutrient and micronutrient.