

## 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.