

Roots and Stems and Leaves, Oh My!

Objectives

1. The student will be able to identify parts of a plant.
2. The student will understand the function of plant parts.

Grade Level

1-3

4-6

TEKS:

1.6B, 2.6C; 3.10A

4.11B; 5.6C

TAKS:

GRADE

OBJECTIVES

Reading

3, 4, 5, 6

1, 3, 4

Science

5

2, 3, 4

Assessment Summary:

Materials: Transparency of plant showing different parts.
Different types of actual plants, if available, otherwise pictures of plants.

Activity Sheets: "Plant Parts" Labeling Exercise
"Plant Parts Pieces" Cutouts
"Plant Facts"
"Plant Parts Review"

Equipment:Overhead Projector

Objectives: 1. The student will be able to label parts of a plant.
2. The student will understand the function of each part of the plant.

Assessment: Multiple Choice Plant Parts Review
Teacher Observation

Background Information

Roots and Stems and Leaves, Oh My!

Plants have different parts just like we do. We have arms, legs, a heart and lungs to help us survive. Each of our body parts has a certain job to do. Plants have different parts, each with its own job to do. They must have roots, stems and leaves. Each part of the plant must do its job so the plant can stay healthy and grow.

Roots

A plant's roots grow under the ground. The roots help hold the plant in the soil. They also take in water and nutrients which the plant turns into food. Plants have different kinds of root systems. Some plants have **fibrous roots**. Fibrous roots have many branches and spread out like the branches of a tree. Plants that have fibrous root systems include grasses, corn plants, wheat and many other crops that farmers grow. Other plants have a **tap root**. This is a single, main root that grows straight down. The tap root has smaller branches growing off of it. Examples of plants that have a tap root are carrots, radishes and turnips.

Stems

The stem grows upward from the roots. It holds the plant up and carries water from the roots to the other parts of the plant. Secondary stems, called **petioles**, grow from the main stem. These petioles have leaves growing on them. Sometimes we eat the stems of plants, like celery and asparagus.

Leaves

The leaves of a plant make the food the plant needs to survive. The water and nutrients that were taken in by the roots, move upward through the stem to the leaves. The leaves take sunlight and **carbon dioxide** from the air and convert the nutrients to plant food. This process is called **photosynthesis**. We eat the leaves of some plants such as lettuce and spinach.

Flowers, Fruit and Seeds

When a plant receives the proper amount of water, nutrients, air and sunlight it produces flowers. The flowers usually grow on the stems. When the flower dies and falls off it leaves behind a fruit. The fruit contains seeds. Fruits that we eat include apples, oranges, watermelons and tomatoes. Sometimes we let the seeds dry out and use them for food. Things like corn, peas and beans are examples of seeds that we eat.

The seed is the part that grows a new plant. If we plant a bean seed we will get a plant just like the one that made the seed.

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Lesson Plan

1. Introduce new vocabulary:

Grades 1-3

Root

Stem

Petiole

Leaf

Flower

Fruit

Seed

Grades 5-6

Nutrients

Carbon Dioxide

Fibrous Roots

Tap Root

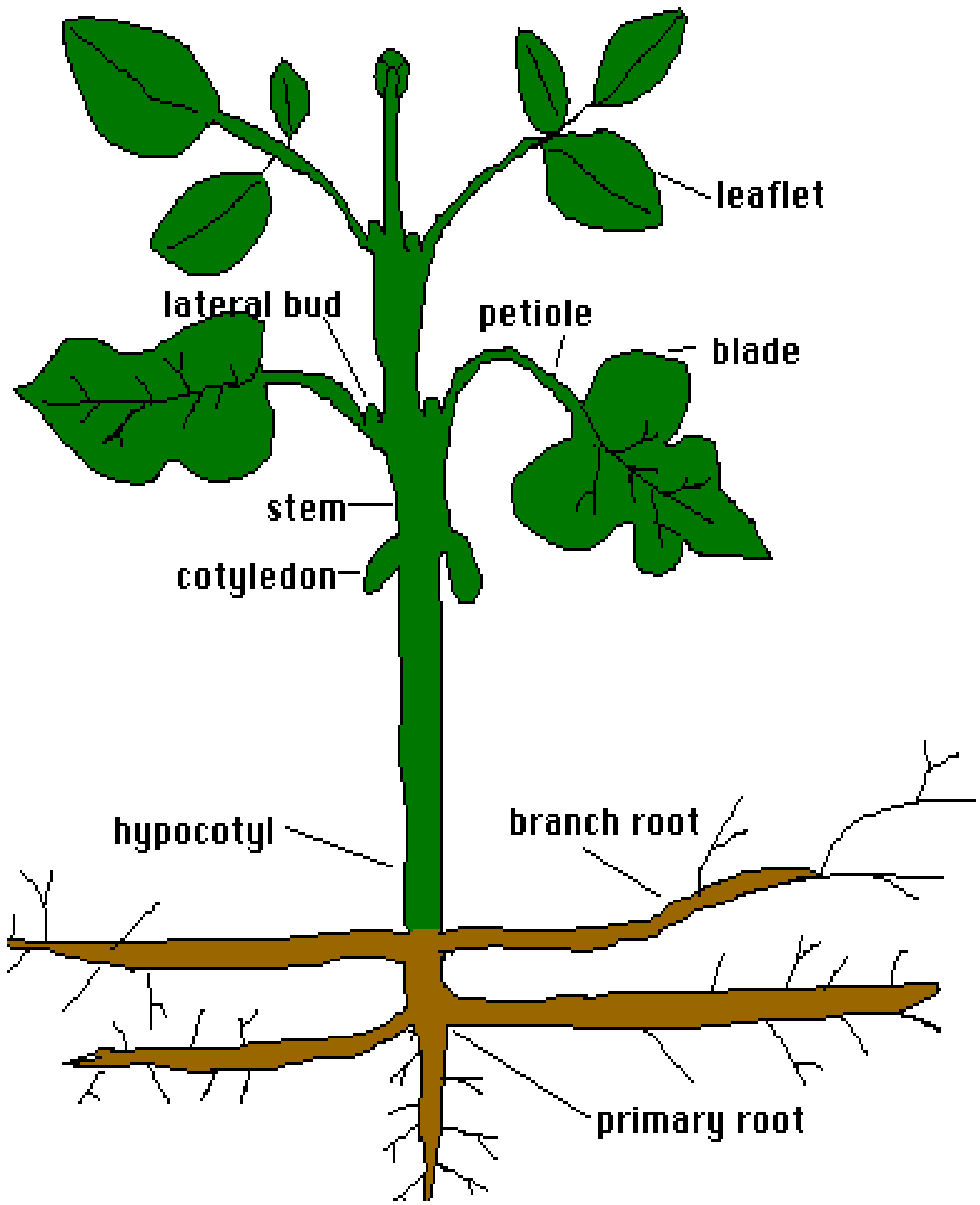
Photosynthesis

2. Show students a plant, either actual or make a transparency from the enclosed diagram.
3. Ask students to try to identify as many of the parts as possible.
4. Next, ask students to begin listing what they think is the function of each of the parts.
5. Read Background Information to the class or have each student read individually.
6. Go over the parts of a plant in detail. Also explain each function.
7. Show plants with different types of leaves, stems and roots. Emphasize that even though the parts may look different they all have the same function.
8. Have lower grade levels cut out "Plant Parts Pieces" and paste to "Plant Parts Card", then color the picture.
9. As appropriate to grade level have students read "Parts of a Plant" and label the diagram.
10. Show overhead transparency of a corn plant. What type of root system does a corn plant have? Where are the seeds located? Have students research the function of the tassel and the silks on the corn plant.

Extension

Have students make a collection of plants that show different leaf, stem and root characteristics.

Plant Parts



leaflet

lateral bud

petiole

blade

stem

cotyledon

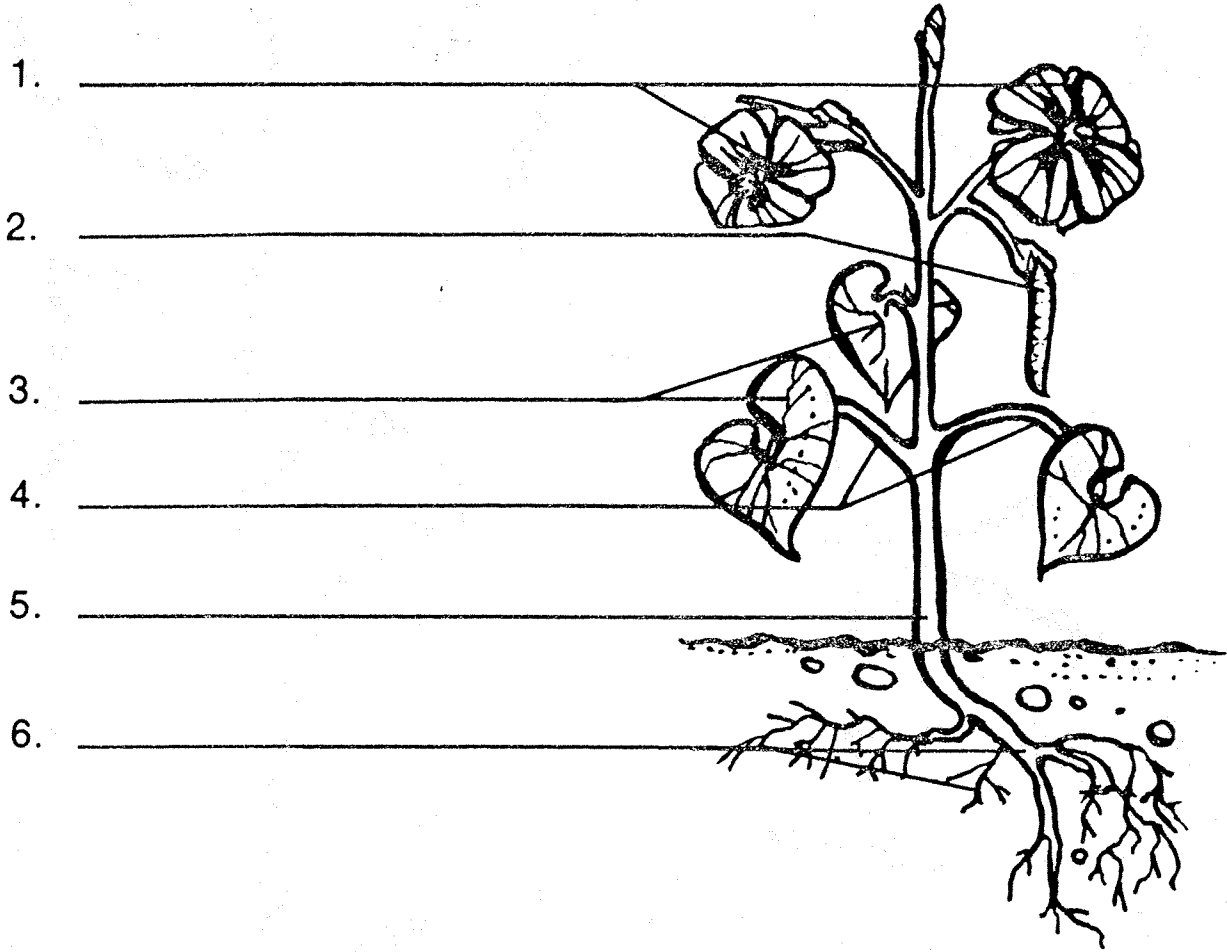
hypocotyl

branch root

primary root

Parts of a Plant

Read the story then label the parts of the plant.



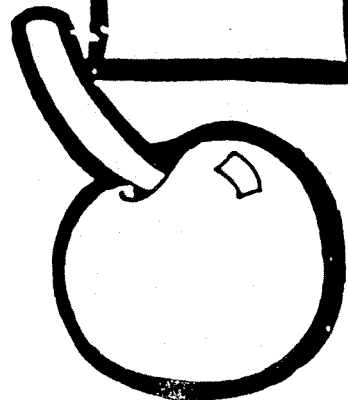
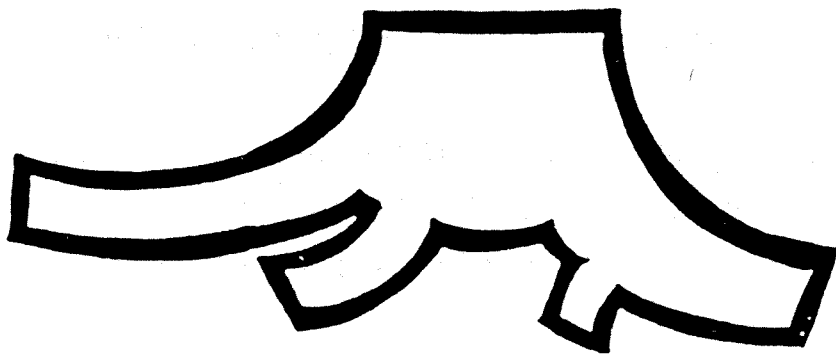
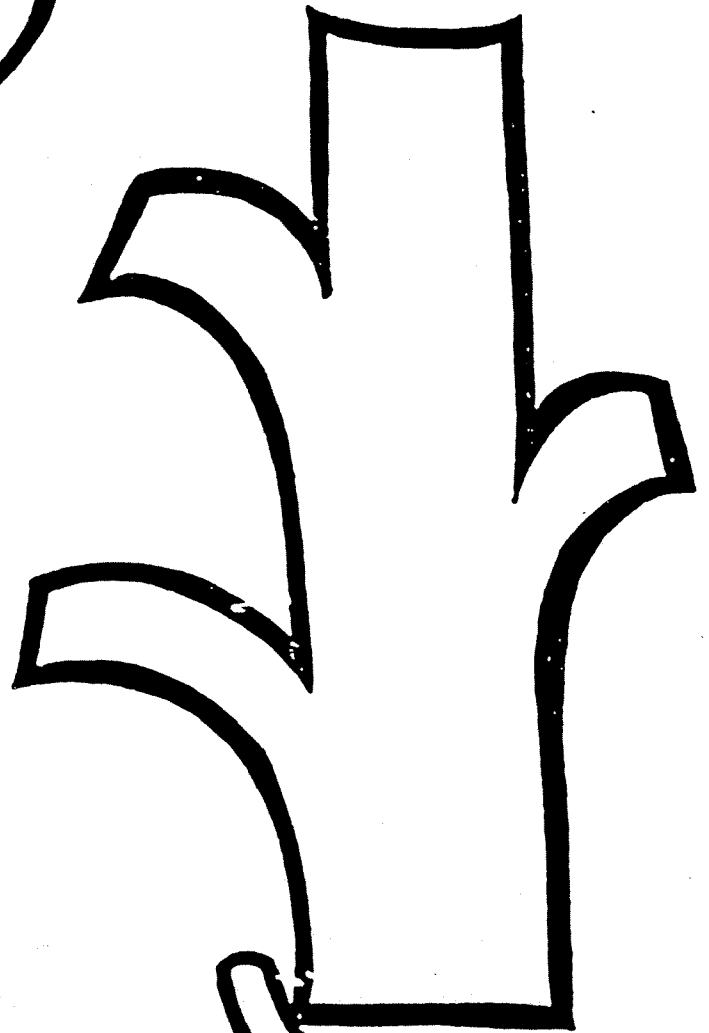
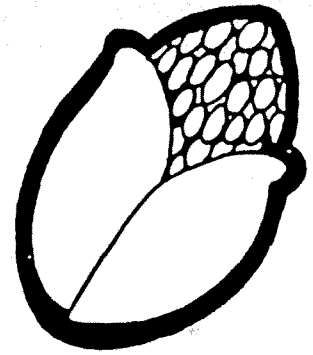
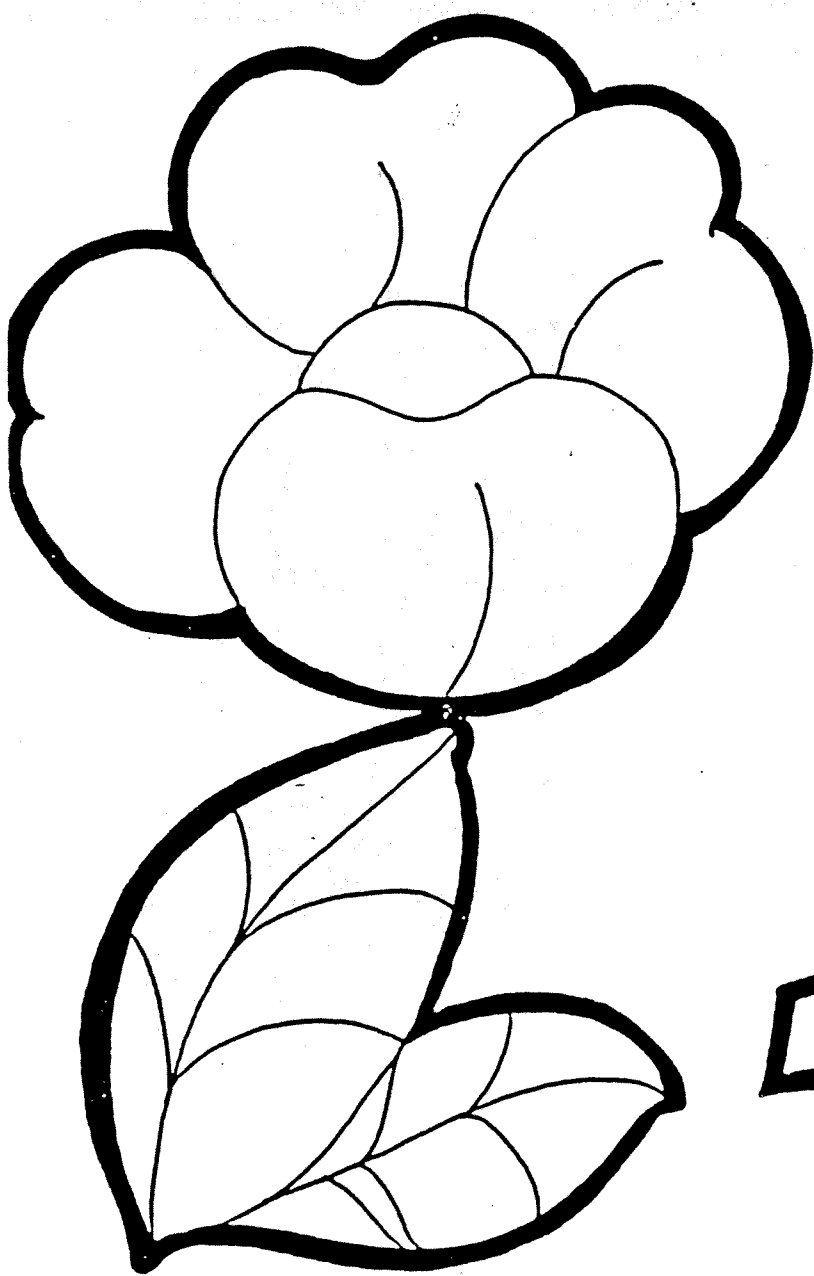
A plant has **roots** which keep it in the ground. The roots also take in water and minerals from the soil.

Above the ground is the **main stem**. It holds up the plant and carries water throughout the plant.

Secondary stems , or **petioles**, grow from the main stem. These stems have the **leaves**. Green leaves make most of the plants food.

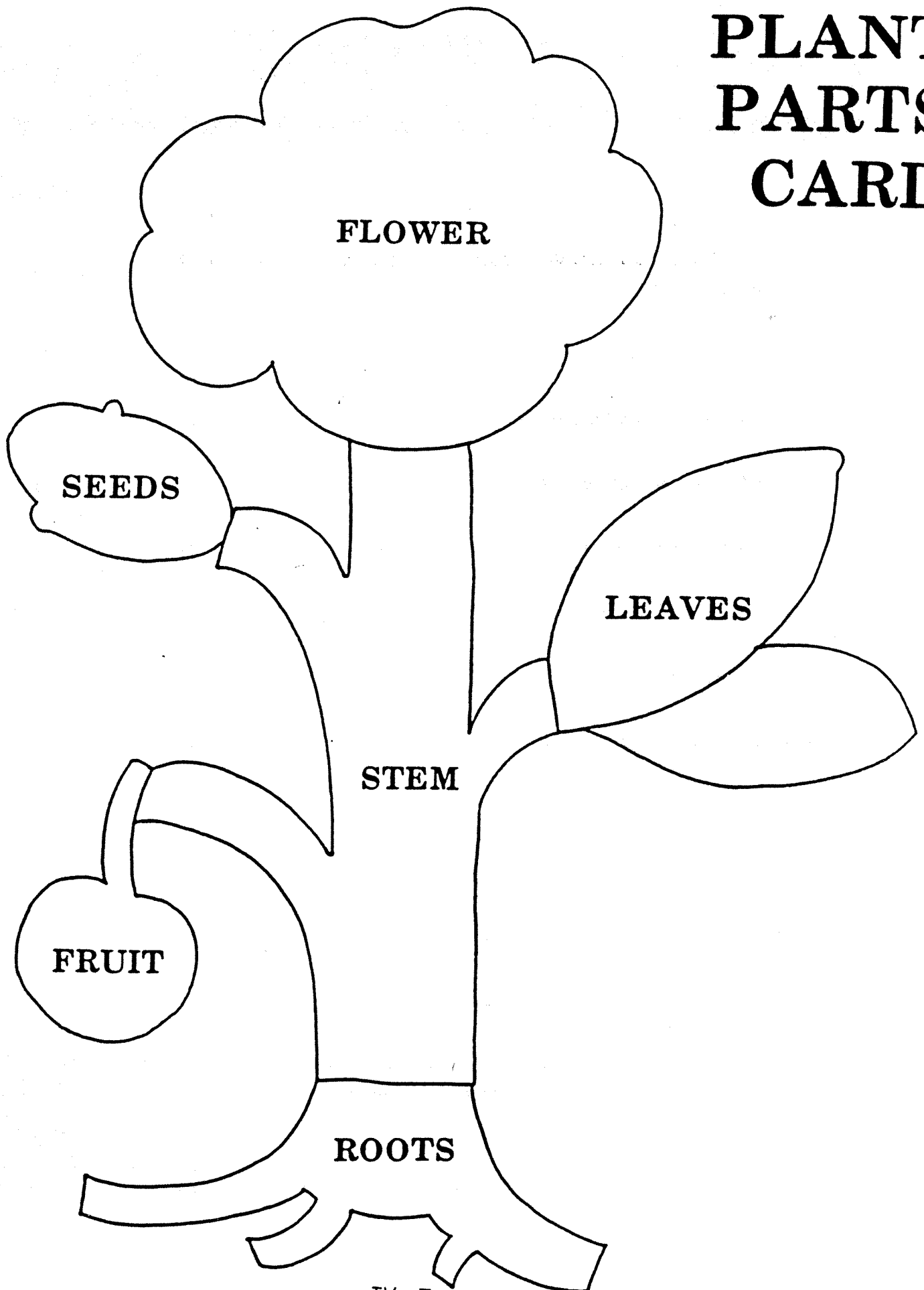
The **flowers** of the plant produce **fruit**. Inside the fruit are the **seeds**. The seeds produce new plants.

PLANT PARTS PIECES



NAME _____

PLANT PARTS CARD



Plant Facts

Circle the letter in the correct column for each statement.

	True	False
1. Plants have three parts: the root, the stem, and the carbon dioxide.	H	Y
2. Plants can live without water.	I	O
3. Roots hold a plant in the ground.	U	L
4. Plants and animals produce their own food.	O	H
5. Stems carry water from the roots to the leaves.	A	G
6. Food is make in the leaves of green plants.	V	F
7. All leaves look alike.	R	E
8. Green plants need sunlight.	E	C
9. All plants have chlorophyll.	S	A
10. Seeds store food.	R	S
11. Flowering plants produce fruit.	S	D

What do you have that a corn plant has?

To find out, fill in the letters you circled above on the lines of the question numbers below.



_____ !
 1 2 3 4 5 6 7 8 9 10 11



Plant Parts Review

Circle the correct answer.

1. A plant has roots which keep it
 - a) in the ground
 - b) living
 - c) from getting cold
2. The main stem above the ground helps
 - a) the bugs bring food
 - b) the flowers bloom
 - c) carry water throughout the plant
3. The secondary stems grow out from the main stem, and these stems have
 - a) thistles
 - b) flowers
 - c) leaves
4. Green leaves make most of the plant's
 - a) chlorophyll
 - b) food
 - c) seeds
5. The flowers of the plant produce
 - a) seeds
 - b) fruit
 - c) leaves
6. Roots and stems carry
 - a) sunlight and sugar
 - b) nutrients and water
 - c) carbon dioxide and sugar
7. Photosynthesis takes place in the
 - a) root
 - b) leaves
 - c) stem



ANSWER KEY

Parts of a Plant

1. Flowers
2. Fruit
3. Leaves
4. Petioles
5. Main stem
6. Roots

Plant Facts

1. Y
2. O
3. U
4. H
5. A
6. V
7. E
8. E
9. A
10. R
11. S

You Have Ears!

Plant Parts Review

1. A
2. C
3. C
4. B
5. B
6. B
7. B