

Name _____

Date _____

Parts of a Plant

Like humans, plants are living, breathing things. They need food, air, and water to stay alive. To us, plants may seem very simple, but that's not the case. Plants are such complex organisms that there are scientists who study nothing but plants! There are thousands of species of plants, and they are all very different. Some grow in the desert, and some grow underwater. Some plants need lots of sunlight, and others live in darkness. Most plants get food from the soil, but a few actually eat bugs! Despite their many differences, all plants have a few things in common. Today, you will learn about the basic parts of a plant.

Roots

The roots of a plant have more than one job. First, they act like feet and legs, giving the plant strength and form to stand up. The second, and most important, job of plant roots is to collect and store food and water. The roots work like fingers, absorbing water and nutrients from the soil. The plant uses these nutrients and water to grow. After the plant makes food, any leftover nutrients like sugar and carbohydrates are stored in the roots until the plant needs them to do another job. So, roots are like feet, hands, and a pantry-all in one!

Stems

Along with the roots, the stem helps to give the plant strength and structure to stand up. A plant with a stiff stem will grow straight, and a plant with a weaker stem will grow along the ground. In this way, stems help to give plants their shape. A stem also works like a superhighway inside the plant. It provides a passage for nutrients and water to get from the roots to the leaves of the plant. The leaves produce food, which is carried to the rest of the plant by- you guessed it- the stem!

Leaves

Leaves are like the kitchen of the plant. They are where the food is made. They also have the job of collecting the most important ingredient for plant food: sunlight. The process a plant uses to make food is called **photosynthesis**. Here is how it works: The leaves absorb sunlight and collect air through tiny holes. Next, the plant uses carbon dioxide from the air, along with water and energy from the sun to create sugar. Scientists call this sugar glucose, and it is the food used by most plants to live.

Veins inside the leaves carry the glucose to the stem, which then carries the food to other parts of the plant. Some glucose is stored in the roots for later. Finally, leftover air and water leave the plant through the small holes in the leaves. The air the plant does not use is actually oxygen-which we humans need to live. In fact, green plants supply oxygen for most other forms of life.

Flowers

Flowers are the most beautiful part of the plant, but they actually have a very important job. Inside some flowers are both male and female parts. This is where the seeds are made.

The female part of a plant is called the **pistil**. It is usually in the center of the flower. It is surrounded by the male parts, called **stamens**. During a process called **fertilization**, pollen from a stamen gets stuck to a sticky knob at the top of the pistil called the **stigma**. The stigma is attached to a long tube that leads to

Name _____

Date _____

Parts of a Plant (Cont'd)

the plant's ovary. This tube is called the **style**. After the pollen sticks to the stigma, a smaller tube grows down the style and enters the ovary. Male cells from the pollen move down this tube and join with an ovule. Now the ovule is fertilized and will grow into a seed.

Not all plants have both male and female parts. They only have one or the other, so they need a way to get pollen from the male plants to the female plants. For these plants, bees, butterflies, and other insects help with fertilization. Pollen sticks to their legs and bodies. As they move from plant to plant, the pollen rubs off and can stick to the stigmas. That is why flowers are colorful and interesting. They need to attract bees, butterflies, and other insects that can help with pollination.

Fruit

Fruit is not just a delicious food for people. In fact, many plants produce fruit that is not safe or tasty to eat. But whether we eat the fruit of a plant or not, it has an important job. The fruit is actually the ovary of the plant. After fertilization, the new seeds need to be kept safe until they get to a new place and are ready to grow. Seeds travel by water, wind, or just falling. To protect the seeds on their journey, the ovary of the plant grows larger and becomes hard or plump and juicy. Of course, the thick coating the ovary grows to keep seeds safe is no match for humans. We love to munch on sweet, juicy fruits like apples and oranges.

Seeds

Seeds are really very small, baby plants. Scientists call these tiny plants embryos. Plant seeds have the ability to grow leaves, roots, stems, flowers, and every other part they need to live. When they are formed, seeds also get a small supply of food. As soon as they have roots and leaves, young plants are able to begin making their own food.

Summing Up

You have learned a lot today about plant parts and their jobs. Even though you now understand much more about plants, we have only talked about the most basic parts. Like you, plants have many processes to help them live and grow. The next time you bite into a piece of fruit, think about the tiny seed inside, and all of the work the plant did to produce your snack!

Name _____

Date _____

Parts of a Plant Questions

Read the sentences below. Fill in each blank with the correct word from the box.

Roots	Leaves	Stamens	Carbon Dioxide	Flowers
Stigma	Fruit	Stem	Fertilization	Photosynthesis

1. _____ are used to attract pollinators like bees and butterflies.
2. Plants store nutrients and water in their _____.
3. _____ is the process plants use to create glucose.
4. Veins carry water and nutrients from the _____ to the stem of the plant.
5. During _____, male cells reach the female ovary and a seed develops.
6. In some plants, the female pistil is surrounded by the male _____.
7. A plant gets its structure and shape from the _____.
8. In order to make food, plants need sunlight, water, and _____.
9. Seeds are protected by a thick coating called the _____.
10. The _____ is the sticky part of a female plant that collects pollen.

Short Answer

Use the lines below to answer each question.

1. What is **photosynthesis**? How do leaves help with this process?

2. What is **fertilization**? How do insects help with this process?

Name _____

Date _____

Parts of a Plant Answers

Fill in the blank.

1. Flowers
2. Roots
3. Photosynthesis
4. Leaves
5. Fertilization
6. Stamens
7. Stem
8. Carbon dioxide
9. Fruit
10. Stigma

Short Answer

1. Photosynthesis is the process plants use to make food. The leaves absorb sunlight and air. With water, these ingredients allow the leaves to produce sugar or food called glucose.
2. Fertilization is the process a plant uses to grow a seed. Pollen from the stamen gets stuck to a sticky knob at the top of the pistil called the stigma. The stigma is attached to a long tube that leads to the plant's ovary. This tube is called the style. After the pollen sticks to the stigma, a smaller tube grows down the style and enters the ovary. Male cells from the pollen move down this tube and join with an ovule. Now the ovule is fertilized and will grow into a seed.

Bees and other insects help by carrying pollen from male plants to the female plants.