

Plant Parts

By Cindy Grigg

¹ What are plants? Plants are living things that are made of many cells. They are **autotrophs** which means they can make their own food. They do this by a chemical reaction called photosynthesis.

² Different kinds of plant structures move water and nutrients from one part of a plant to other parts. Some plants, such as lettuce, have tiny tubes that move water and nutrients inside the plant. Other plants, such as mosses, do not have these tubes. Plants that have the tubes can move water and nutrients farther, faster, and easier than plants without tubes. If a plant needs water, all you have to do is water the roots.



³ Plants have their own way of moving water from the ground to the stems and leaves where it's needed. Plants that move water from the roots to the stems and leaves with tube-like structures are called **vascular plants**. Vascular plants include flowering plants, other seed-producing plants, and ferns. Vascular tubes, or veins, carry water and nutrients from the soil to the parts of a plant where they are needed.

⁴ Each part of a plant has certain jobs or functions. Leaves, stems, and roots work together as a system to help the plant perform its life functions. Leaves capture sunlight and perform photosynthesis to make food for the plant. Tiny openings in the leaves allow plants to take in carbon dioxide and to give off oxygen and water. Nearly all plant leaves are green because they contain the chemical called chlorophyll.

⁵ Chlorophyll is used in photosynthesis, the process by which green plants make food. In photosynthesis, light energy and certain chemicals are used to change water and carbon dioxide into sugar and oxygen. The roots absorb water and the leaves absorb carbon dioxide. The chlorophyll inside the leaf absorbs light energy. The oxygen is given off into the air through openings in the leaf and the sugar is used as food. Respiration is the process by which a plant uses oxygen to change food into the energy it needs for life functions.

⁶ The structures that hold the plant in the ground are called roots. Besides this important job, roots absorb water and nutrients from the soil. Without these the plant could not survive. Plants have different types of roots. Roots can be thick like carrots or have many branches like the roots of trees and grasses. But roots perform

the same function for all plants and work with other plant parts to keep the plant alive.

⁷ Getting water and nutrients from the roots to the rest of the plant is the job of the stems. Stems also hold plants up so that the leaves can get sunlight. Some stems store nutrients and water for the plant.

⁸ Flowers of plants help the plant to reproduce. The flower is the part of the plant in which seeds form. Like stems, leaves, and roots, the flowers of plants come in all shapes, sizes, and colors. The colors, sizes, and shapes are not just for show. They are important to the survival of the plant.

⁹ Flower parts are the petals, the pistil, the sepals, the stamen, and the ovary.

¹⁰ The petals are the parts of the flower that surround the inside parts of the flower. They are usually brightly colored to attract the insects that pollinate the plant.

¹¹ The sepals are the outer parts of the flower that surround and protect the bud before it opens. The stamen is the male part of the flower. It produces a powdery material called pollen. Pollen grains contain male sex cells. The pistil is the female part of the flower. It contains the ovary. The ovary is at the bottom of the pistil. Inside the ovary are female sex cells which can be fertilized and develop into embryos inside seeds. Wind or insects such as bees are two things that can move pollen to the pistil.

¹² Pollination takes place when pollen grains are moved from the stamen onto the sticky part of the pistil of a flower. Once the pollen is on the pistil, a tube begins to grow from each pollen grain. The tubes grow downward through the narrow part of the pistil until they reach the ovary. When male sex cells from the pollen join with female sex cells inside the ovule, which is inside the ovary, fertilization occurs. Fertilization is the joining of a female sex cell and a male sex cell from flowers of the same species. The fertilized eggs develop into embryos inside seeds. Both pollination and fertilization must take place to produce seeds that will grow into new plants.

¹³ As you can see, plants have complex systems that work together to keep the plant alive and help it reproduce.

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<p>1. Plants are _____.</p> <ul style="list-style-type: none"><input type="radio"/> A Vascular<input type="radio"/> B Autotrophs<input type="radio"/> C Heterotrophs	<p>2. What can vascular plants do that non-vascular plants cannot?</p> <ul style="list-style-type: none"><input type="radio"/> A Live in water<input type="radio"/> B Perform photosynthesis<input type="radio"/> C Transport water throughout the plant
<p>3. What is the purpose of the leaves of a plant?</p> <ul style="list-style-type: none"><input type="radio"/> A Capture water<input type="radio"/> B Give the plant shade<input type="radio"/> C Capture sunlight and take in carbon dioxide to make food for the plant	<p>4. Nearly all plant leaves are green because they contain _____.</p> <ul style="list-style-type: none"><input type="radio"/> A Sap<input type="radio"/> B Chlorophyll<input type="radio"/> C Mesophyll
<p>5. What is the purpose of the roots of a plant?</p> <ul style="list-style-type: none"><input type="radio"/> A Transport food the plant has made<input type="radio"/> B Capture sunlight and take in carbon dioxide to make food<input type="radio"/> C Hold the plant in the ground and absorb water and nutrients	<p>6. What is the purpose of the plant's stem?</p> <ul style="list-style-type: none"><input type="radio"/> A Get water and nutrients from the roots to the rest of the plant<input type="radio"/> B Hold plants up<input type="radio"/> C Sometimes store nutrients and water<input type="radio"/> D All of the above
<p>7. What is the purpose of the flower?</p> <ul style="list-style-type: none"><input type="radio"/> A To attract pollinators like insects and birds<input type="radio"/> B Reproduction<input type="radio"/> C To make seeds<input type="radio"/> D All of the above	<p>8. What two things must take place for a plant to make seeds?</p> <ul style="list-style-type: none"><input type="radio"/> A Photosynthesis and respiration<input type="radio"/> B Exchange of carbon dioxide and oxygen<input type="radio"/> C Pollination and fertilization