



AJ インターナショナルアカデミー

オンライン 15 分授業

★Quarter Hour Lesson★

Plants: Leaves, stems and roots

Name

Plants; Leaves, Stems, and Roots

Up to the present, researchers have identified more than 400,000 plant species. Life on Earth depends on these botanical creatures. For humans in particular, plants provide various necessities in life; medicine, construction materials, and hundreds of other resources. Above all, they provide the food and oxygen that are essential to the survival of all animals.

Most plants have three parts: leaves, stems, and roots. Each has a different and unique function. All these functions are very well organized to work together.

Leaves are the major producer of nutrition to maintain the whole plant. In photosynthesis, a green pigment called chlorophyll absorbs energy from sunlight. The solar energy captured is used to create sugar, which is food for the plant, by combining nutrients from the soil, water, and carbon dioxide from the air. During this process, plants emit oxygen. At the same time that they do so, plants breathe the oxygen in. Then they release water and carbon dioxide. This process is called respiration.

The stem works like the spine working for animals to support the plant and keep its posture. Stems usually grow straight up, making the leaves face the sun. Some other stems are found trailing along the ground, climbing walls, or spreading underground. Inside the stem are vascular bundles. They are like highways for water and food. Water and minerals obtained from soil are transferred upward through xylem, which is a tubed tissue. Additionally, food is conveyed through phloem, another tubed tissue. This pumping system is called capillary action.

Roots are also important, as they tie the plant to the ground firmly like an anchor. They take in water and dissolved minerals from the soil. Water passes through the whole plant and distributes the minerals. Then the water is released into the air. Vaporized water comes out through tiny pores called stomata, which are located in the epidermis of the leaves. This process is called transpiration.

As described above, these functioning parts of plants make it possible to provide food and oxygen to all living organisms.



Reading Comprehension Questions

1. What is the main topic of the passage?
 - (A) Plants difference between the species.
 - (B) Plant reproduction.
 - (C) The use of the energy from sun light for the plants.
 - (D) The function of the each plant part.

2. What does “botanical” mean?
 - (A) Related to greens.
 - (B) Life on Earth.
 - (C) Spines.
 - (D) Leaves, stems, and roots.

3. From the passage, the respiration for plants means
 - (A) to take the oxygen in and release water and carbon dioxide.
 - (B) to take in the carbon dioxide and create food.
 - (C) to release water from the leaves.
 - (D) to succumb water to bring upward.

4. What is the product of transpiration.
 - (A) Water vapor.
 - (B) Oxygen.
 - (C) Both (A) and (B)
 - (D) None of the above.