

1. A plant is a living organism. It is made up of different parts, each with a particular purpose or specialized function. If one part of the plant is not functioning **properly**, the whole plant will suffer. But we may cut flowers off the plant or prune the roots. Such damage is only temporary, and so the plant will continue to grow.

2. The basic parts of a plant are the root system, which is below the ground, and the shoot system above. The root of a plant has two main functions. It takes in, or absorbs, water and minerals from the soil through the root hairs, which are single cells near the tip of each root. The other main function of the root system is to hold, or anchor, the plant firmly in position in the soil.

3. Plants such as sugar beet and carrots are able to store food in their roots. In this way, they can continue growing for more than one season. In addition, plants such as clover and lucerne, known as “legumes”, have special bacteria which live on their roots. These simple forms of life take nitrogen out of the air which is in the soil. Such leguminous plants are usually ploughed under the soil. By doing this, the soil is made more fertile.

4. The shoot system above the ground consists of the stem, the leaves, flowers and fruit. One of the functions of the stem is to support the plant. Another important function is to enable water and minerals to pass up from the roots to the leaves and flowers. Organic materials such as sugar travel down the stem to the roots. The leaves grow out of the side of the stem. Their main task is to make food for the plant by the process known as photosynthesis. This process requires sunlight. Water from the soil and carbon dioxide from the air are converted into sugars and other carbohydrates. During the process, oxygen is formed and released into the air.

5. The flower contains the reproductive organs of the plant. The stamens produce the male cells, or spermata, which are carried in the pollen grains. The carpel produces the female cells, or ovules. The fruit is the ripened ovary of the flower; it encloses the seeds and protects them while they develop. The seed itself consists of an embryo and a foodstore. The embryo is the part that will develop into another plant, and the foodstore provides nourishment for the young plant as it is growing.

**Exercise A.** Find words/expressions in the text with the following meaning

In the text	Meaning/parag	In the text	Meaning/parag
1. <i>properly</i>	correctly 1	7.	job/function 4
2.	under 2	8.	needs 4
3.	principle 2	9.	mature 5
4.	end/extremity 2	10.	surrounds 5
5.	accumulate 3	11.	become 5
6.	a time of year 3	12.	food 5

**Exercise B:** Replace the words in italics with expressions from the text **with the same meaning**.

1. The *single cells near the tip of each root* extend the root's surface area. *root hairs*
2. The root *holds* the plant firmly in the soil.
3. Some plants have *simple forms of life* living on their roots.
4. *Plants like clover* improve soil fertility when they are ploughed under.
5. Growing seeds are protected by the *ripened ovary of the flower*.
6. Sunlight provides the energy for the process of *converting water and CO<sub>2</sub> into carbohydrates*.

**Exercise C:** Write the names of the plant nutrients next to the symbols

N	S	Ca
K	Zn	Cu
Ph	Fe	Mg

**Exercise C: True or false?** Are the following statements true or false? Correct the false statements

1. Different parts of a plant have specialized functions.
2. Not all parts of a plant need to function correctly.
3. If the flowers are cut off a plant, the entire plant will suffer.
4. The shoot system of a plant is below the ground.
5. Root hairs absorb water and minerals from the air.
6. The root system holds the plant in the soil.
7. Carrots can grow for several seasons.
8. Most plants have special bacteria living on their roots.
9. If farmers plough clover under, this makes the soil more fertile.
10. Photosynthesis forms sugars using oxygen and sunlight.

**Exercise D: The Passive**

**Active:** Nitrogen *improves* soil fertility

**Passive:** Soil fertility *is improved* by nitrogen.

**Active:** The fruit *encloses* the seeds.

**Passive:** The seeds *are enclosed* by the fruit.

**Active:** We *should prune* fruit trees regularly.

**Passive:** Fruit trees *should be pruned* regularly.

Change the following sentences from active to passive:

1. The root hairs absorb water and minerals.
2. The stem supports the plant.
3. Photosynthesis requires sunlight.
4. Soil texture influences crop growth.
5. A heavy soil creates a barrier to root growth.
6. We import bananas and pineapples from abroad.
7. Plants use oxygen to break down carbohydrates.
8. Insects can carry pollen from one plant to another.
9. We should remove the roots of weeds.
10. Soil texture will influence crop growth.

# Flowering Plant (Angiosperm) Anatomy

