

# Transport Of Food In Plants LR

Transport of food in plants. Objective, to learn the process of food formation and translocation in plants. Plants synthesize food in their leaves through the process of photosynthesis.

Leaves have structures called chloroplasts which contain a green pigment called chlorophyll. Water and carbon dioxide are combined in the chloroplasts. By using the energy of sunlight trapped by the chlorophyll, this reaction results in the formation of glucose and oxygen.

Glucose is the food required by all parts of the plant. The leaves utilize some of the synthesized glucose. The rest is converted into another form of sugar called sucrose and transported to all other parts of the plant.

Sucrose from the leaf cells and water from the xylem of the leaves enter a tissue called phloem. The phloem has tubes called sieve tubes which are connected end-to-end from the leaves. To all the parts of the plant in the form of a continuous pipe.

The tubes have tiny pores at both ends through which substances move freely from one tube to another. From the phloem of the leaves sucrose along with water moves either upwards to the flowers or downwards to the roots through interconnected sieve tubes. Sucrose comes out of the sieve tubes and enters the plant cells while the water enters the xylem vessels of the plant.

The cells either utilize this food to get energy or convert it into starch for storage. This process of the transport of food in plants from the leaves to the other parts of the plant is called translocation. To summarize plant leaves synthesize food as glucose in their chloroplasts from water and carbon dioxide.

Using the energy of the sunlight trapped by the chlorophyll the food is transported in the form of sucrose from the leaves to the other parts of the plant through the sieve tubes of the phloem. You

## Summary:

### Transport of Food in Plants

Plants **prepare food in their leaves** through **photosynthesis**, where **chlorophyll** in **chloroplasts** captures sunlight to convert **water and carbon dioxide** into **glucose and oxygen**. Some glucose is used by the leaves, while the rest is converted into **sucrose** and transported to different parts of the plant.

The **phloem** plays a crucial role in transporting sucrose and water through **sieve tubes**, which are **connected end-to-end**. This process, called **translocation**, moves food **upward to flowers** and **downward to roots** for **storage or energy production**.

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### Quiz: Transport of Food in Plants

**1. Which plant tissue is responsible for transporting food?**

- ☒ a) Phloem
- ☐ b) Xylem
- ☐ c) Chloroplast
- ☐ d) Stomata

**2. What is the form in which food is transported in plants?**

- ☒ a) Sucrose
- ☐ b) Glucose
- ☐ c) Starch
- ☐ d) Oxygen

**3. What is the process of transporting food from leaves to other plant parts called?**

- ☒ a) Translocation
- ☐ b) Transpiration
- ☐ c) Photosynthesis
- ☐ d) Osmosis

**4. Which plant structure captures sunlight for photosynthesis?**

- ☒ a) Chlorophyll
- ☐ b) Xylem
- ☐ c) Stomata
- ☐ d) Phloem