

Plant survival (

lesson 1)

Success criteria: I can:

1- Identify and compare two tissue types of plant (Xylem and Phloem)

2- Determine needs of plant to survive.

3- Suggest solutions to help planting in desert

Vocabularies

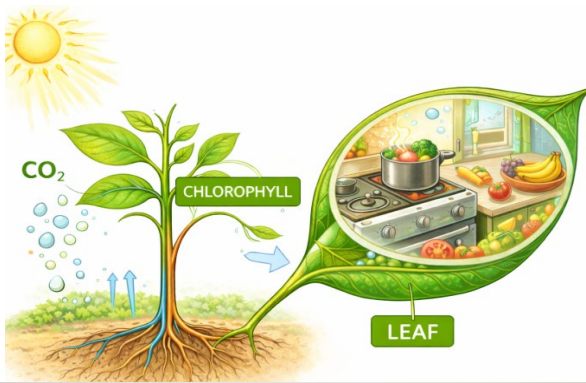
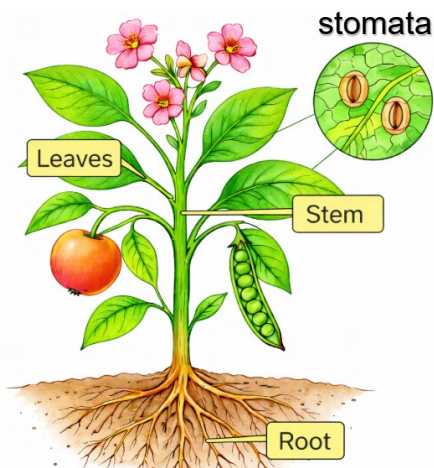
Xylem الخشب

Phloem اللحاء

Nutrients المواد الغذائية

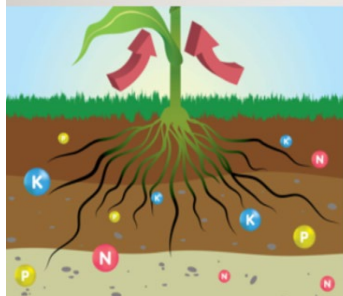
Chlorophyll صبغة الكلوروفيل الخضراء

Needs of plant احتياجات النباتات



Inside the leaf. There is a green color that contains **chlorophyll**, which gives it its green color and allows the plant to produce its own food from the materials brought by the soil.

What is nutrients ?



Are substances absorbed from the soil by roots that are used by the plants to survive and grow.

Comparison	Xylem	Phloem
Material Transport	Water and nutrients	Sugar (food) and proteins
Picture		
Direction	Upward only ↑	Up & Down (Two-way) ↑↓
FROM From	Roots	Leaves
TO To	Leaves	All over the plant

All plants have basic needs to survive.

Leaves help plants get light from the sun. The leaves also take in air through stomata.

The roots bring nutrients and water to the plant from the soil.

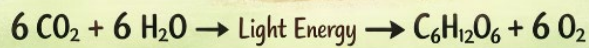
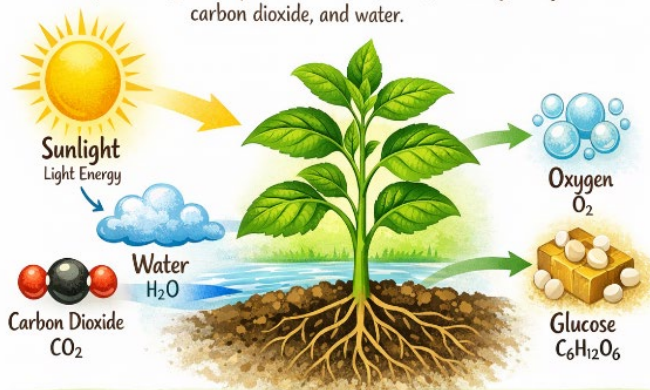
Plants use these things to make their own food.



Critical thinking: What do you think will happen if there is no space for plants to grow?

Photosynthesis

The process by which plants make their own food using sunlight, carbon dioxide, and water.



Carbon Dioxide + Water + Sunlight → Glucose + Oxygen

Vocabularies

Photosynthesis: البناء الضوئي

Energy: الطاقة

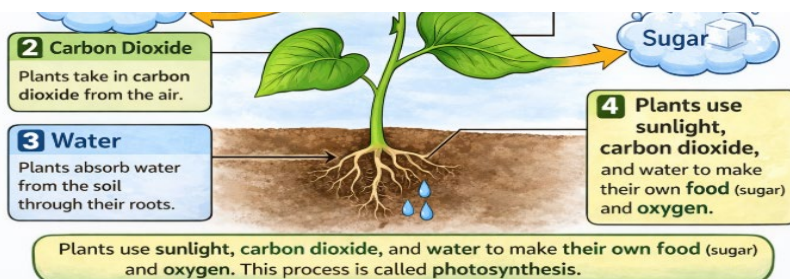
Nutrients: المواد الغذائية

Glucose: سكر الجلوكوز

survive: تعيش



Photosynthesis is the process by which plants make their own food. Plants use sunlight energy from the sun, carbon dioxide from the soil. During this process, plants produce sugar(glucose) as their food and release oxygen process usually takes place in the leaves of the plant.



Plant survival (lesson 3)

Success criteria: I can:

1-Define stomata and their role.

2-Explain the process of transpiration of the plant

Vocabularies

Photosynthesis: البناء الضوئي

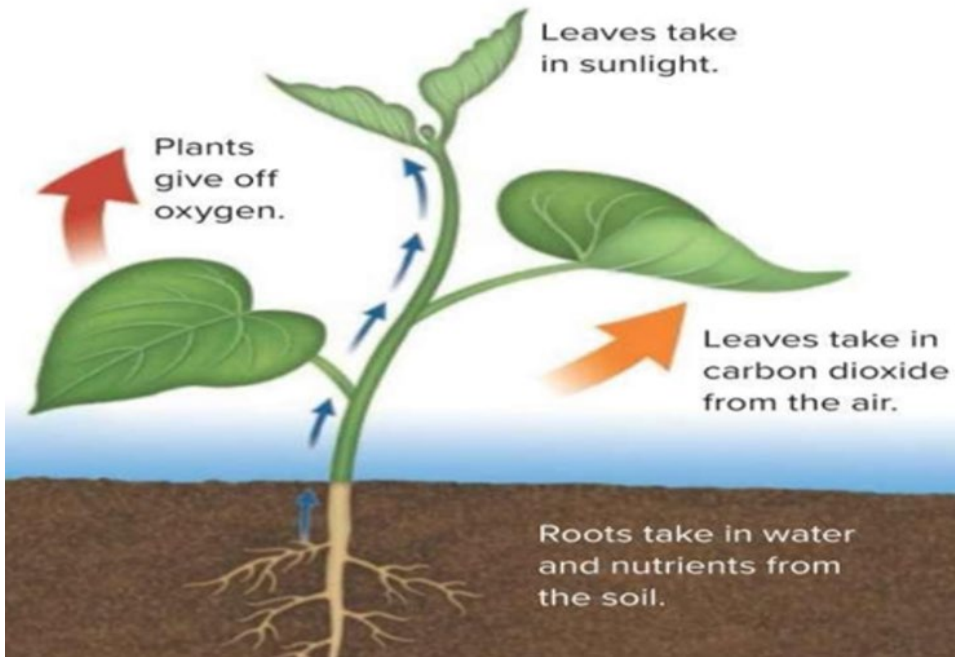
Transpiration خروج الماء من أوراق النبات

Stomata : الثغور (ثقوب بالورق)



the release of water vapor through the stomata of a plant

Stomata release extra water vapor through transpiration.



Transpiration

is the process by which plants lose water from their leaves. Water is absorbed by the roots, travels up the stem, and then leaves the plant as water vapor through tiny openings called stomata. These stomata open and close to let gases move in and out of the plant. When the stomata open, carbon dioxide enters and oxygen and water vapor leave.

Q: Why do desert plants wear 'spiky outfits' instead of big green leaves like in tropical areas?

to reduce water loss by **transpiration**. Spines don't have a lot of stomata that open and evaporate water, so the water is saved. Tropical plants can grow large leaves because water is abundant and large leaves have a lot of stomata