

“THE PLANTS”

1. INTRODUCTION.

- Plants are multicellular organisms.
 - Plants are eukaryotes. They are autotrophs, because they make their own food through **photosynthesis**.
 - Plants do the **cell respiration** in their cells to produce energy.
 - The water and **mineral salts** absorbed through the **roots** form the **xylem sap**.
 - Xylem sap is carried to the **leaves**, where it is transformed into **phloem sap** by the photosynthesis.
 - Phloem sap is distributed to the whole plant.
-
-

“THE PLANTS”

CLASSIFICATION OF PLANTS

- **Non-flowering plants**: This type does not produce flowers. These are **Liverworts** (Hepáticas), **Mosses** (Musgos) and **Ferns** (Helechos).
 - **Spermatophytes**: They produce flowers and **seeds** to reproduce.
-
-

“THE PLANTS”

2. NON-FLOWERING PLANTS

- Liverworts and mosses: They are the most primitive plants on the Earth. Liverworts are **non-vascular** and mosses don't have **woody vascular conduits**.



“THE PLANTS”

3. SPERMATOPHYTES (flowering plants)

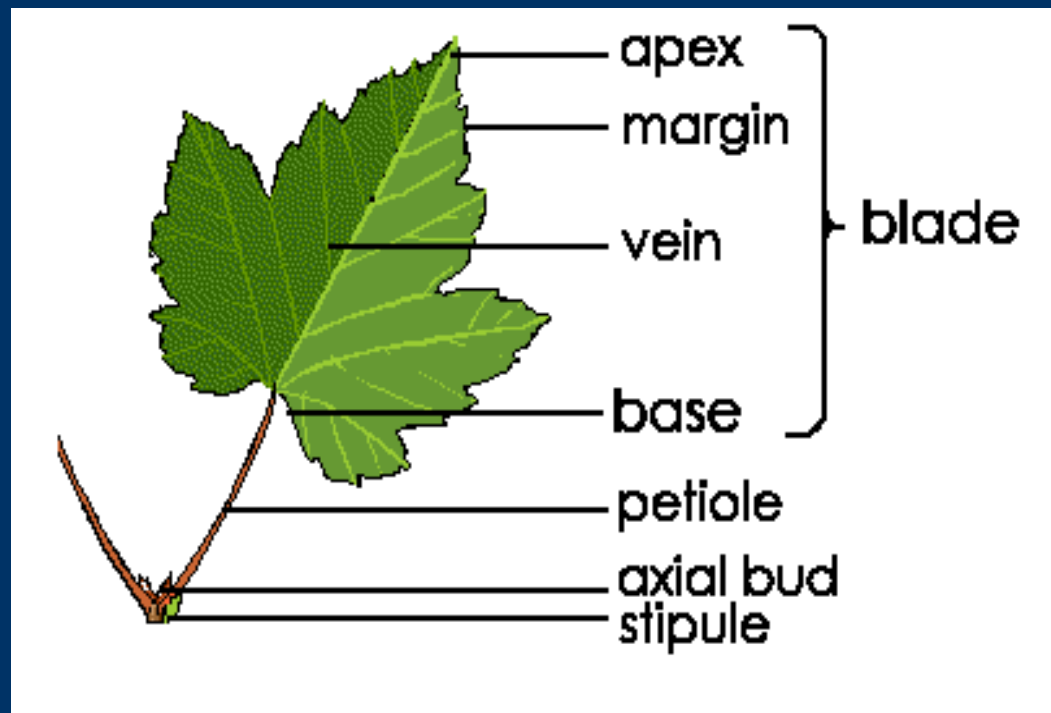
- **The Roots**: They grow to the inner ground, attach the plants to the ground and absorb water and mineral salts that form the xylem sap.
 - **The Stem**: It is the axis of the plant and provides support for the plants and its **branches, leaves** and **flower**. The stem also provides transportation between the leaves and the roots.
-
-

“THE PLANTS”

3. SPERMATOPHYTES (flowering plants)

- **The Leaves:** They are usually green because they produce the photosynthesis.

Leaves regulate the amount of water that has the whole plant through the **transpiration**.



“THE PLANTS”

3. SPERMATOPHYTES (flowering plants)

- The Flowers: A typical flower has four types of organs:

Sepals: They are green leaves located below the petals. Collectively, the sepals form the **calix** which protect the internal parts of the flower.

Petals: Are coloured leaves that attract insects carrying pollen. Collectively form the **corolla**. The corolla protects the reproductive organs of a flower.

“THE PLANTS”

3. SPERMATOPHYTES (flowering plants)

- The Flower:

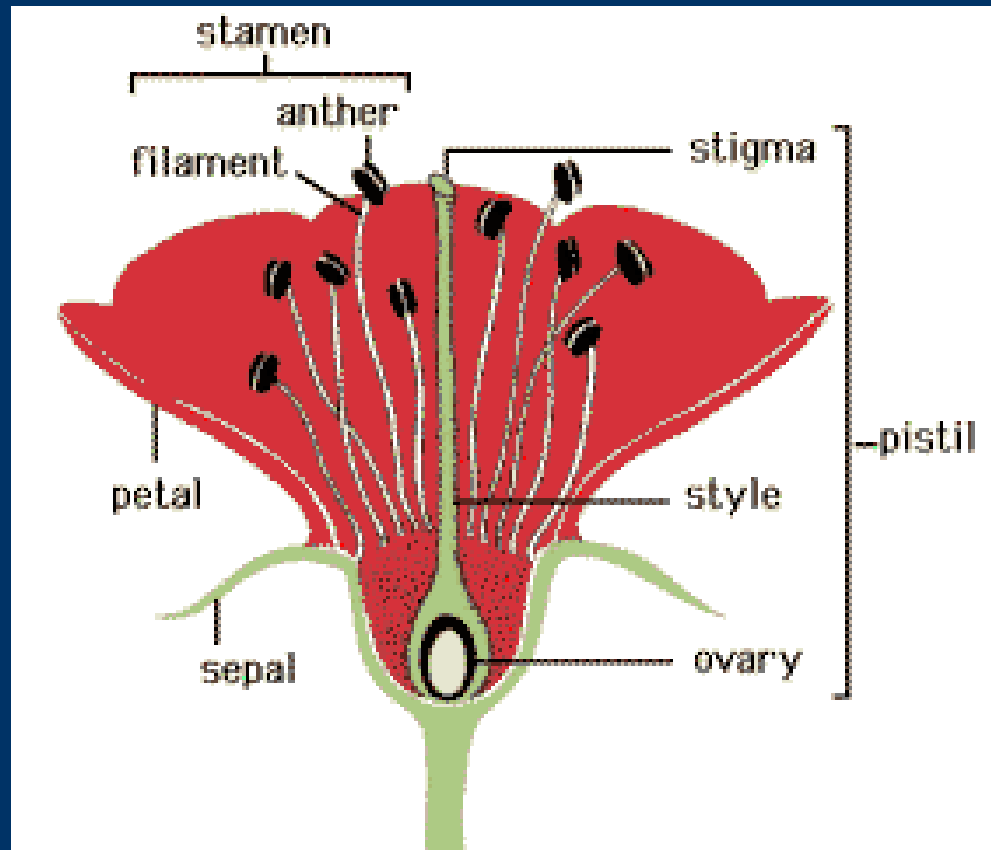
Carpels (pistils): They are the **female** reproductive organs of a plants. It includes **ovary**, **style** and the **stigma**. Inside the ovary are the **ovules**.

Stamens: Are the male reproductive organs of the flower. They are fillaments with **anthers** at the end, where are the **pollen grains**.

“THE PLANTS”

3. SPERMATOPHYTES (flowering plants)

- The Flower:



“THE PLANTS”

3. SPERMATOPHYTES (flowering plants)

- **Fruits and seeds**: Fruits are structures that come from the flower's ovary and that contain one or several seeds.

Fruits disperse seeds and, if these land on a suitable ground, germinate developing a young plant.



“THE PLANTS”

3. SPERMATOPHYTES (flowering plants)

- Gymnosperms: They are a special type of spermatophytes because they don't produce fruits.

Characteristic:

- They are all woody plants.
 - Many of them have leaves shaped like **needles** (pine trees) or **scales** (cypress trees).
 - They have **male flowers** and **female flowers** grouped into **inflorescences**.
 - The most important group of gymnosperms are the **conifers** which includes pines, cypresses and fir trees.
-
-

“THE PLANTS”

- Male inflorescence



- Female inflorescence

