

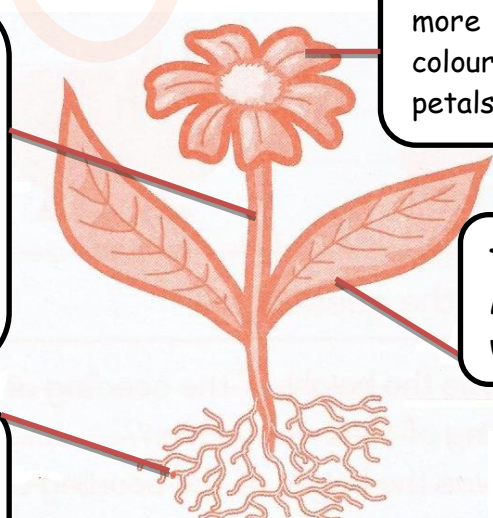
## 4th GRADE MINIMUM CONTENTS-NATURAL SCIENCE

### UNIT 11: PLANTS

#### ► PLANT BITS

There are four main parts to a plant. They are the **root**, **stem**, **leaf** and **flower**. Each part has an important task to do in the life of the plant:

- **The roots:** The roots hold the plant in the ground and take up water and minerals that the plant needs to make food.
- **The stem:** The stem holds up the leaves and flowers and carries water and food to all parts of the plant. Depending on the type of stem, plants can be trees, shrubs or grasses.
- **The leaf:** The leaf makes food from the water and minerals it receives from the stem, from the air around it and from the sunlight shining on it. The food is used to make all parts of the plant grow.
- **The flower:** The flower makes pollen which is carried away by insects or the wind. The flower also receives pollen from other flowers of the same kind and uses it to make seeds.

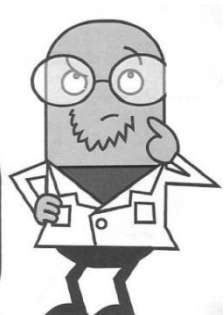


**The stem:** The stems of many plants are green and bendy. The stem of a tree is made of wood and covered in bark. It is called the trunk.

**The flower:** A plant may have one or more flowers. The large brightly coloured parts of a flower are called the petals.

**The leaf:** A plant has many leaves. Most are green, but some may have white or coloured parts.

**The root:** Roots are white and spread out through the soil.



Look at a plant in your home. Can you find all its parts?

## ► PLANT NUTRITION

Plants make their own food in their leaves.

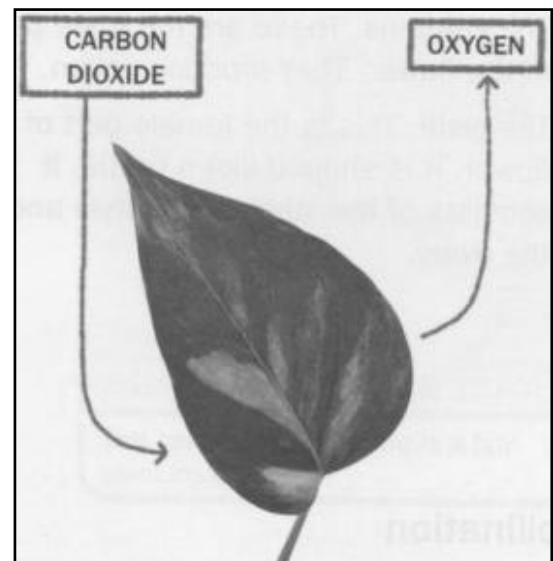
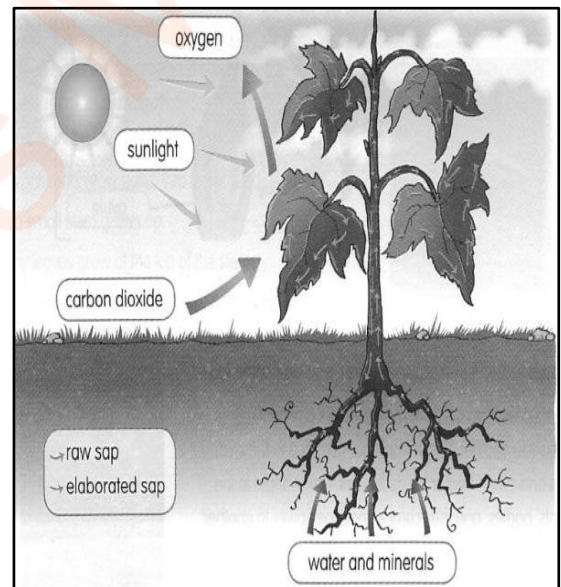
To make their food, plants need:

- **Sunlight**
- **Carbon dioxide** from the air
- **Water**
- **Mineral salts** from the soil



This process is called **photosynthesis**:

- The mixture of water and mineral salts is called **raw sap**. The raw sap travels from the roots through the stem to the leaves.
- In the leaves, water and mineral salts mix with carbon dioxide and become food for the plant, this food is called **elaborated sap**.
- To carry out photosynthesis, plants need to use a lot of energy from sunlight.



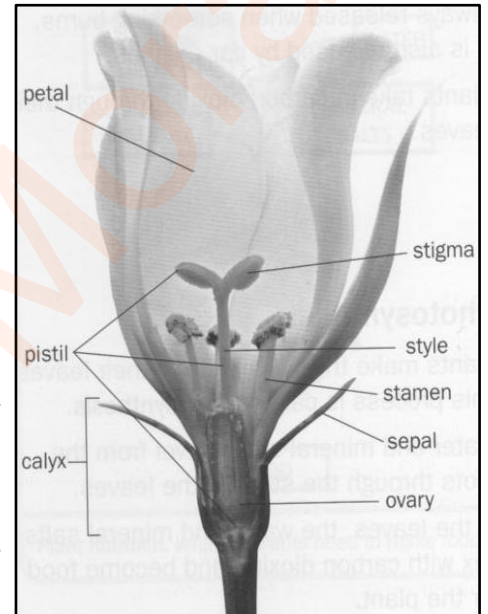
During photosynthesis, plants release oxygen which goes into the atmosphere. All the oxygen in the air comes from photosynthesis

## ► PLANT REPRODUCTION

### ► FLOWERS:

Flowers are the most attractive part of a plant. The reproductive organs of the plants are in the flowers. Flowers have four main parts:

1. The **calyx**: This is made up of small green leaves called **sepals**. **Sepals** protect the flower.
2. The **corolla**. This is made up of colorful leaves called **petals**.
3. The **stamens**. These are the male parts of the flower. They produce pollen.
4. The **pistil**. This is the female part of the flower. It is shaped like a bottle. It consists of the **stigma**, the **style** and the **ovary**.



### ► POLLINATION

**Pollination** is the transfer of pollen from the stamens of one flower to the stigma of another flower.

- **Animal pollination**: some plants have very beautiful flowers with colorful petals and sweet nectar. The petals and nectar attract insects. Then, pollen sticks to their bodies. The insects carry the pollen from one flower to another.
- **Wind pollination**: Other plants are not attractive to insects, but they have long stamens with a lot of pollen grains. The wind carries the pollen of these plants to the stigmas of other flowers.

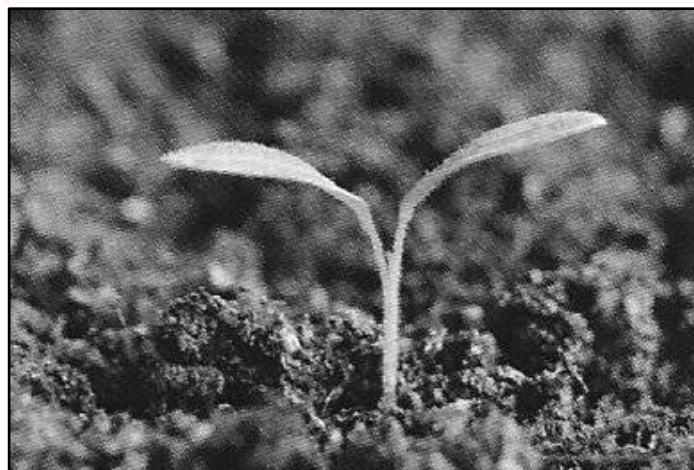
## ► FERTILIZATION

1. After the pollen grains reach the stigma, the grains travel down the style to the ovary. Inside the ovary, pollen reaches the ovule and then **fertilization** occurs.
2. The fertilized ovule grows into a **seed**.
3. The flower starts to change, for example the petals fall off the flower. A **fruit** forms. The seeds are inside the fruit.



## ► GERMINATION

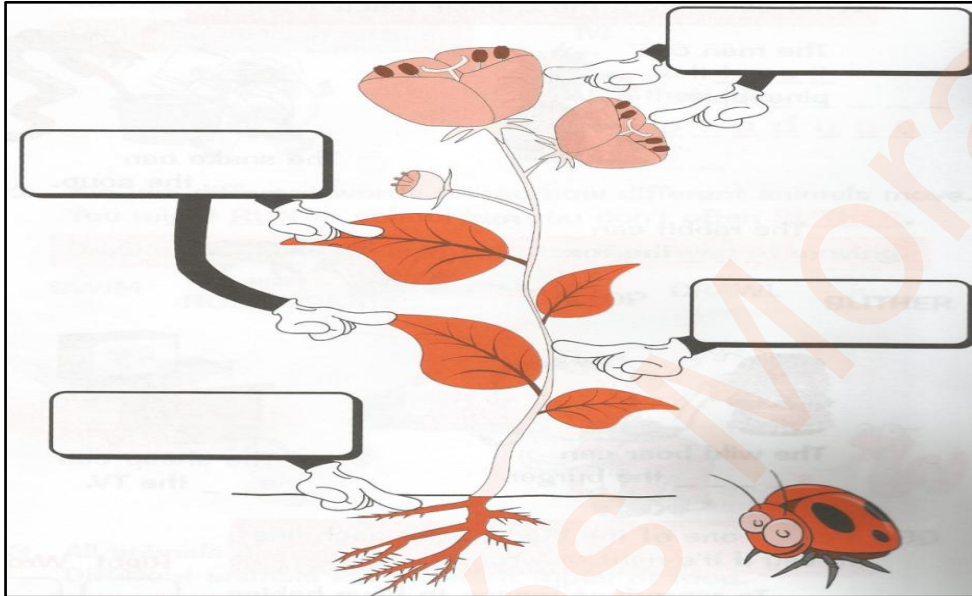
When a seed lands on the ground, it can grow into a plant. This process is called **germination**. A seed can germinate when the ground is **wet** and the **temperature** is warm.



## UNIT 11: PLANTS

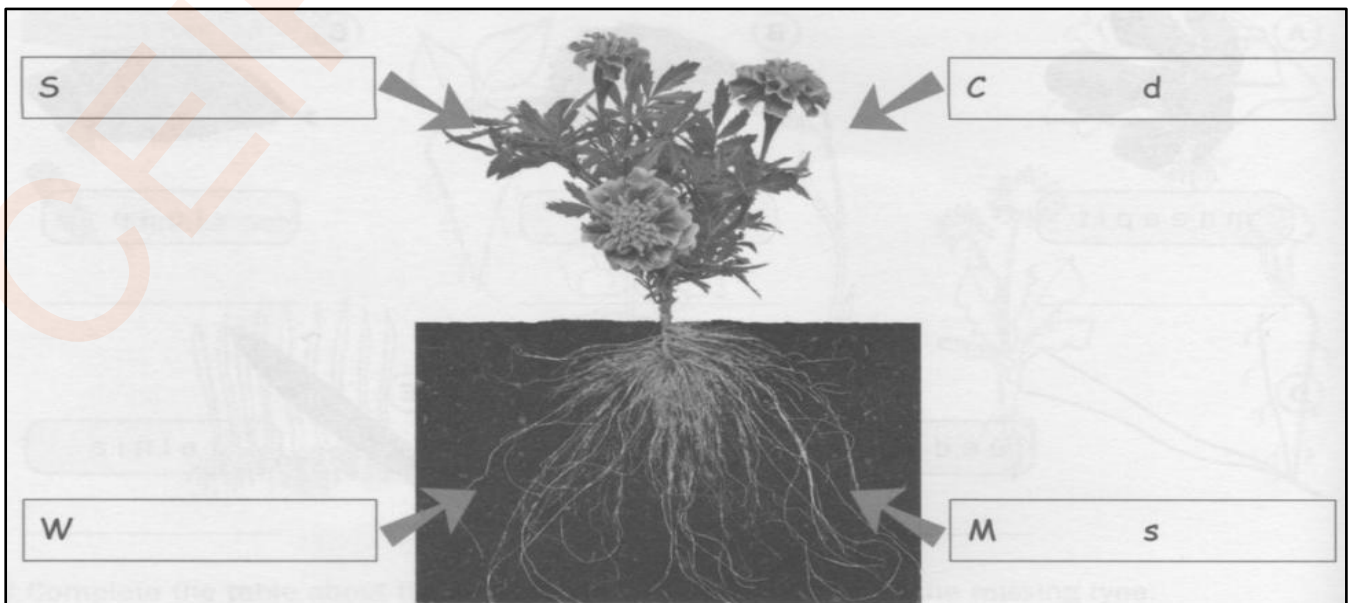
### ACTIVITIES

#### 1.-Label the picture of the plant



1. Which bit of the plant has petals? \_\_\_\_\_.
2. Which bit holds the plant up? \_\_\_\_\_.
3. Which part of the plant takes up water and minerals from its surrounding?  
\_\_\_\_\_.
4. Which part of the plant makes pollen and seeds? \_\_\_\_\_.

#### 2.-What do plants need to carry out photosynthesis?



**3.-Read the sentences and circle the correct words.**

- a. When human beings and other animals breathe, they *release* / *take in* carbon dioxide
- b. The process by which plants make food in their leaves is *photosynthesis* / *respiration*
- c. Plants *release* / *take in* carbon dioxide through their leaves during photosynthesis.
- d. When something burns, *carbon dioxide* / *oxygen* is always released.

**4.- Complete the text about plant nutrition.**

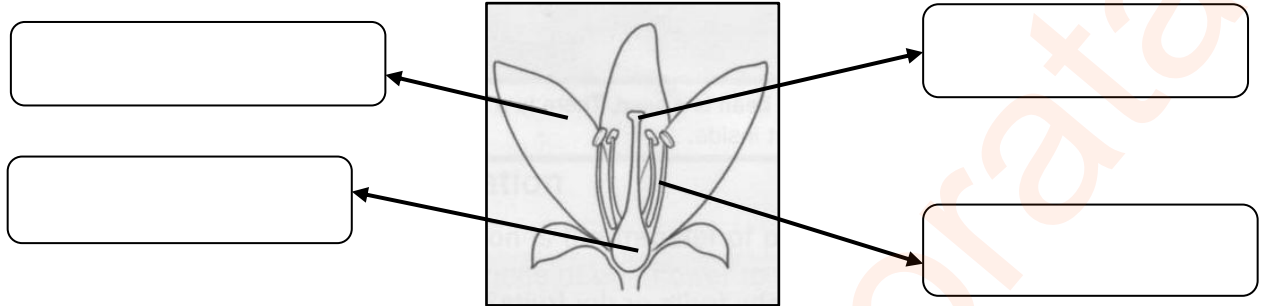
leaves      carbon dioxide      oxygen      mineral salts      photosynthesis  
roots      raw sap      water      sunlight      elaborated sap

Plants make their own food through \_\_\_\_\_. They absorb \_\_\_\_\_ and \_\_\_\_\_ from the soil through their \_\_\_\_\_. This mixture is the \_\_\_\_\_ that travels up the stem to the \_\_\_\_\_. With \_\_\_\_\_ and \_\_\_\_\_ from the air, the leaves transform the raw sap into \_\_\_\_\_, the plants food. Additionally, during photosynthesis plants release \_\_\_\_\_ into the air.



**5.- Label the diagram of the flower. Then, copy and complete the text.**

fruit    sepals    pistil    petals    calyx    corolla    stamens    pollen



**FLOWERS:** Flowers have different parts. The \_\_\_\_\_ are small green leaves that form the \_\_\_\_\_. The \_\_\_\_\_ are coloured leaves which form the \_\_\_\_\_. The \_\_\_\_\_ are the male parts of the flower and produce \_\_\_\_\_. The \_\_\_\_\_ is the female part of the flower. The flower becomes the \_\_\_\_\_ which contains seeds.

**6.-Write *wind* or *insect* pollination**



\_\_\_\_\_

\_\_\_\_\_

**Explain the difference between plants that use wind pollination and plants that use insect pollination**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

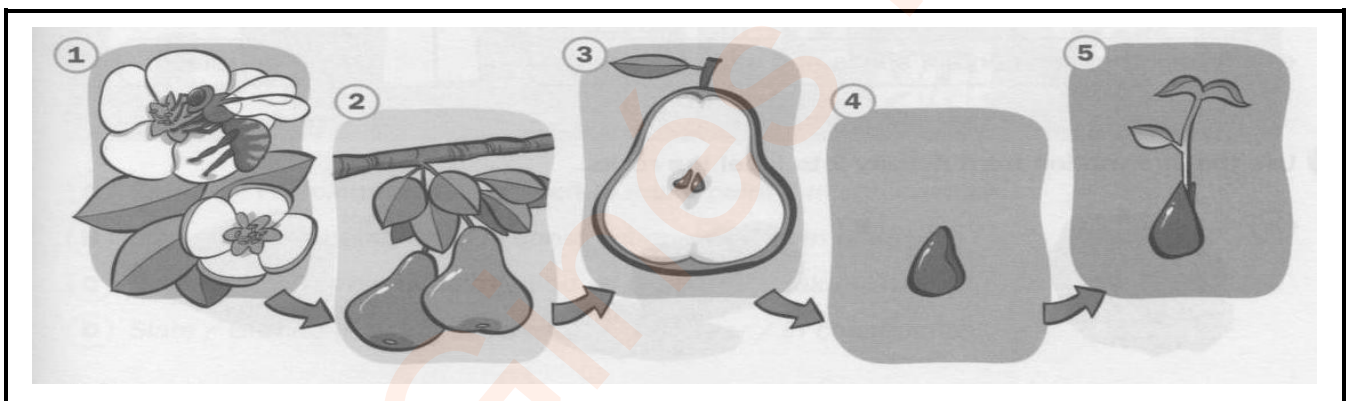
7.- Unscramble the letters. Label the diagram with the correct words.

lonelp    gasmit

nmesat    ulove

yroav

8.- Look at the pictures. Use them to put the sentences in order.



- \_\_\_\_\_ The seed germinates and a little plant starts to grow.
- \_\_\_\_\_ There are seeds inside the fruit.
- \_\_\_\_\_ A seed falls to the ground and absorbs water.
- \_\_\_\_\_ The flower starts to change and a fruit forms.
- \_\_\_\_\_ Pollen reaches the stigma of a flower.



9.- Complete your bilingual dictionary.

PLANTS		
- Calyx: _____	Ovary: _____	- Grow into a seed _____
- Sepal _____	- Ovule: _____	- ... is made up of ...: _____
- Corolla: _____	- Seed: _____	- Fertilize: _____
Stamen: _____	- Male part: _____	- Germinate: _____
- Pistil: _____	- Female part: _____	- Make food/pollen/seeds...: _____
- Stigma: _____	- Carry out: _____	- Hold / hold up: _____
Leaf/leaves: _____	- Sunlight: _____	- Release oxygen: _____
- Root: _____	- Mineral salts: _____	- Take in carbon dioxide: _____
Stem: _____	- Mixture: _____	
Shrub: _____	- Raw sap: _____	
Grasses: _____	- Elaborated sap: _____	
- Soil: _____	- Carry out: _____	



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