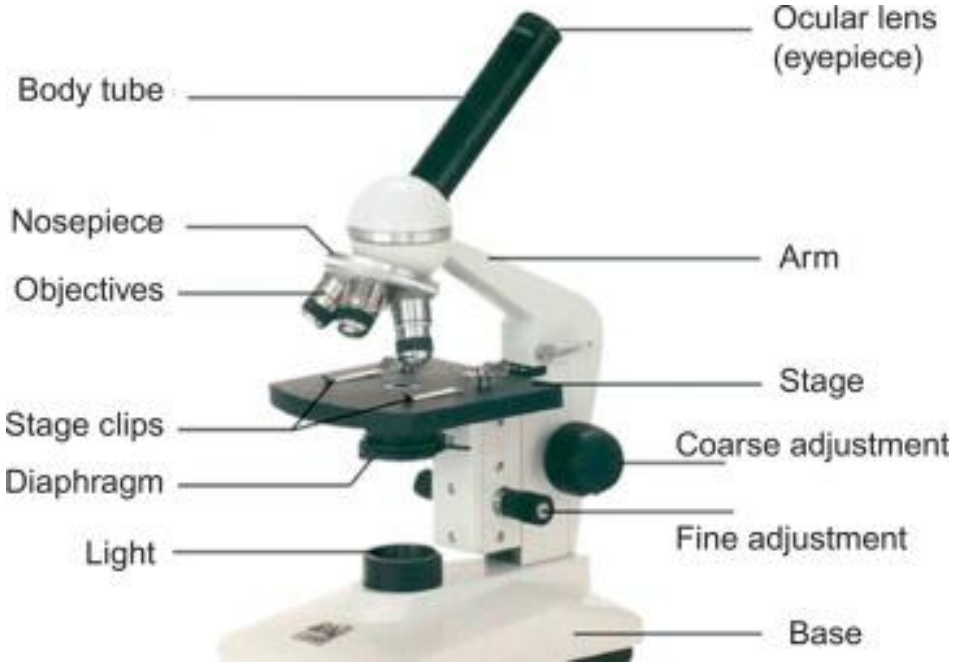
Looking at Leaves

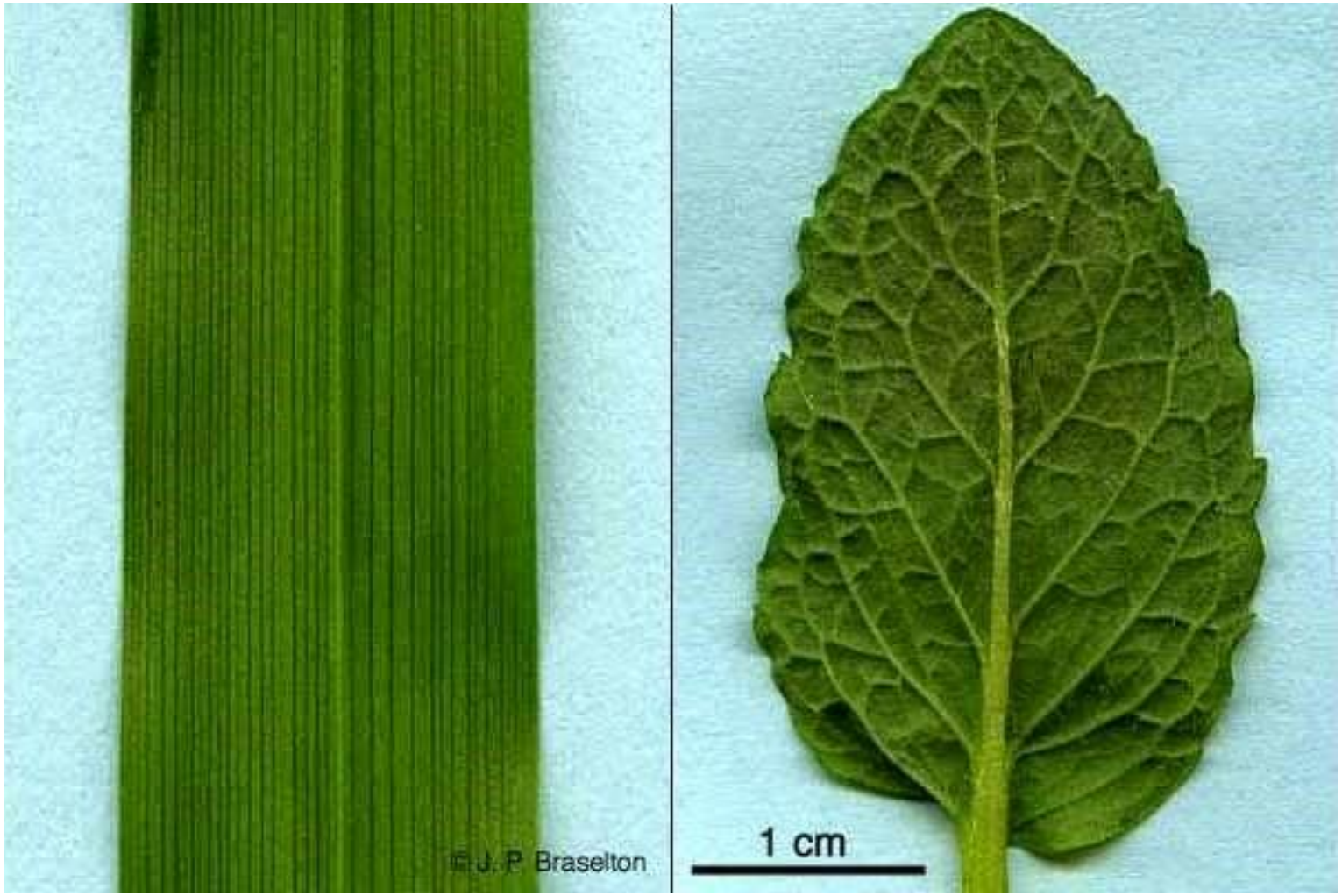
Monocot and dicot leaves

Contents of lesson:

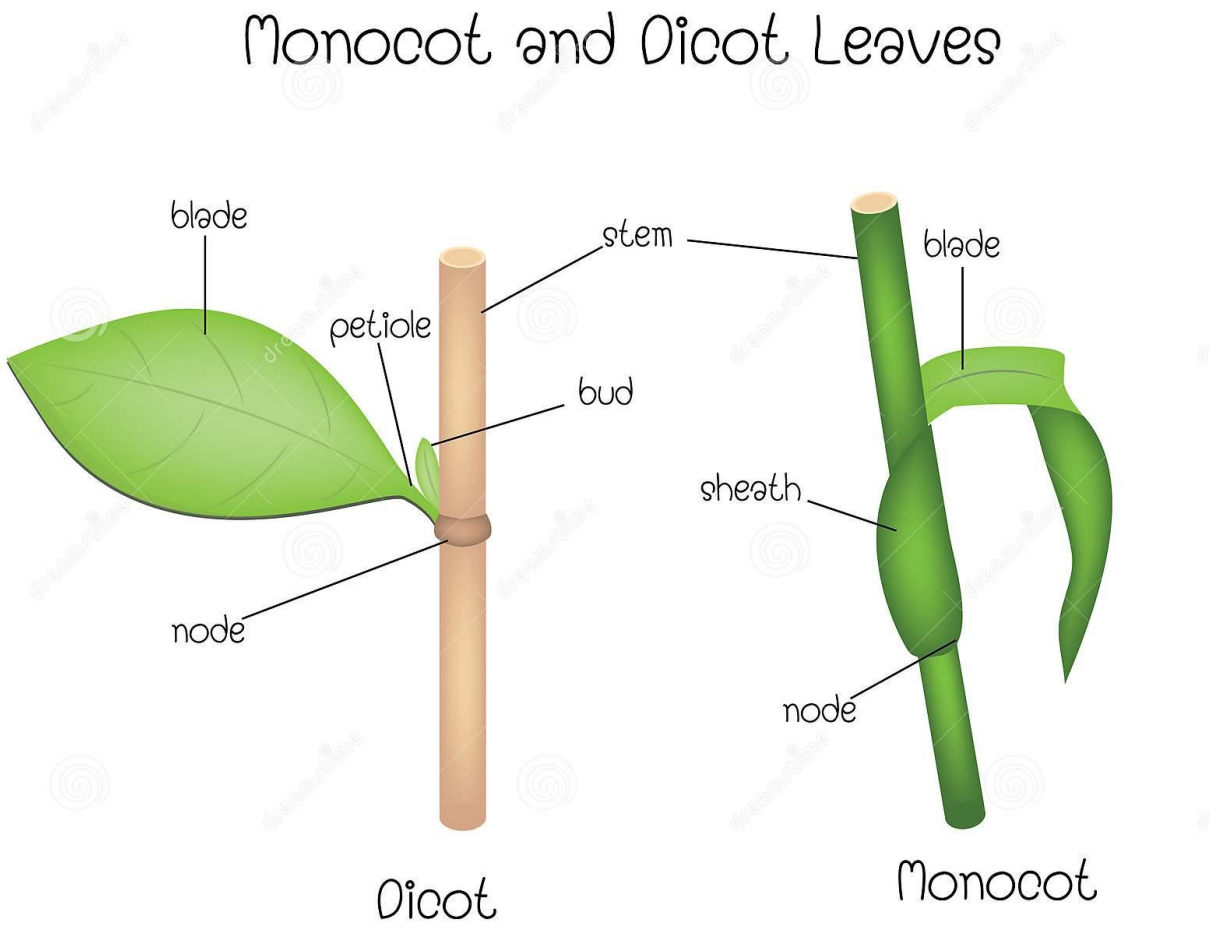
- We will see the 2 slide.
- To see the under microscope.
- To recognize the structure of leaf.
- Objective must be from low power to high power. X4, x10, x40.
- Make a large drawing of your leaf.
- Label your diagram.



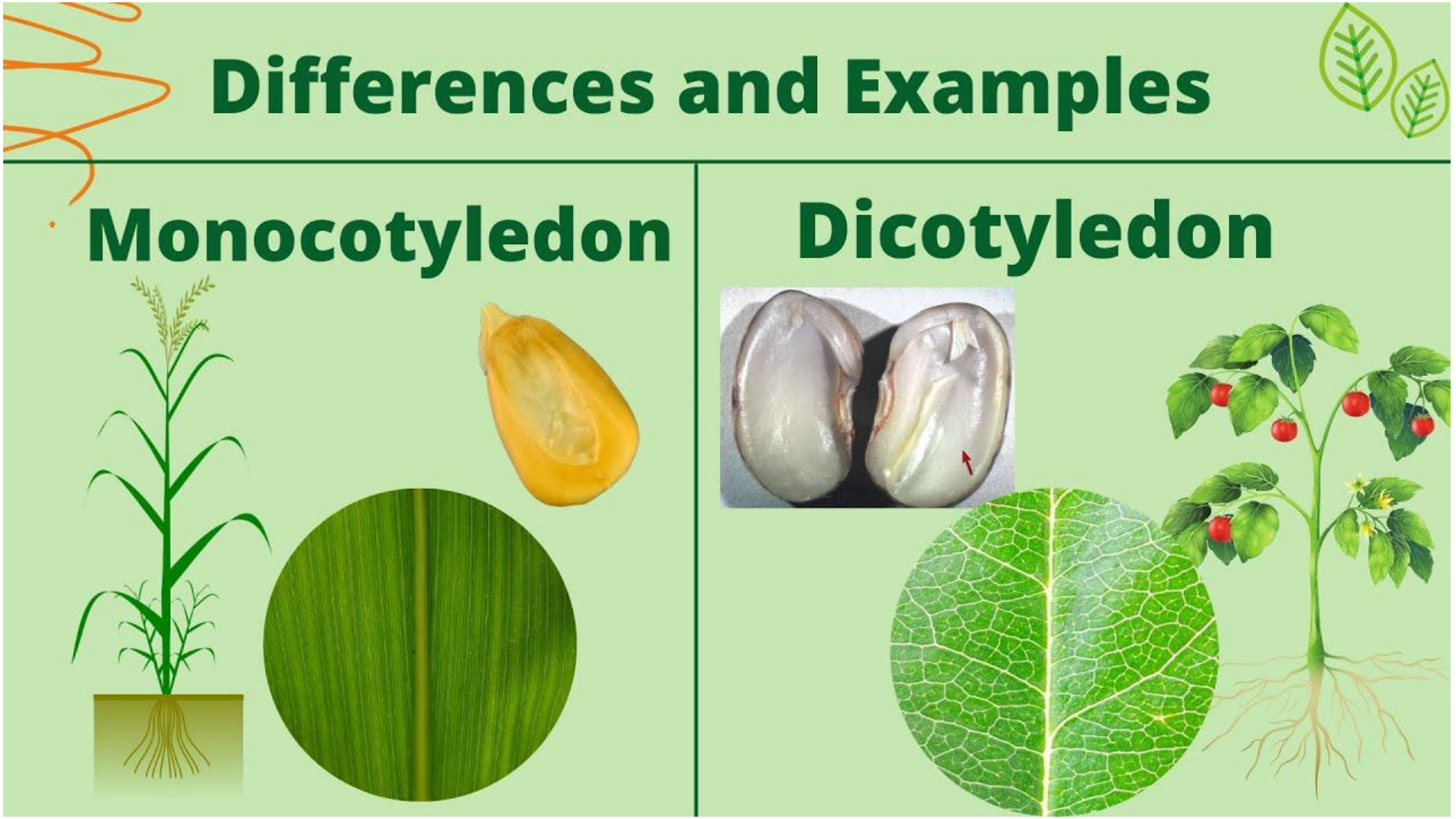
Look at difference between leaves



Look at difference between leaves



How many cotyledons do the plant's seeds have?



Dicot Leaf vs Monocot Leaf

Dicot Leaf (Ficus)

Monocot Leaf (Grass)

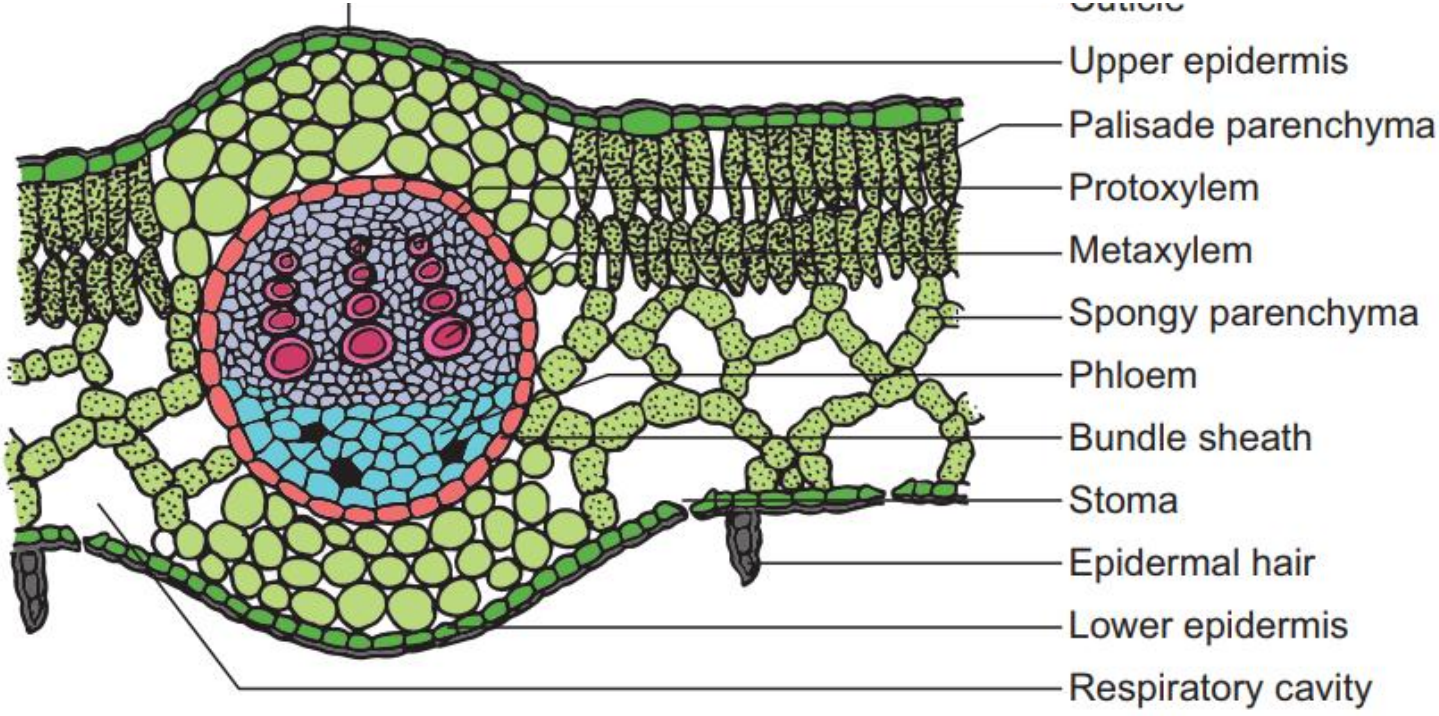
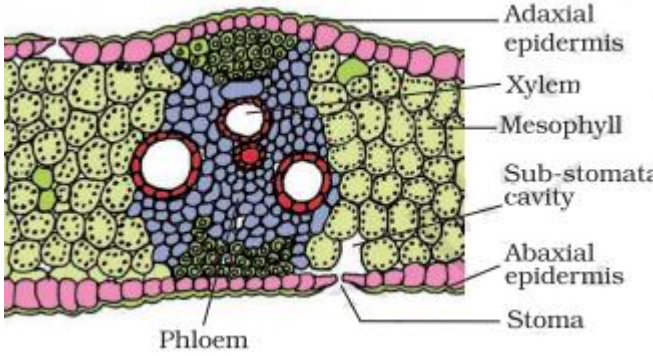


Figure 9.24: T.S. of Dicot Leaf (Sunflower)

Dicot Leaf vs Monocot Leaf

Dicot Leaf (Ficus)

Monocot Leaf (Grass)



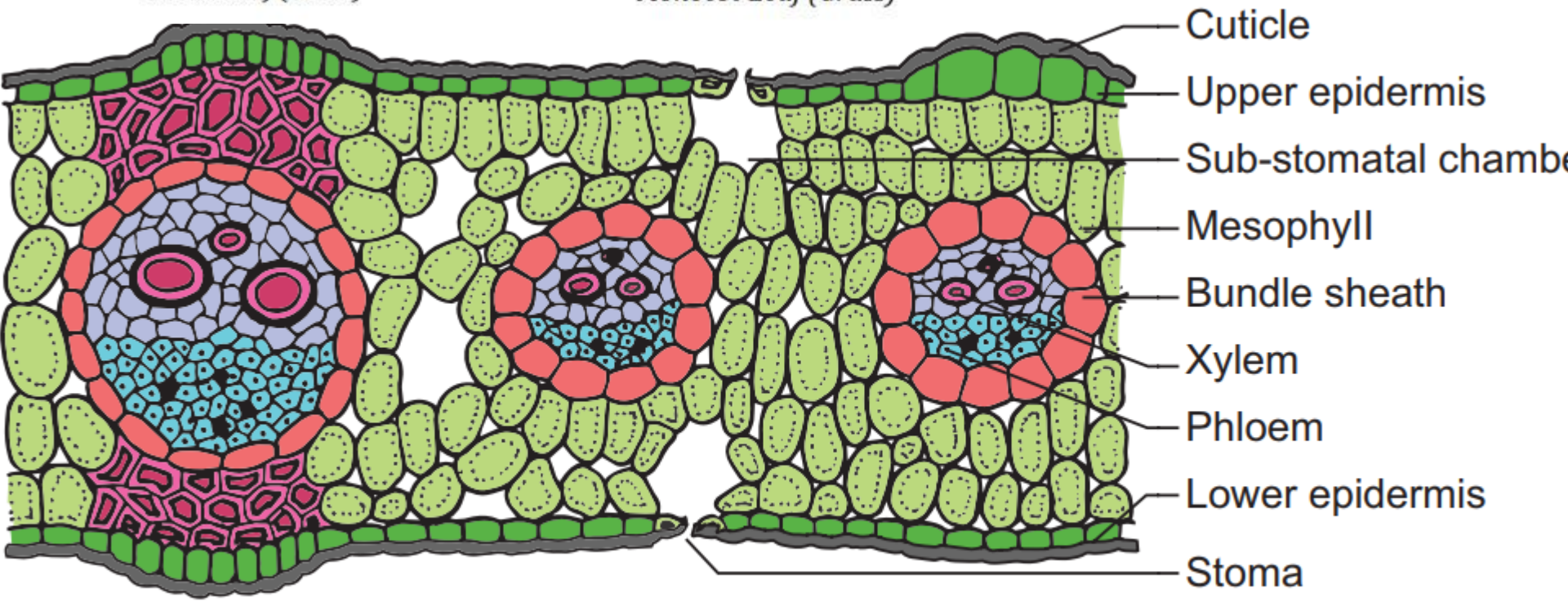
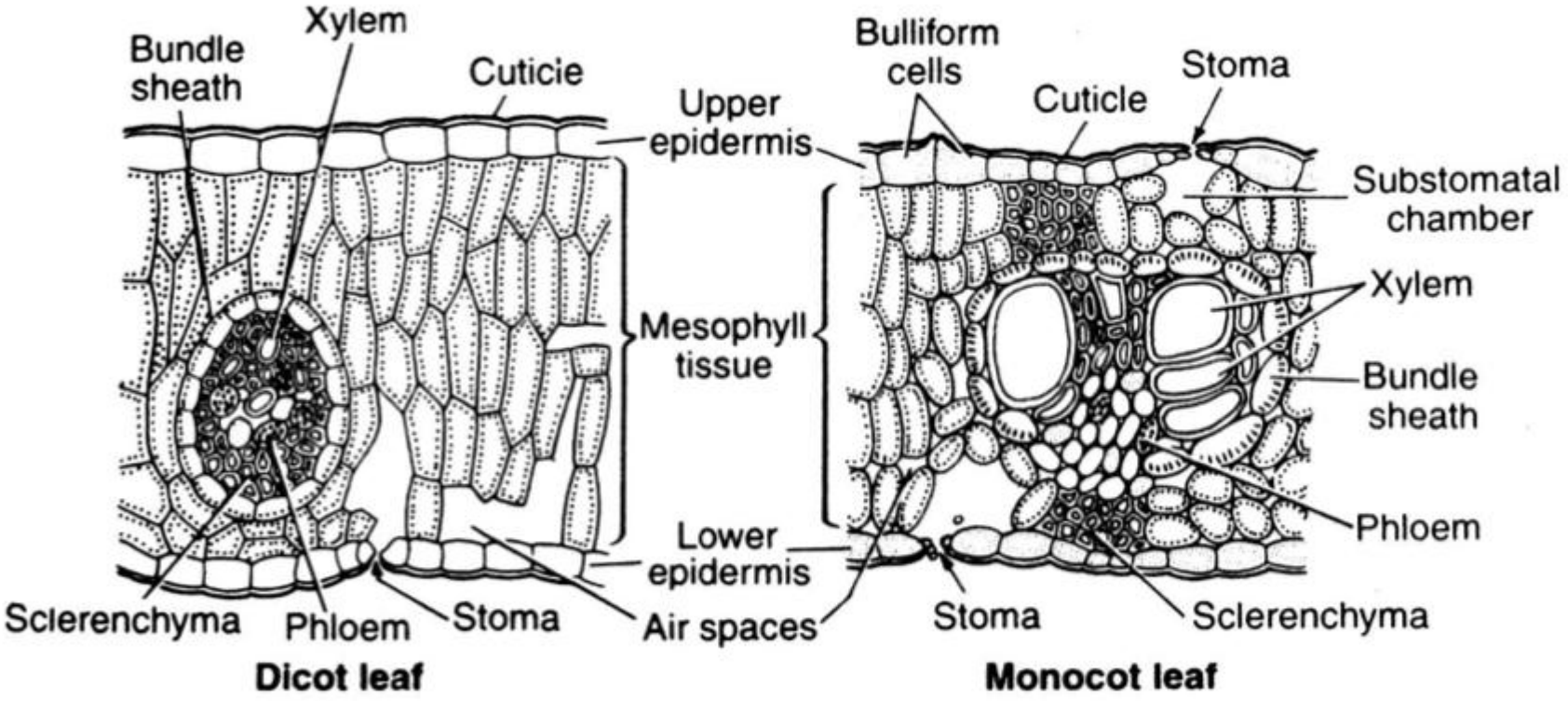


Figure 9.25: T.S. of monocot leaf (Grass)

Comparison of monocot and dicot leaf T.S



Comparison of T.S. of a dicot and a monocot leaf

Comparison of monocot and dicot leaf T.S

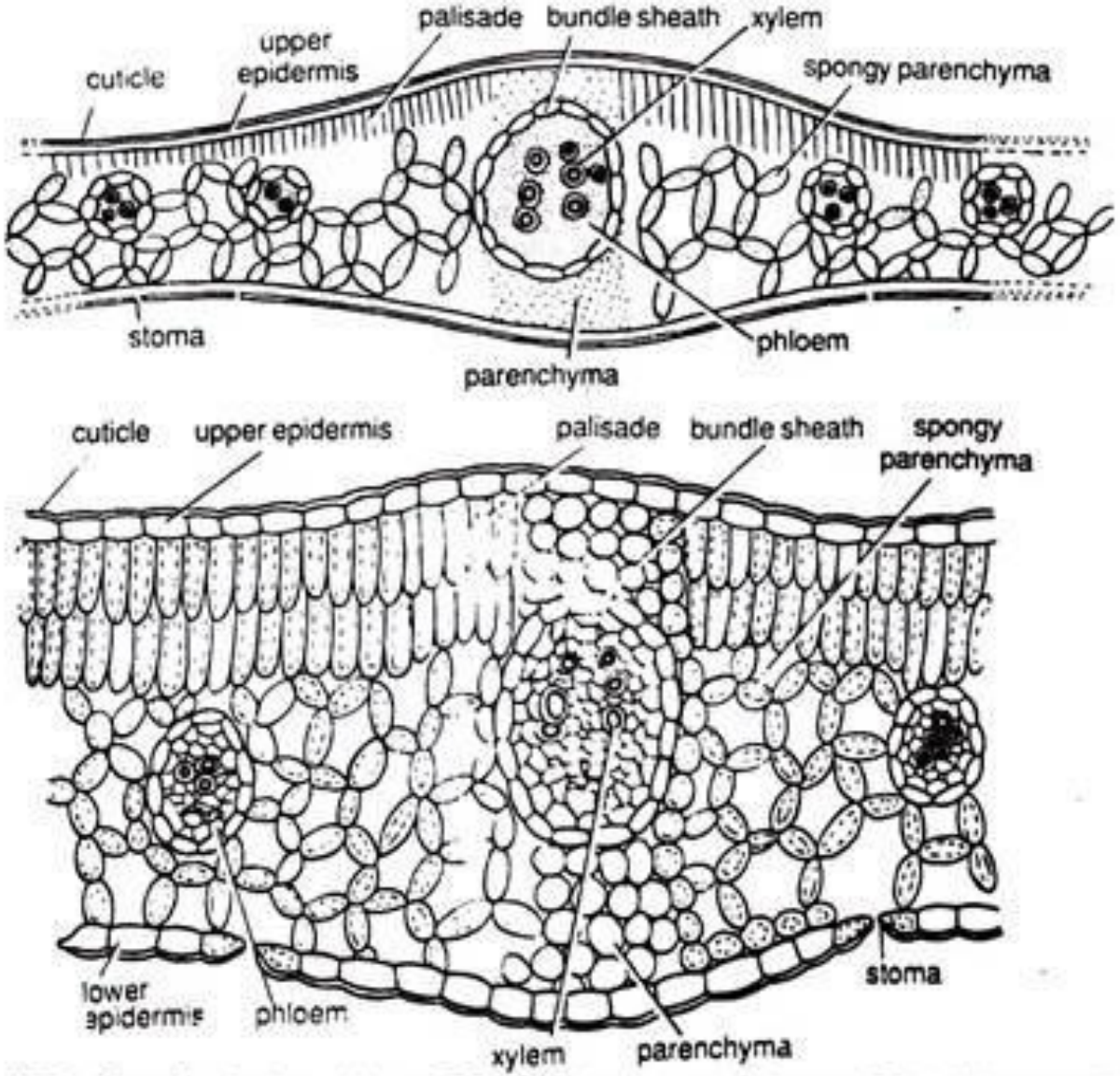


Fig. 175. Mangifera indica. ***Upper, T.S. leaf (diagrammatic); Lower, T.S. leaf (a part cellular).***

Fill the table

Position of veins		
Epidermis		
Mesophyll		
Vascular System		
Stomata		

	MONOCOT	DICOT
Position of veins	Monocot leaves have parallel or up and down veins.	Dicot leaves have veins that are scatter or “netted.” This means they do not follow a pattern.
Mesophyll	Monocot leaves also have **bulliform cells**. These large, bubble-like cells, located just beneath the epidermis, are thought to help the leaf bend or fold.	
Vascular System		
Stomata	Monocots have stomata on both upper as well as on lower surface of their leaves	dicot leaves either have more stomata on the lower side of the leaf, or they have stomata only on the lower side of the leaf.

What do the plant's flowers look like? Monocot or dicot?

Pansy flowers. Image from Wikimedia Commons under a Creative Commons 3.0

Pansies are a popular garden flower example of what dicot flowers.

Dicots have flower parts in groups or multiples of four or five.

Pansies have five-petaled flowers. 2 purple,2 white, and 1 large yellow petal at the bottom.

What do the plant's leaves look like?

Monocots tend to have long leaves with striate venation, meaning that the veins run parallel to each other. Like lilies, onions are easily recognizable monocots. In the following image, you can clearly see the *Allium crenulatum*'s long leaves (and its six-petaled flowers).

Video

MONOCOT vs DICOT | Differences between Monocotyledon and Dicotyledon with Examples | Science Lesson

https://www.youtube.com/watch?v=fMnDXxD3omg

Activity: Looking at different leaves

№1 BOX10, - Maize Leaf Monocot

№2 BOX 3, -Brassica Leaf Dicot

Now make a large drawing of your leaf [4]. Remember to:

- Use a sharp pencil, and have a good eraser ready for when you need it [1]
- Try to make each line smooth and clean [1]
- Try to get the shapes and relative proportions of the different parts of the flower approximately correct [1]
- Make your drawing large, but leave space around it to write labels [1]

Label your diagram [5]. Remember to:

- Use a ruler to draw label lines [1]
- Make sure the end of the label line touches the structure you are labelling [1]
- Do not let label lines cross one another [1]
- Do not write labels on top of your drawing [1]
- Write your labels horizontally[1].

Should be on your NOTE:

For each slide:

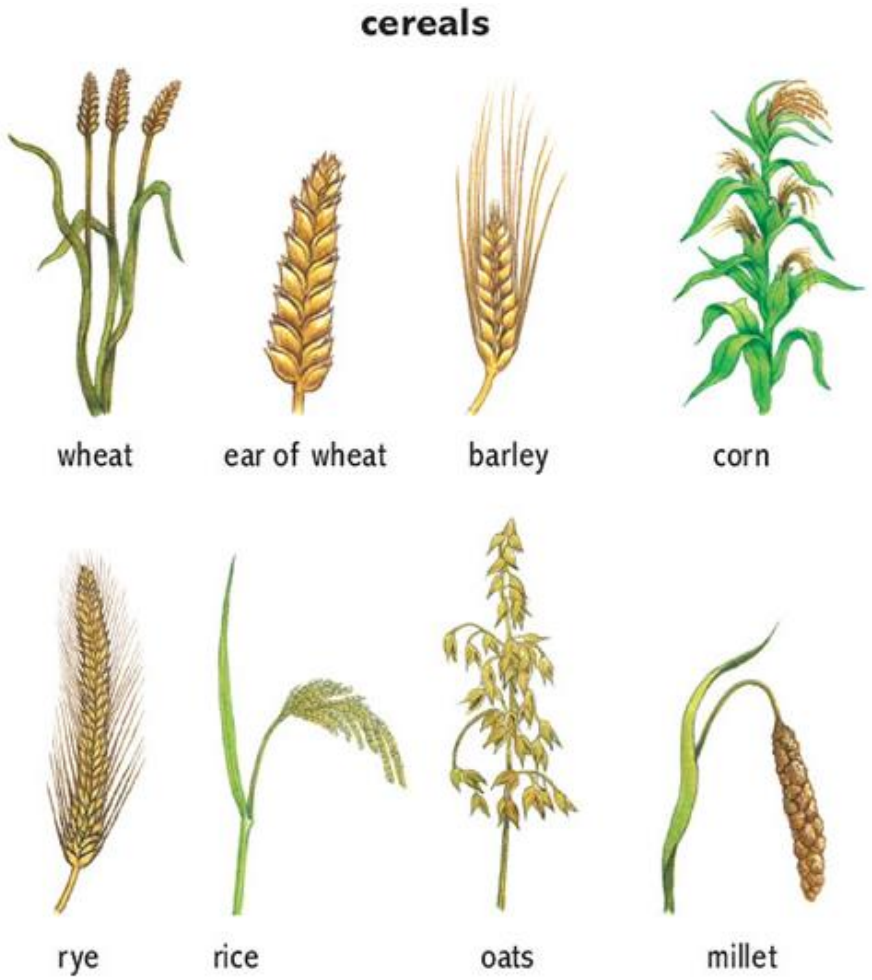
1. Slide name:…….. [1]
2. Objective: ……. [1]
3. Circle with R=10sm [1]
4. large drawing into circle [4]
5. Labelled structure:

   Vascular bundle, xylem and phloem [5]

Total [12]

№1 BOX 10- Maize Leaf Monocot

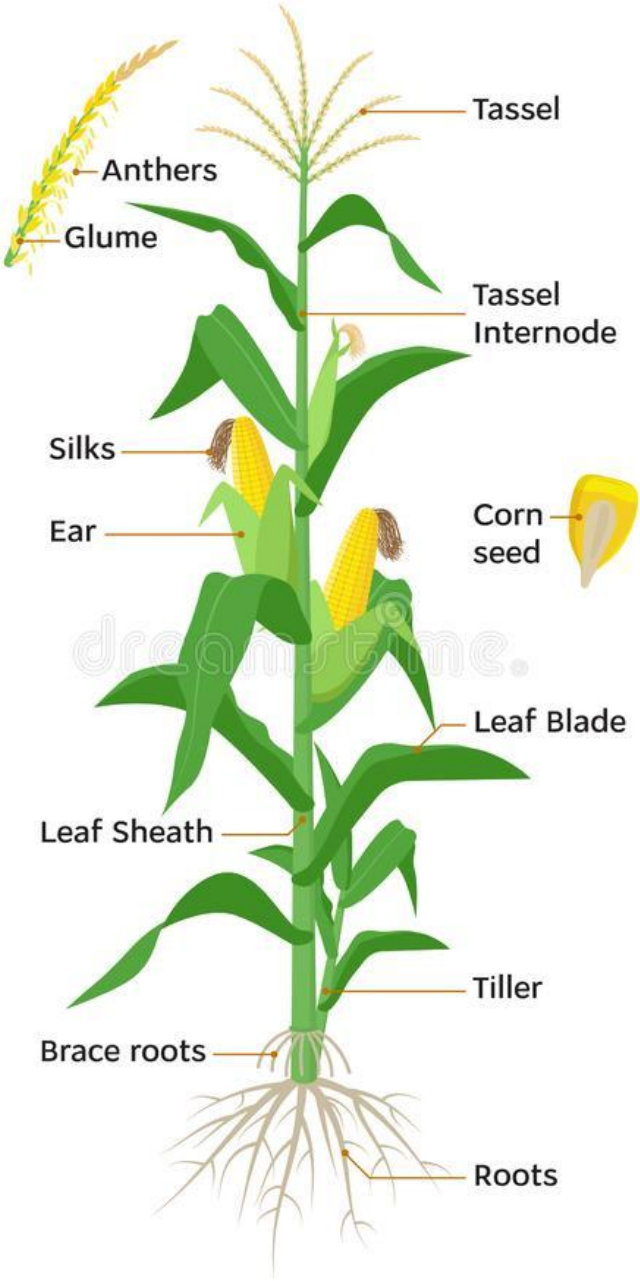
Poaceae family of monocotyledonous flowering plants are the world's single most important source of food.



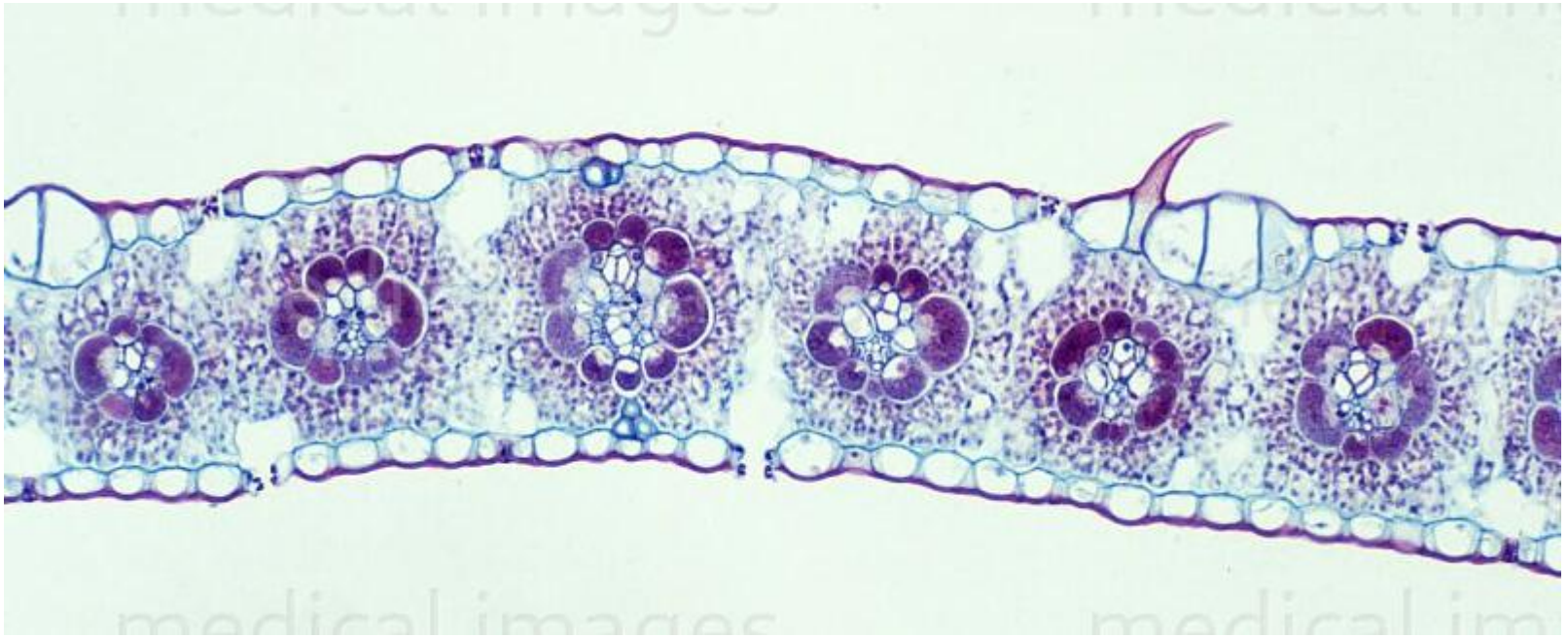
Slide-№1 BOX 10- Maize Leaf Monocot

The maize leaf is composed of a **stem-gripping proximal sheath and a long distal blade joined together by an auricle and membranous ligule**.

This hinge-like region allows the blade and supporting midrib to bend away from the stem, thereby affecting plant architecture and yield.



Maize leaf - monocot



Photomicrograph of a corn (Zea mays) leaf, cross section, mag.

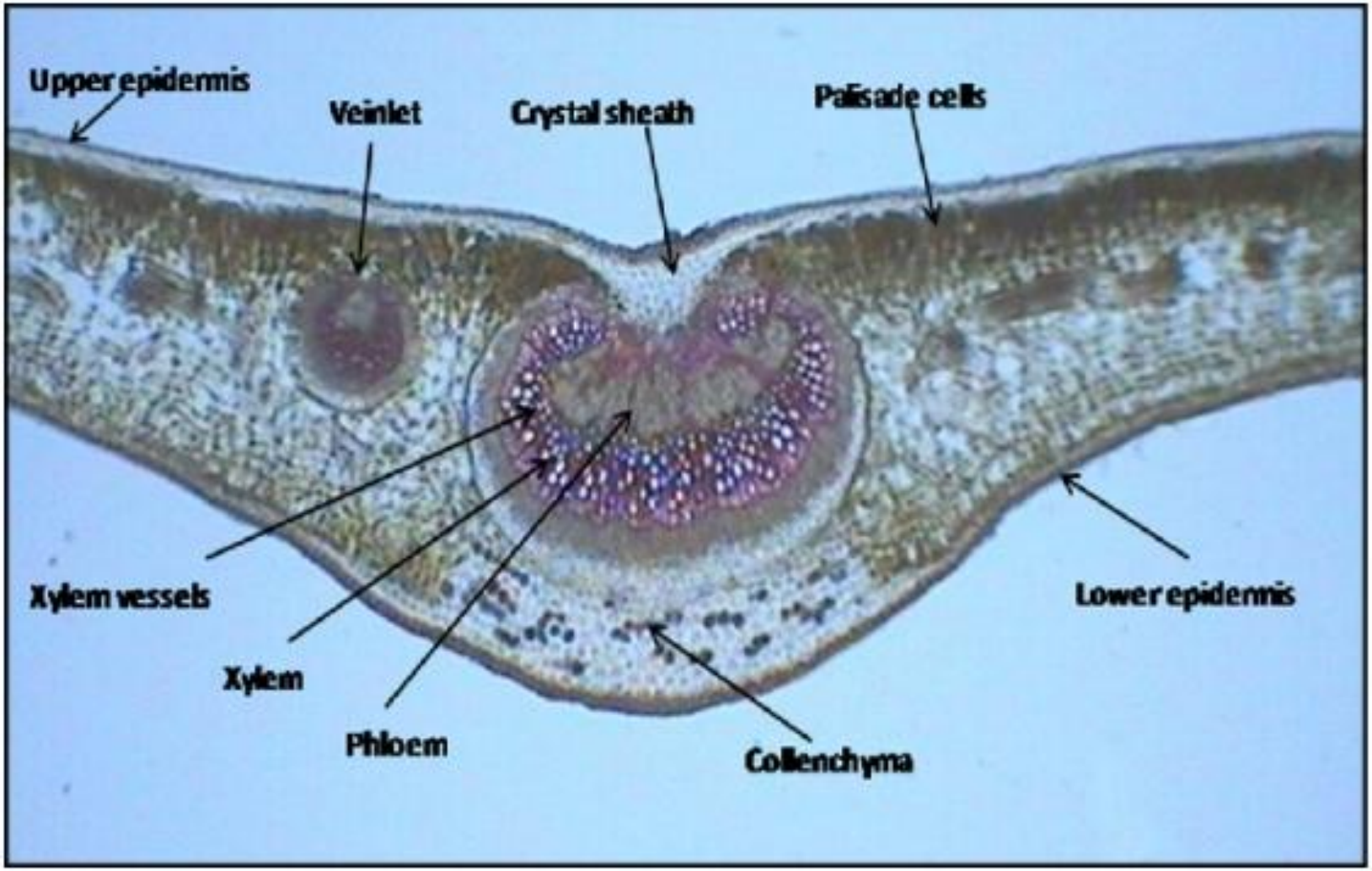
40x (at 24 x 36 mm), showing vascular bundles (veins) surrounded by bundle sheaths.

This structure exhibits Kranz anatomy, which is typical of C4 grasses such as corn.

Slide-№2 BOX 3, Brassica Leaf

FAMILY BRASSICACEAE: member of the family of vegetables that includes **broccoli, Brussels sprouts, cabbage, cauliflower, collard greens, kale, and turnips**.

Slide-№2 BOX 3, Brassica Leaf



Thank you for your attention