



2.4 Looking at leaves

Questions pages 52-53

Name: Answer key

Grade 7A

Date: /5/2023

1. What features do leaves have in common?

Leaves are thin, broad and flat.

They are green and contain chlorophyll.

They have a network of veins.

2. Why do leaves have these features?

They are thin to allow easy passing of sunlight and gas exchange by diffusion.

They are broad and flat to give a large surface area to absorb sunlight.

The chlorophyll absorbs sunlight/ The veins transport water, sugar and nutrients.

3. What cells have you studied that are found in leaves?

Spongy cells/ Palisade cells.

4. What do you notice about the size of the leaves growing at different heights in the forest?

Plants on the forest floor have very large leaves whereas leaves on high trees are much smaller

5. Why is it important to the plants that grow to these heights?

Plants on the forest floor receive much less light than those on tall trees; the large surface area means they can absorb more light to photosynthesise.

6. What does this tell you about the leaves?

Larger leaves contain more chlorophyll to absorb all the light that reaches them.

7. How do gases move in and out of a leaf?

Carbon dioxide (CO₂) moves into the leaf in daytime, and Oxygen (O₂) moves out by diffusion.

For questions 8 and 9, complete the following table.

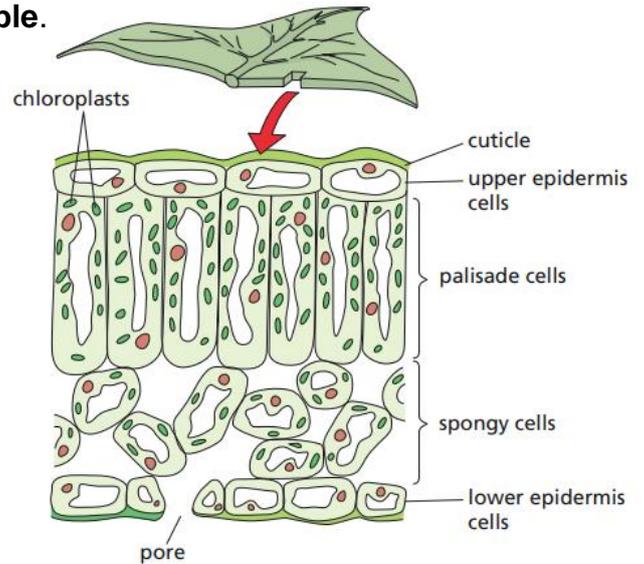


FIGURE 2.2.4c: Section through a leaf showing the different types of cell

Name of cell/ layer in the leaf	Funtion of the cell/ layer	Adaptations of cell	How do these adaptations allow the cell to carry out its functions?
Cuticle	Protects leaf from water loss	Made of wax	It is waterproof
Epidermis	Allows light to reach palisade cells	Thin and transparent	Light can pass through the cells
Palisade cells	To absorb light	Found at the top of the leaf Cells are long and narrow Contains many chloroplasts	Light doesn't have to travel far More cells are at the tpo of the leaf To absorb as light as possible.
Spongy cells	To absorb remaing light To allow gases to pass in/out of the leaf	Contain chloroplasts Large air spaces between the cells	To absorb all the remaining light To allow gas exchange