

# Structure of a Leaf



## Functions of a Leaf:



**Photosynthesis** →  $\text{CO}_2$  in  $\text{O}_2$  out  
makes food (glucose)



**Gas Exchange** →  $\text{CO}_2$  in  $\text{O}_2$  out

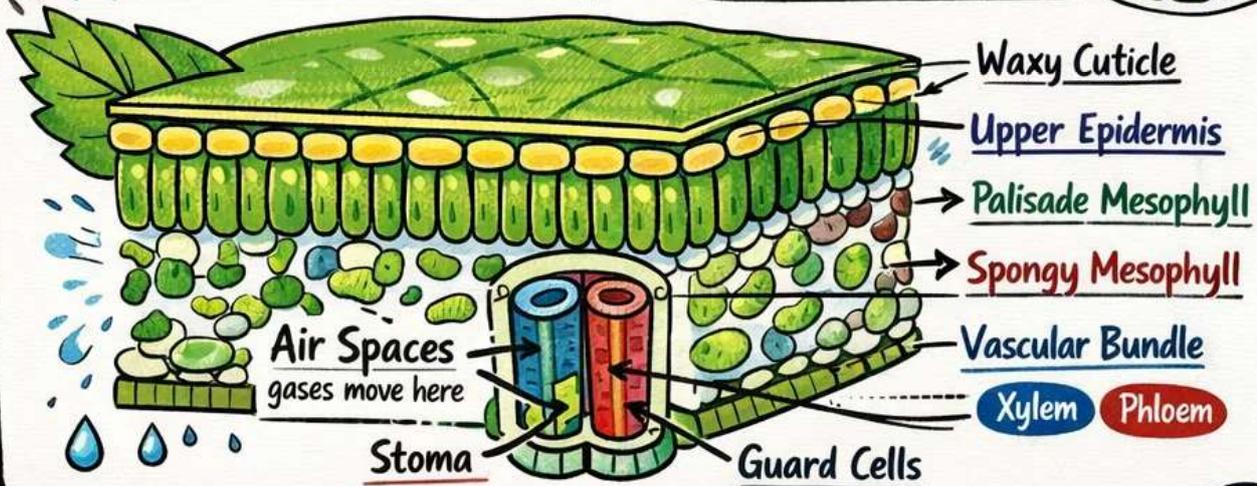
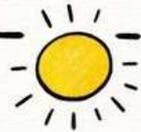


**Transpiration** →

loss of water vapour



## Leaf Cross-Section



## Layers of the Leaf:

1. **Waxy Cuticle** - waterproof layer



2. **Upper Epidermis** - protective layer

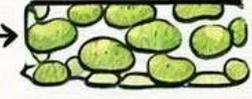
3. **Palisade Mesophyll** →

lots of chloroplasts



4. **Spongy Mesophyll** →

air spaces



5. **Stomata & Guard Cells**

control gas exchange



## Vascular Tissues:



**Xylem** →  
Water & Minerals **UP!**



**Phloem** →  
Sugars (glucose) **DOWN!**

## Stomata:

- Pores on the underside of leaf
- Control water loss & gas exchange



Open



Closed