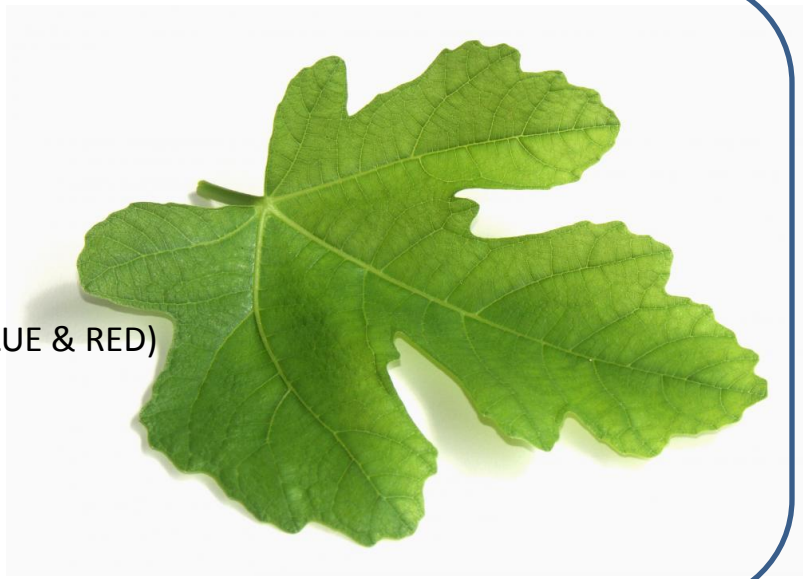
REVIEW: Photosynthesis

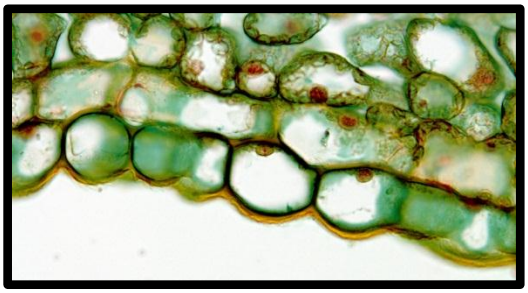
Leaf Structure

- ✓ *Captures SUNLIGHT*
- ✓ *HIGH surface area*
- ✓ *REFLECTS GREEN* (absorbs BLUE & RED)
- ✓ Wax coat (*SHINY*)
- ✓ *Veins transport* material



Cuticle

- ✓ *Waxy* coat
- ✓ *Prevents WATER LOSS*



Epidermis (*OUTSIDE-UPPER layer*)

- ✓ Transparent

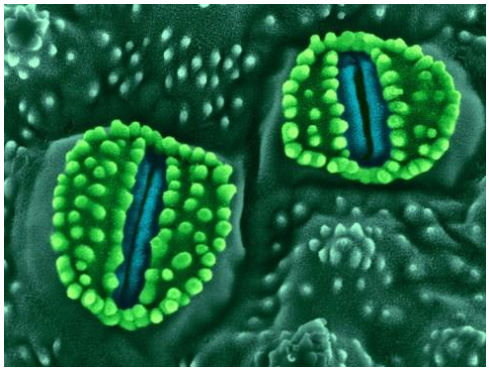
Lower Epidermis

Stomate → allows for *GAS EXCHANGE*

★ *PREVENTS* plant from becoming *dehydrated*
STOPS water vapor from leaving plant

Guard Cells

- ✓ *Surround each Stomate*
- ✓ *Control its opening*



Mesophyll (*Middle Layer*)

Palisade = packed with *CHLOROPLASTS*

★ This is where *MOST LIGHT PENETRATES*!

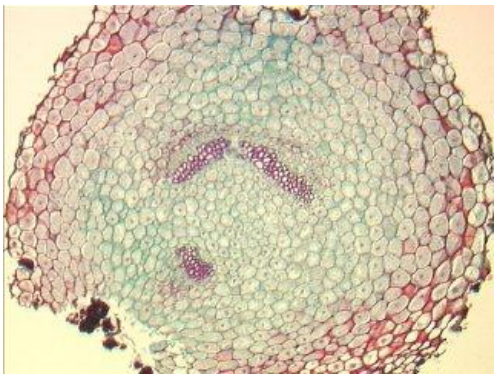
Spongy

- ✓ *Cells spread out* so *GASES CAN FLOW*

Vascular Tissue

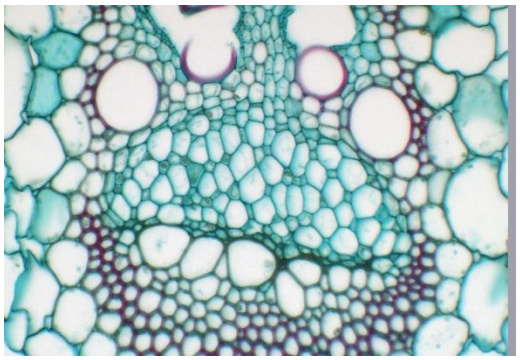
Xylem

★ *carries WATER* up from roots



Phloem

★ *carries FOOD*



AUTOTROPHS

Autotrophs *MAKE GLUCOSE* (photosynthesis)

HETEROTROPHS

Heterotrophs *EAT FOOD* to get GLUCOSE

ORGANIC = *CARBON & HYDROGEN* together

INORGANIC = *Do not have Carbon & Hydrogen*

Photosynthesis = Autotrophic nutrition

Happens *IN the CHLOROPLASTS*

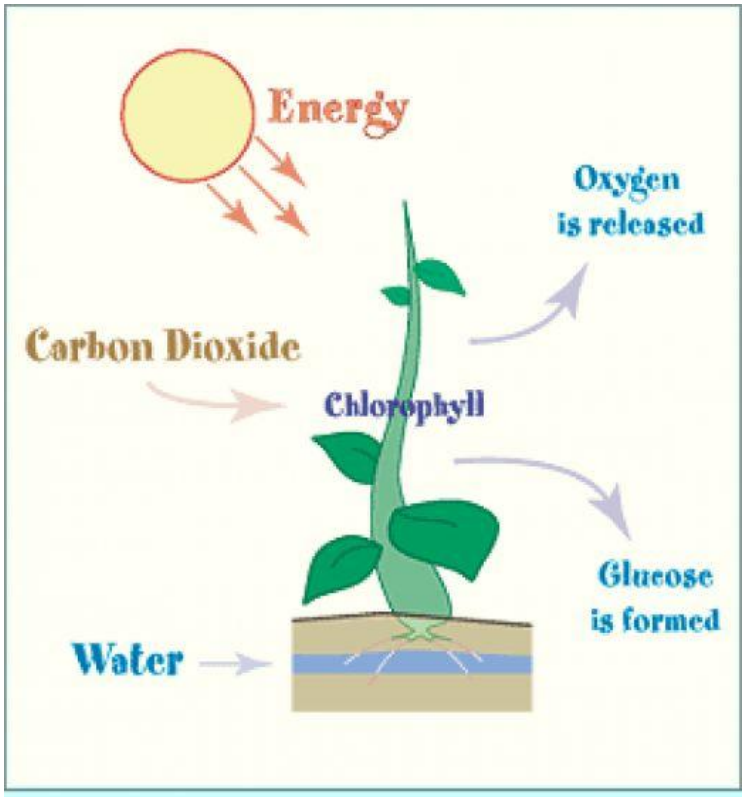
Chlorophyll

✓ A *pigment* molecule that *REFLECTS GRREN LIGHT*

The **Photosynthesis Reaction**

CO_2 + H_2O $\xrightleftharpoons{sunlight}$ $C_6H_{12}O_6$ + O_2

Carbon dioxide — water — Glucose — oxygen



LIGHT is a LIMITING FACTOR!

If there is no light……*photosynthesis cannot occur*

Chemo-Autotrophs

✓ Get nutrition form *CHEMICAL ENERGY*