

Plant nutrition

Photosynthesis

Carbon dioxide + water → glucose + oxygen

Light energy Chlorophyll in chloroplasts

Balanced equation Supplement

$6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$

Starch test

Destarch Boil, ethanol, iodine Variegated, foil, soda lime

Limiting factors Supplement

Light intensity Carbon dioxide Temperature

Rate investigations Supplement

Lamp distance Hydrogencarbonate Water bath

Hydrogencarbonate indicator Supplement

Yellow: high CO_2 Red: air Purple: low CO_2

Leaf structure

Large and thin

Palisade mesophyll

Many chloroplasts Near top

Spongy mesophyll

Air spaces

Stomata and guard cells

Gas exchange Open and close

Vascular bundle

Xylem: water Phloem: sucrose

Cuticle and epidermis

Waxy Transparent