## **Photosynthesis**

## **Overview**

- Light is harvested and converted into chemical energy and molecules used to make ATP during respiration. Non photosynthetic organisms feed on the molecules produced in plants and then also use them to make ATP.
- Leaf is main photosynthetic structure in eukaryotic plants. Chloroplasts within the leaf is where photosynthesis takes place.

## Structure of the Leaf: Adaptations

Raw materials: water, carbon dioxide and light Waste products: oxygen and glucose

Trait	Benefit
Large SA	To Absorb as much light as possible
Arrangement	Minimise overlapping avoiding shadowing
	of leaves so all obtain sunlight
Thin	Most light is absorbed in first few
	micrometres so diffusion distance is short
Transparent Cuticle and Epidermis	Let light through to photosynthetic
	mesophyll cells beneath
Long and Narrow	Upper mesophyll cells packer vit
	chloroplasts that collect surlight
Numerous Stomata that Open and	All mescolar less of are only a short diffusion
Close	<b>p</b> to <b>r a</b> way and can respond to changes
	in light intersit C nd many
Many Air Spaces	In lover n sophyll to allow rapid diffusion
- view -	🔁 gas phase of CO2 and O2.
Network of wylem	Brings water to leaves
Network of Phloem	Carries away sugars produced during
	photosynthesis

