**B4 It’s a green world - summary**

Explain how leaves are adapted for efficient **photosynthesis**:

• \_\_\_\_\_\_\_\_ so large surface area;

• \_\_\_\_\_\_\_\_ so short distance for gases to travel;

• contain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to absorb light; - different pigments absorb different wavelengths

• have a network of veins for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

• stomata for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The cellular structure of a leaf is adapted for efficient photosynthesis:

•

*

•

 **Weak solution Concentrated solution**

**Osmosis**

**Transpiration**

 Turgor pressure supports plant tissues



**Xylem**:

Structure –

Function –

**Phloem**:

Structure –

Function -

Transpiration rate is increased by: \* increase in \*increase

\* increase \*decrease

Plants require the following minerals:

**Nitrogen** to make **Phosphorus** to make

**Potassium** **Magnesium**

Minerals are taken up into root hair cells by **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** (movement of substances from low concentrations to high concentrations). Active transport uses energy from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Intensive farming Organic farming**

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* -
* -
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Key factors in the process of decay:

* Presence of microorganisms - - -

Detritivores (e.g.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ) feed on dead and decaying material

(detritus). They increase the rate of decay by producing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Decay involves saprophytic nutrition by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Food preservation techniques reduce the rate of decay:

- - - - -

**Limiting factors of photosynthesis**

1)

2 )

3)

Photosynthesis timeline

Greek scientists concluded that plants gain mass from soil minerals

Van Helmont –

Priestley –

**Photosynthesis –** only occurs in the day

 **(light)**

**6co2 + 6H2o c6H1206 + 6o2**

 **(chlorophyll)**

Two stage process

1)

2)

Glucose is converted into

1)

2)

3)

4)

5)

**Estimate population size**

\* \*

**Changes in abiotic factors (non-living, physical factors) can lead to zonation. Natural Ecosystems have a higher biodiversity than artificial Ecosystems**