

IGCSE Biology

Name: _____ Score: _____

1. The products of photosynthesis are:
 - ☐ water and minerals
 - ☐ starch and protein
 - ☐ glucose and oxygen
 - ☐ carbon dioxide and water
2. A leaf is broad and flat mainly to:
 - ☐ have a large surface area to capture light
 - ☐ protect the plant
 - ☐ store water
 - ☐ attract insects
3. Why destarch a plant before testing whether light is needed?
 - ☐ To make every leaf permanently unable to respire.
 - ☐ To add chlorophyll to its leaves.
 - ☐ To reduce the chance that stored starch from before the test explains the final result.
4. Why can a sugar supply alone fail to support normal plant growth?
 - ☐ Sugar contains every necessary mineral ion.
 - ☐ Some materials, such as nitrogen for amino acids, must also be supplied.
 - ☐ Minerals supply energy in place of respiration.
5. The green pigment that absorbs light for photosynthesis is:
 - ☐ chlorophyll
 - ☐ starch
 - ☐ glucose
 - ☐ haemoglobin
6. Root hair cells open and close the stomata.
 - ☐ True ☐ False
7. Equal bubble counts always represent equal gas volumes.
 - ☐ True ☐ False

8. Nitrate ions supply nitrogen for making amino _____, which are used to make proteins.

9. Which are raw materials consumed in the photosynthesis word equation? Select all that apply.

☐ Chlorophyll

☐ Carbon dioxide

☐ Light energy

☐ Water

Tick every correct option.

10. A leaf is _____ so that gases can diffuse in and out over short distances.

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1. **glucose and oxygen**

$\text{CO}_2 + \text{water} \rightarrow \text{glucose} + \text{oxygen}$.

2. **have a large surface area to capture light**

Large surface area maximises light capture.

3. **To reduce the chance that stored starch from before the test explains the final result.**

Old starch could give a positive iodine result even in the covered region.

4. **Some materials, such as nitrogen for amino acids, must also be supplied.**

Carbohydrates do not supply all the materials needed for growth.

5. **chlorophyll**

Chlorophyll in chloroplasts traps light energy.

6. **False**

False. Guard cells on either side of each stoma open and close it, controlling gas exchange and water loss.

7. **False**

Bubble sizes vary, so bubble number is only a rough proxy for gas output.

8. **acids**

Amino acids are used to build proteins; nitrate provides their nitrogen.

9. **Carbon dioxide; Water**

Carbon dioxide and water are raw materials. Light supplies energy; chlorophyll is the pigment absorbing it.

10. **thin**

Thinness shortens the diffusion distance.