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 from grazing animals

   ☐ store water for dry periods

   ☐ attract insects for pollination

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

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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.

1. **glucose and oxygen**

   CO_2 + water → glucose + 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.

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