The National Orthodox School Shmaisani

The National Orthodox School / Shmaisani

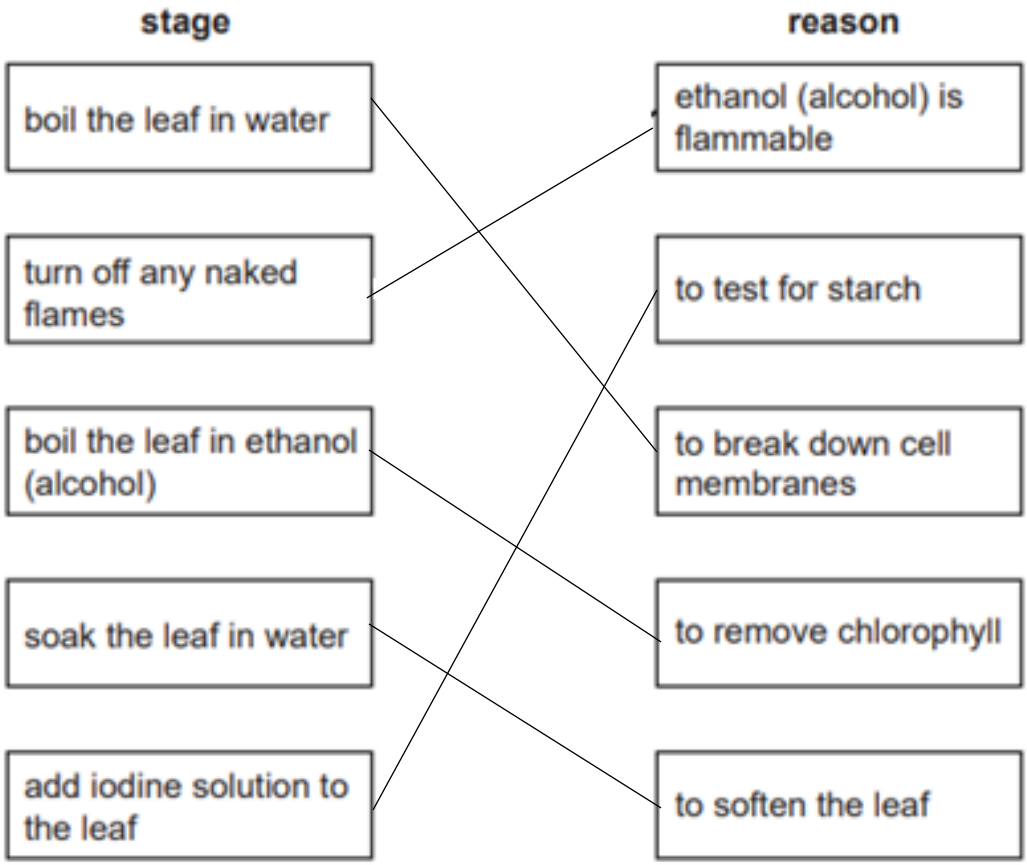
Subject: Biology **Quiz**

Name:

Date: **Grade 9 IB**

Question One :

a. The stages involved in testing a leaf for starch are shown below. The stages are in the correct sequence, but the reasons are in the wrong order.
Use straight lines to match the stages with the correct reasons.



b. Explain why chlorophyll is removed from the leaf before testing it for starch .

……to observe the change in color clearly when adding the iodine ……

c. State two factors other than carbon dioxide , that plants would need in order to photosynthesise :

1. ……light / chlorophyll……

2. ……water ……

d. Explain why the plants were destarched .

……to remove any starch that will affect the results of our experiment ….

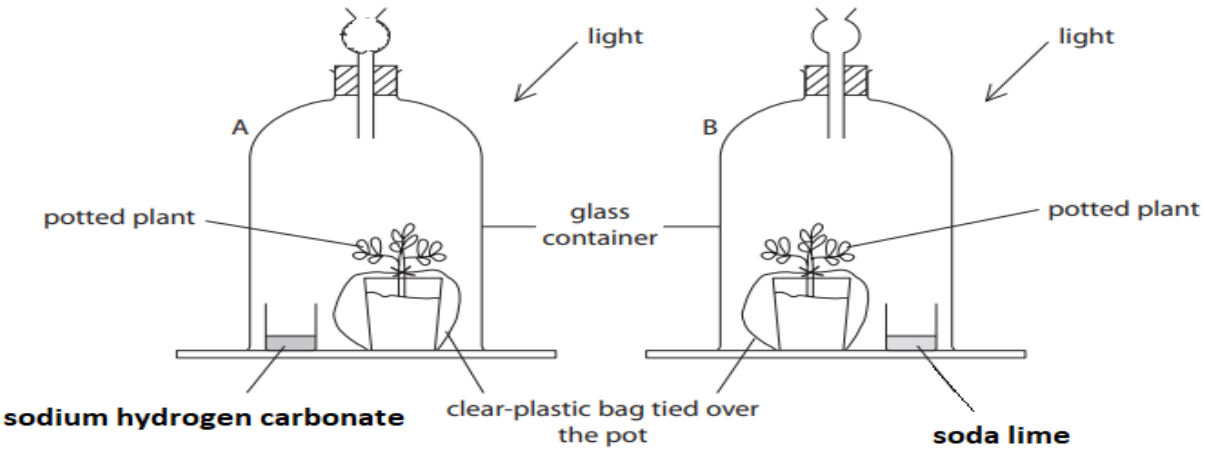
Question Two :

a. Complete the word equation of photosynthesis .

Carbon dioxide + water $\xrightarrow[\text{chlorophyll}]{\text{light}}$ glucose + oxygen ..

b. An experiment is set up to find out if carbon dioxide is needed by plants for photosynthesis. Two plants were de-starched and then put in glass containers A and B as shown in the diagram.

After two days in the containers the plant leaves are tested for starch.



- List two controlled variables .

  ……plant ……. , ……time / light ……..

- Why is sodium hydrogen carbonate used in this experiment ?

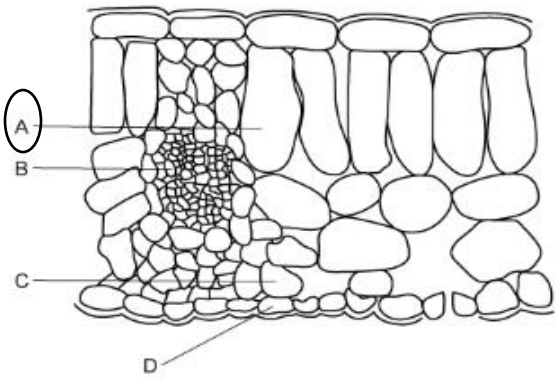
  ……to release CO_2……

Question 3:

Circle the correct answer :

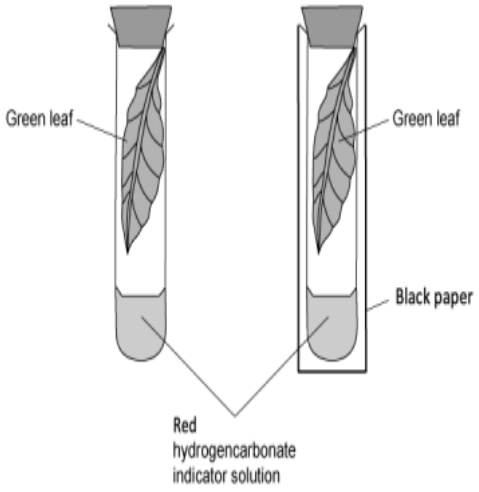
1. The diagram below shows a section through a leaf.

Which cell type would have the highest concentration of oxygen on a bright, sunny day?



2. Two test tubes are set up with two similar leaves inside them, as shown in the diagram below. One test tube is exposed to light ,while the other is kept in the dark.

The test tubes are left for 4 hours. What color will the hydrogen carbonate indicator solution be in each test tube?



	dark	light
A	purple	yellow
B	colourless	yellow
C	purple	colourless
D	yellow	purple

Question 4 :

Fig. 3.1 is a scanning electron micrograph of a vertical section through part of the leaf of a broad bean plant, *Vicia faba*.

Fig. 3.1

i) State the names of the tissues labelled **A** and **B**.

A : upper epidermis **B** : palisade mesophyll

ii) The cells in regions **B** and **C** in Fig. 3.1 have a large surface area.

Explain why this is necessary for the functioning of the leaf cells.

to absorb the maximum amount of light for photosynthesis

iii) Explain why there are many interconnecting air spaces within the leaf.

……for easy diffusion of gases in the leaf ……