National 5 Biology

Photosynthesis

1. Write down:
   (a) The raw materials
   (b) The products of photosynthesis.

(2)

2. Where in a cell does photosynthesis occur?

(1)

3. Name the chemical responsible for absorbing the light energy and its colour.

(2)

4. Name the four stages in testing a leaf for the presence of starch.

(4)

5. Name the 2 stages of photosynthesis.

(2)

6. Show, using a simple diagram, a brief summary of the first stage of photosynthesis.

(2)

7. Show in a simple diagram the second stage of photosynthesis.

(2)

8. Name the 2 molecules which are passed from the first stage to the second stage of photosynthesis.

(2)

9. The sugar made by photosynthesis can be used in three ways. What are they?

(3)

10. Name three limiting factors of photosynthesis.

(3)

11. The Elodea bubbler experiment is used to investigate the how the rate of photosynthesis is affected by changing one of the limiting factors. The following results were obtained when it was set up to investigate light intensity.

Light intensity (units)	**Number of bubbles produced in 5 minutes**
0	**0**
4	**11**
8	**24**
12	**41**
16	**63**
20	**95**
24	**96**
28	**96**
32	**96**

(a) Show the above results in a line graph.

(4)

(b) Explain why the number of bubbles produced doesn't increase any further after the light intensity reaches 24 units.

(1)

(c) How many times is the rate of photosynthesis at 24 units greater than the rate at 8 units?

(1)

(d) How could the reliability of these results be improved?

(1)

Total - 30