Bioenergetics

Biology Paper 1 | 30 quick questions

GCSE science knowledge recall

Answer online, marked instantly

Name: _____ **Date:** _____ **Score:** _____ **/ 30**

1 Photosynthesis takes in energy from the surroundings. What word describes a reaction like this?

2 Complete the word equation: carbon dioxide + water → glucose + ?

3 Give the chemical formula of glucose.

4 Name the green pigment that absorbs light energy for photosynthesis.

5 What is the name for the factor that is in shortest supply and so holds back the rate of a reaction?

6 The temperature around a plant rises well above its best temperature. What happens to the rate of photosynthesis? Answer in one word.

7 In a pondweed experiment, what gas is collected or counted as bubbles to measure the rate of photosynthesis?

8 In a light intensity experiment, the lamp is moved closer to the pondweed. What happens to light intensity? Answer in one word.

9 The distance between a lamp and a plant is doubled. The new light intensity is what fraction of the old light intensity?

Higher

10 A graph of photosynthesis rate against light intensity levels off. Raising the carbon dioxide level makes it rise again. Which factor was limiting on the flat part?

Higher

11 Explain why a grower might not raise the heating in a greenhouse even though it would increase the rate of photosynthesis.

Higher

12 Plants convert glucose into which insoluble substance to store it?

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13 Plants use glucose to make which substance that strengthens their cell walls?

14 To make amino acids from glucose, plants also need which ions absorbed from the soil?

15 Respiration transfers energy to the surroundings. What word describes a reaction like this?

16 Complete the word equation for aerobic respiration: glucose + oxygen → carbon dioxide + ?

17 What is the name for respiration that takes place without oxygen?

18 What substance is made in muscle cells during anaerobic respiration?

19 Anaerobic respiration in yeast cells is used to make bread and beer. What is this process called?

20 Apart from carbon dioxide, what substance is made by anaerobic respiration in yeast?

21 Give one reason why living things need the energy released by respiration.

22 During exercise, what happens to the breathing rate? Answer in one word.

23 During long periods of vigorous exercise, muscles stop contracting efficiently. What is this called?

24 Which store of carbohydrate in the muscles is broken down to glucose during exercise?

25 What is the name for the amount of extra oxygen needed after exercise to react with the lactic acid?

Higher

26 Blood carries lactic acid from the muscles to which organ, where it is converted back into glucose?

Higher

27 What is the name for the sum of all the reactions in a cell or the body?

28 Glucose molecules join together to make starch, glycogen and cellulose. Starch is one example of what kind of large carbohydrate molecule?

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29 In metabolism, one molecule of glycerol joins with three molecules of what to form a lipid?

30 Excess protein is broken down in the body. What waste substance is formed and excreted in urine?

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