

4.1.3 Uses of glucose from photosynthesis

AQA GCSE Biology (Higher) Question and answer notes

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How to use these notes

These notes cover everything you need to know for this part of the specification. They have been written in question-answer format to make them easier for you to study from.

In order to study successfully, I recommend you do the following for each question and answer:

- Read it carefully and make sure you **understand** it.
- **Memorise** the answer.
- **Practice** applying your understanding to past exam questions.

A good way to memorise information is to use **retrieval practice**. This is when you practise retrieving information from your memory. You could do this by making a flashcard for each question with the question on one side and the answer on the other. Or you could use a flashcard app. Alternatively, use a sheet of paper to cover up the answer so you can only see the question. Try to answer the question and then check how you did.

You should practise retrieving each answer from your memory until you can do it perfectly. Even once you can retrieve the answer perfectly, your ability to retrieve it will probably fade as time passes without practising. Therefore you will need to keep going back to the questions that you have previously mastered and practising them again. However, each time you re-learn the answer, the memory will be stronger and will last longer than the time before.

How is the glucose that is produced in photosynthesis used?

The glucose that is produced in photosynthesis is used in the following ways:

- Some glucose is used for respiration.
- Some glucose is converted into starch for storage.
- Some glucose is used to make lipids (fats or oils) for storage.
- Some glucose is used to make cellulose, which is used in cell walls.
- Some glucose is used to make amino acids, which are then used to make proteins.

What happens to glucose molecules in the process of respiration?

In the process of respiration, glucose molecules are broken down to release the energy stored in them.

Why is it useful to convert glucose to starch for storage?

It is useful to convert glucose to starch for storage, because starch is not soluble in water (whereas glucose is). This means that large amounts of starch can be stored in a cell without causing water to move into the cell by osmosis.

Besides glucose, what else do plants need in order to make amino acids?

In order to make amino acids, plants need nitrate ions.

Where do most plants get nitrate ions from?

Most plants get nitrate ions from the soil.