

6.2.2 Evolution

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.

What is evolution?

Evolution is a change in the inherited characteristics of a population over time. It can happen through a process called natural selection. It can lead to the formation of new species.

What did the organisms that are alive today evolve from?

The organisms that are alive today evolved from simple life forms that first developed more than three billion (3,000,000,000) years ago.

What is natural selection?

Natural selection is a process through which evolution can happen. It involves the following steps:

- There is a population of organisms in which there is variation. This variation is partly caused by different individuals having different alleles.
- Due to this variation, some individuals have characteristics that are better suited to the environment than those of other individuals.
- A relatively high proportion of the individuals with these advantageous characteristics will survive and reproduce.
- These individuals will pass the advantageous characteristics on to their offspring.
- Therefore, the advantageous characteristics will become more common in the population over time.

How are new species created?

Sometimes, two populations of the same species evolve to become so different to each other that they can no longer interbreed to produce fertile offspring. This means that they are now two different species. This is how new species are created.