

AQA, OCR, Edexcel

A Level

A Level Biology

**Evolution and Natural Selection
Questions**

Name:

M M E

Mathsmadeeasy.co.uk

Total Marks: /25

Evolution and Speciation

Evolution not only changes allele frequencies within populations, it also drives the creation of new species. This process is called speciation.

1. a)
 - i) What is the definition of a species? (1 mark)

 - b) Speciation events occur when populations within a species become isolated. The volcanic eruption pictured below is an example of an event that causes geographical isolation. There are other types of isolation caused by different factors.



- i) Explain how a volcanic eruption could cause a new species to emerge out of an existing species in a given area over a long period of time. (5 marks)

- ii) What kind of speciation process is this? (1 mark)

ii) Complete the table below with an explanation of each type of isolation. (4 marks)

Type of Isolation	Explanation
Seasonal	
Mechanical	
Behavioural	
Gametic	

2. Charles Darwin laid down the framework for the theory of evolution in the 1800s.

a) i) Explain how Darwin used finches on the Galapagos Island to develop his theory of evolution. (3 marks)

ii) Using bats and butterflies as an example, explain what is meant by 'convergent evolution'. (2 marks)



b) The paragraph summarises Darwin's hypotheses about Natural Selection written in his 1859 book *On the Origin of Species*.

i) Complete the missing words or phrases in the text below. (5 marks)

...are produced than can survive in a species in a given area. This causes ...for existence. Individuals in a species show .Those that have ... have a greater chance of survival. These individuals ...

c) Modern day science has shown how evolution occurs through changes in genetic composition across generations.

i) What is genetic drift and how does it develop? (3 marks)

ii) Fossil records have been used to support Darwin's theory of evolution. Identify one advantage and one disadvantage of using the fossil records to support the theory of evolution. (2 marks)