

AQA, OCR, Edexcel

GCSE Science

GCSE Biology

Speciation Answers

Name:

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Total Marks: /23

Q1: Which scientist nearly published his findings on speciation before Charles Darwin?

A= Alfred Wallace

Also accept Wallace

(1 mark)

Q2: Explain what is meant by speciation.

A= Wide range of alleles present in a population (1) to produce genetic variation (1)

(2 marks)

Q3: What does the presentation of different alleles in the same species enable?

A= 1 mark for each of the following:

- Different characteristics
- If beneficial aid survival
- Passed onto next generation

(3 marks)

Q4: Discuss how populations can become isolated and give an example.

A= 2 marks for points, 1 mark for example.

- New environmental changes – e.g. warmer climate
- Geographical isolation
 - E.g. – Islands
 - Mountain Range
 - Earthquakes

(3 marks)

Q5: Explain how the isolation of a population can lead to new species.

A= 1 mark for continuous prose. Accept any 5 of the following:

- Essential changes to survive
- Due to mutations causing genetic variation in population
 - E.g. breeding seen/ Food source
- Different alleles become dominant
- Natural selection
- Eventually new species emerge.

(6 marks)

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Q6: Summarise the work of Alfred Wallace.

A= Accept any 6 of the following:

- Travelled world/ globally
- Best know for work on colonisation and speciation
- Theory of new species
- Theory of isolation
- Theory of genetic variation
- Theory of natural selection
- Theory of speciation

(6 marks)

Q7: How was the modern understanding of evolution and speciation formed?

A= Mix of works (1)

Award mark of the following examples:

- Darwin
- Wallace
- Lamarck

(2 marks)