

# 10.3 Gene Pools & Speciation

## Question Paper

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|------------|------------------------------------|
| Course     | DP IB Biology                      |
| Section    | 10. Genetics & Evolution (HL Only) |
| Topic      | 10.3 Gene Pools & Speciation       |
| Difficulty | Easy                               |

**Time allowed:** 10  
**Score:** /5  
**Percentage:** /100

### Question 1

What is the definition of the term 'gene pool'?

- A. All of the genes that exist within a population
- B. All of the genes and their different alleles that exist within a species
- C. The different alleles that exist for one gene within a species
- D. All of the genes and their different alleles that exist within a single population

[1 mark]

### Question 2

An example of a trait that evolved by natural selection is body size in fish, which has declined with warming ocean temperatures.

State the type of selection that this change represents.

- A. Allopatric
- B. Directional
- C. Disruptive
- D. Stabilizing

[1 mark]

### Question 3

Which of the following is a feature that is shared between gradualism and punctuated equilibrium?

- A. The presence of vestigial structures
- B. The duration of the process
- C. The occurrence of mass extinctions
- D. The presence of evidence in the fossil record

[1 mark]

### Question 4

The genus *Allium* has species that are used widely in agriculture. Many of these species have been bred to be polyploid.

Which of the following is **not** a benefit that comes from breeding polyploid crop plants?

- A. Increases hybrid vigour
- B. Reduces the risk of recessive mutations causing detrimental effects
- C. When populations exist in the same area it can lead to allopatric speciation, which produces more varieties that can be sold
- D. Permits novel phenotypes to be generated

[1 mark]

### Question 5

Which of the following causes evolution?

- A. Change in allele frequency over time
- B. Change in the total number of alleles due to mutation
- C. Change in geographic distribution
- D. Change in population size

[1 mark]