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Level: SL IB in Biology
Subject: Biology
Topic: IB SL Biology
Type: Topic Question

2002



1583

All International Baccalaureate IB Topic Questions SL Biology

BIOLOGY

SL - IB

Key skills

Question 1.

Which of the following does **not** describe the process of natural selection?

- A. A species of antelope where the population has stronger muscles after the individuals with weak muscles are eaten by predators
- B. When a bacteria is exposed to a new type of antibiotic the exposure causes the bacteria to become resistant
- C. Sharks adapting to store more oxygen in their blood because the sharks with less oxygen were more likely to die
- D. Dark peppered moths increasing in number during the industrial revolution in response to increased predation of the light colour moths

[1 mark]

Question 2.

In adult humans, the ability to digest the lactose sugar in milk depends on the presence of an allele known as -13910*T. Individuals with this allele continue to produce the enzyme lactase into adulthood; this is known as lactase persistence. Individuals without this allele are not able to produce lactase after infancy and cannot digest lactose as adults. The table below shows the frequency of the -13910*T allele in European Neolithic hunter-gatherers who lived around 5 000 years ago and in modern Europeans.

	European Neolithic hunter-gatherers	Modern Europeans
Frequency of -13910*T allele	0.03 (+/- 0.11)	0.74 (+/- 0.06)

Which of the following can be concluded from the table?

- A. There is no significant difference in the frequency of the -13910*T allele between Neolithic hunter-gatherers and modern day humans in Europe
- B. Lactase persistence gave a survival advantage to humans at some stage between Neolithic and modern-day times
- C. Lactase persistence gave a survival advantage to European Neolithic hunter-gatherers
- D. Adult European Neolithic hunter-gatherers did not consume milk

[1 mark]