

Variation and Selection

IGCSE Biology Topical Questions Paper 1

Oct/Nov 2003

30 What is **unlikely** to be affected by the environment?

- A blood group
- B body mass
- C health
- D height

May/June 2004

30 In humans, which types of variation are shown by blood group and height?

	blood group	height
A	continuous	continuous
B	continuous	discontinuous
C	discontinuous	continuous
D	discontinuous	discontinuous

May/June 2005

32 Which is an example of **discontinuous** variation in humans?

- A blood group
- B body mass
- C height
- D width of hand

May/June 2008

40 The table shows some information about two closely related species of sea bird.

bird species X	bird species Y
mixed diet, but no small fish	eats mostly small fish
catches fish out at sea	catches fish near river mouths
nests high on cliffs or broad ledges	nests low on cliffs or on shallow ledges

Sewage pollution at the mouth of a river destroys its fish stocks.

What is likely to happen to local populations of these birds?

- A** There will be no change to either species.
- B** Species X numbers will decrease, species Y will remain constant.
- C** Species Y numbers will decrease, species X will remain constant.
- D** Both species numbers will increase.

May/June 2009

31 What is a mutation?

- A** a change in a gene or chromosome
- B** a condition caused by a recessive allele
- C** a process used in genetic engineering
- D** a type of discontinuous variation

Oct/Nov 2009

29 Albinism is an inherited condition in which pigment does not develop in the skin, hair and eyes.

The albino allele is recessive.

What are the chances of albino parents having a normal child?

- A** 0 % **B** 50 % **C** 75 % **D** 100 %

30 In cats, the allele for short hair is dominant to the allele for long hair.

A short-haired cat and a long-haired cat had several families of offspring (kittens). All their kittens were short-haired.

One of these kittens matured and mated with a long-haired cat.

What would be the expected phenotypes of their offspring?

- A** 1 : 1 short to long
B 3 : 1 short to long
C all long-haired
D all short-haired

31 A man who was blood group A and a woman who was blood group B had four children, each with a different blood group A, B, AB and O.

Which type of variation does this demonstrate?

- A** continuous, environmental and genetic
B continuous and genetic only
C discontinuous, environmental and genetic
D discontinuous and genetic only