

1 Which name is given to the observable features of an organism?

- A alleles
- B genes
- C genotype
- D phenotype

2 What is **not** a feature of natural selection?

- A competition for resources
- B production of many offspring
- C selection by humans
- D variation within the population

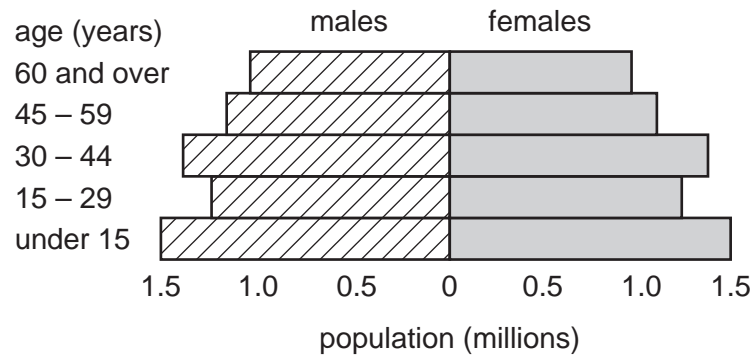
3 What is a mutation?

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

4 Which characteristic shows discontinuous variation in humans?

- A height
- B length of foot
- C tongue rolling
- D weight

5 The diagram shows the age structure of a human population.



Which age group has the largest number of people?

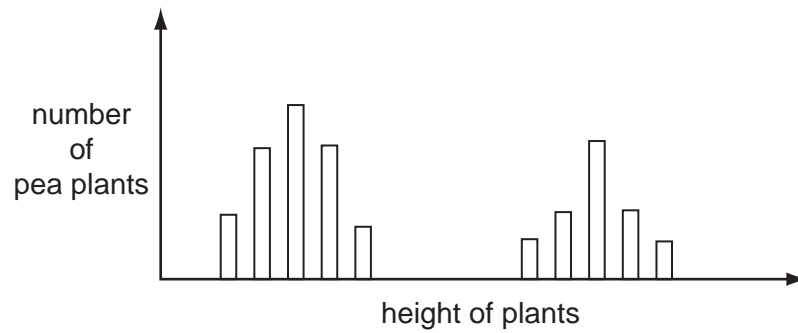
- A 60 and over
- B 45-59
- C 30-44
- D under 15

6 The table shows the birth rates and death rates in four countries.

Which country will double its population most quickly?

| | birth rate / % population | death rate / % population |
|----------|------------------------------|------------------------------|
| A | 5.0 | 4.0 |
| B | 4.5 | 2.5 |
| C | 3.5 | 2.0 |
| D | 3.0 | 3.0 |

7 The bar chart shows the heights of pea plants grown from 500 pea seeds.



What variation do the plants show?

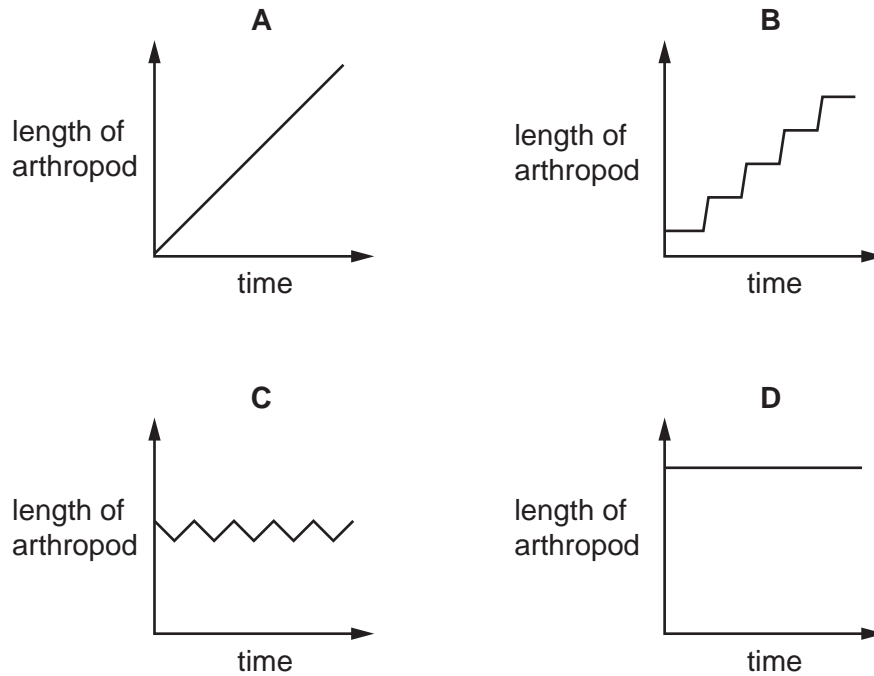
- A** continuous variation only
- B** discontinuous variation only
- C** both continuous variation and discontinuous variation
- D** neither continuous variation nor discontinuous variation

8 What is an example of a characteristic that shows discontinuous variation in humans?

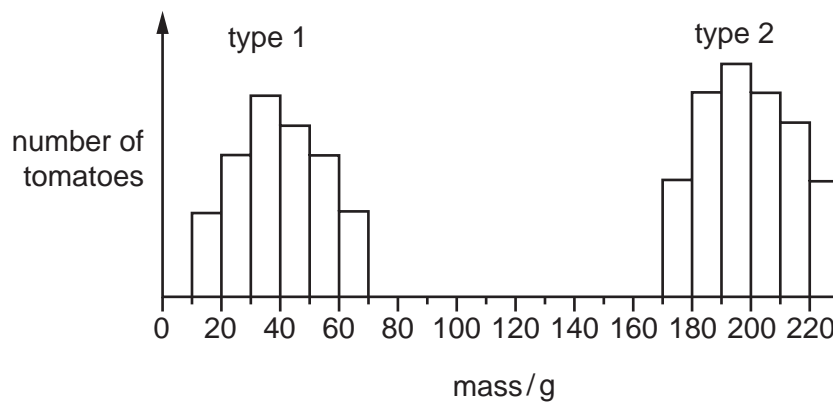
- A** blood group
- B** body mass
- C** height
- D** width of hand

9 In arthropods, growth occurs only after the exoskeleton is shed and before the new one hardens.

Which graph shows a typical growth curve for an arthropod?



10 The graph shows the masses of two different types of tomato.



What can be concluded from the graph?

- A** Genes do not affect the mass of tomatoes.
- B** Type 1 tomatoes show continuous variation.
- C** Type 2 tomatoes are sometimes smaller than type 1 tomatoes.
- D** Type 2 tomatoes show discontinuous variation.

- 11 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

- 12 Cacti have fewer stomata than other plants.

How does this help them to survive in desert conditions?

- A It increases loss of water.
- B It increases uptake of carbon dioxide.
- C It reduces loss of water.
- D It reduces uptake of carbon dioxide.

- 13 Which is a sudden change in a gene or chromosome?

- A allele
- B genotype
- C mutation
- D phenotype