

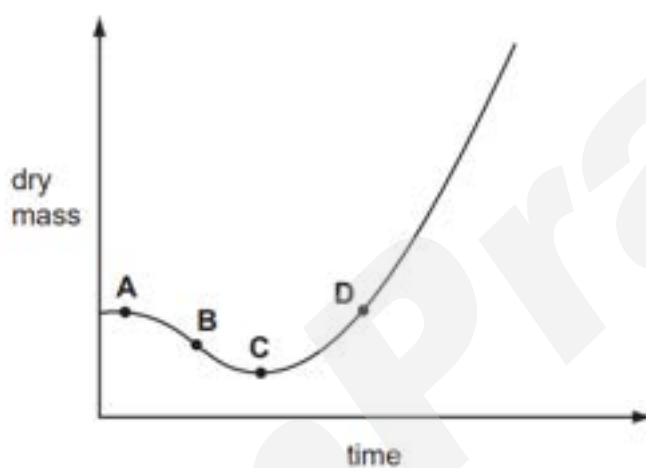
18. Variation and Natural Selection

(Past Year Topical Questions 2010-2015)

May/June 200 (11)

27 The graph shows how dry mass of a plant changes with time.

Where on the graph is growth occurring?

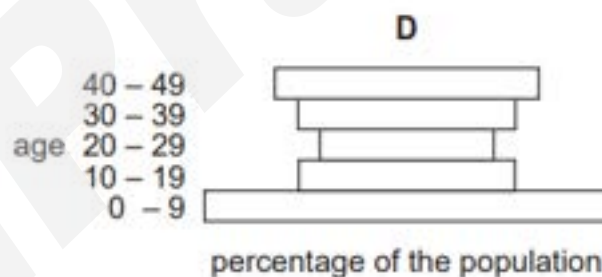
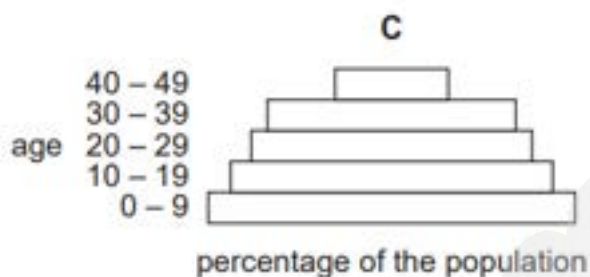
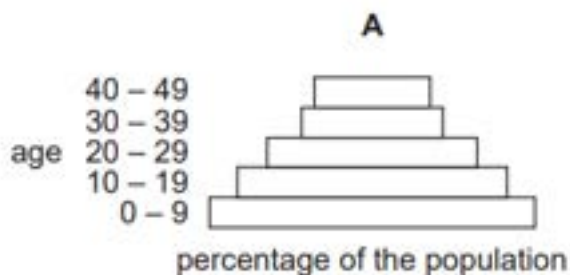


29 What term is used for the transference of a gene from one organism to another?

- A artificial selection
- B genetic engineering
- C mutation
- D natural selection

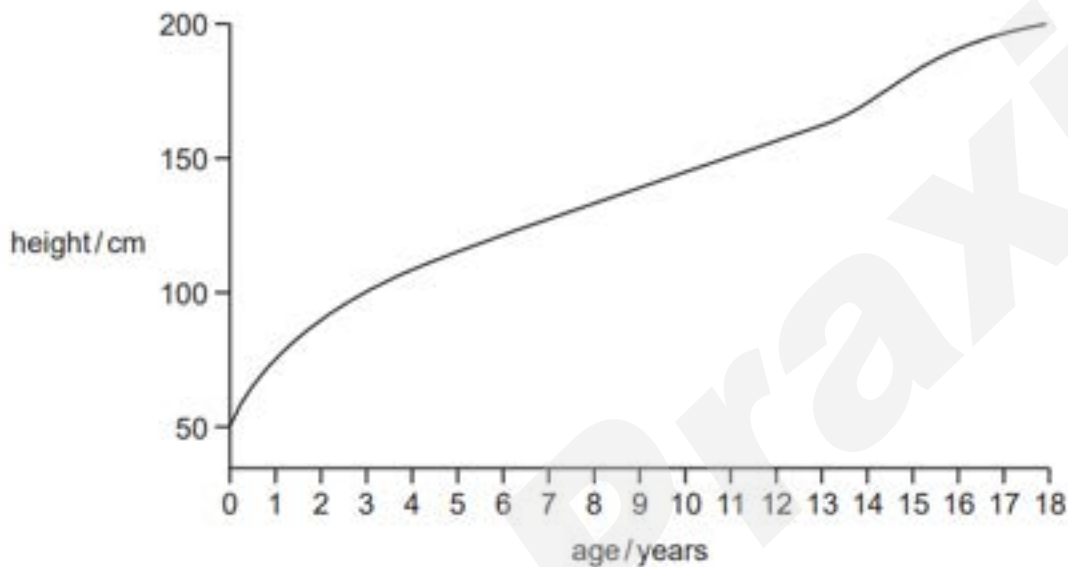
37 The diagrams show the current population sizes for people below 50 years of age in four different countries.

Which country will be likely to have the largest population of people 60 – 70 years of age in 20 years time?



Oct/Nov 2010 (11)

29 The graph shows how the height of a child changes with age.



When is the child's growth rate fastest?

- A 0-1 years
- B 3-8 years
- C 14-15 years
- D 16-17 years

May/June 2011 (11)

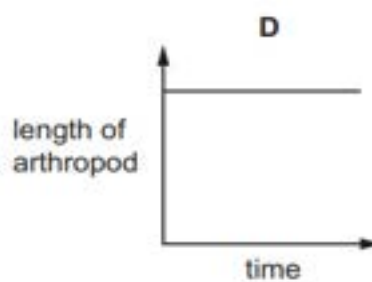
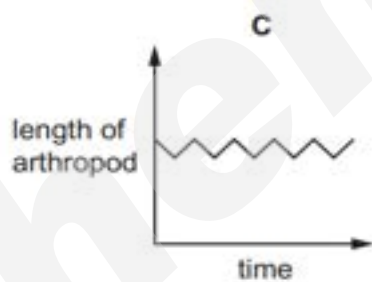
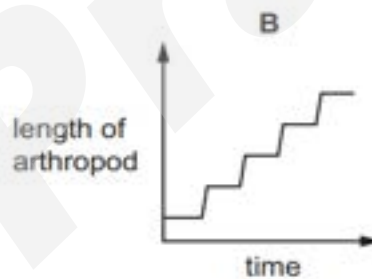
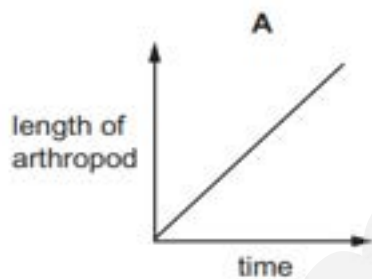
28 Which process does **not** involve an increase in dry mass?

- A a bacterium getting larger before it divides
- B a fetus developing inside the uterus
- C a green shoot growing towards light
- D a seed germinating under the ground

May/June 2014 (11)

27 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?

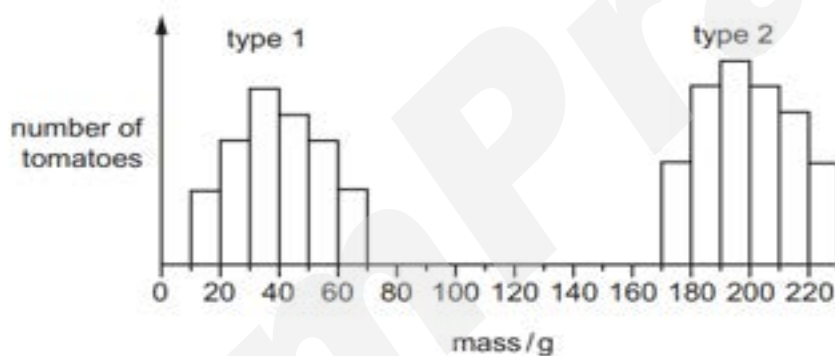


30 What is **unlikely** to be affected by the environment?

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

May/June 2014 (12)

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

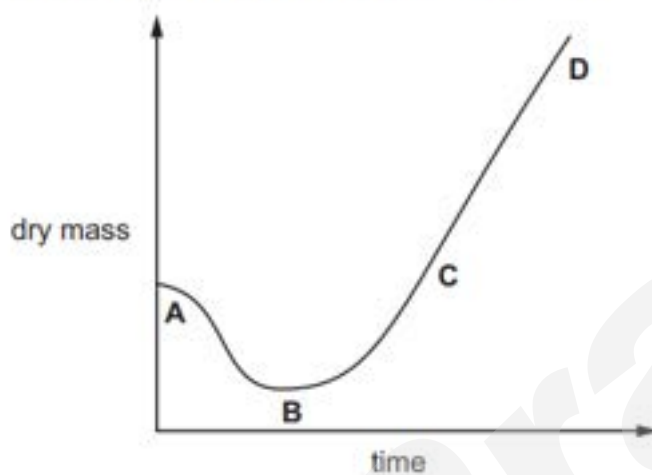


What can be concluded from the graph?

- 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.

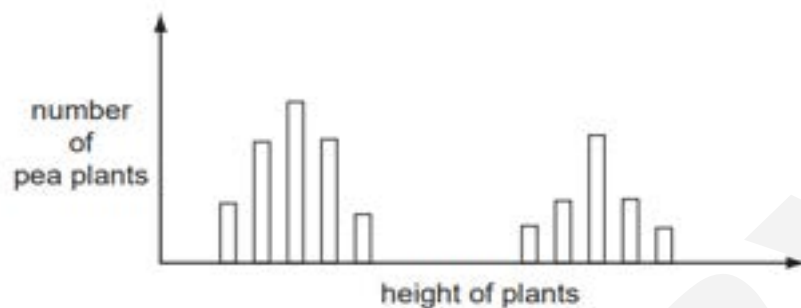
28 The graph shows changes in dry mass as a seed germinates and becomes a seedling.

At which point is it respiring and photosynthesising at the same rate?



May/June 2015 (12)

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

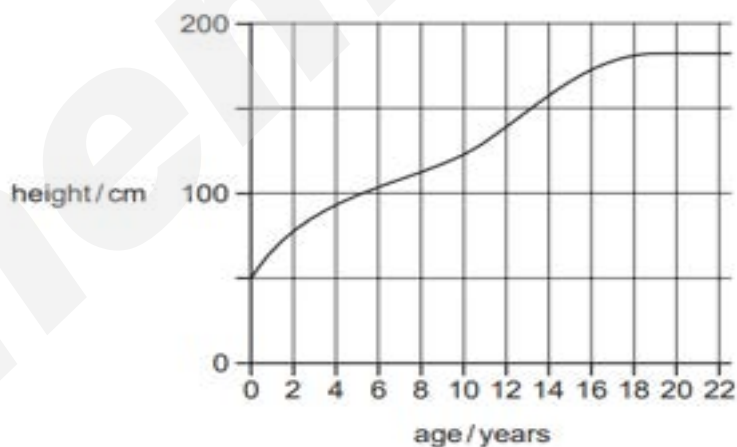


What variation do the plants show?

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

May/June 2015 (13)

29 The graph shows how human height changes with age.

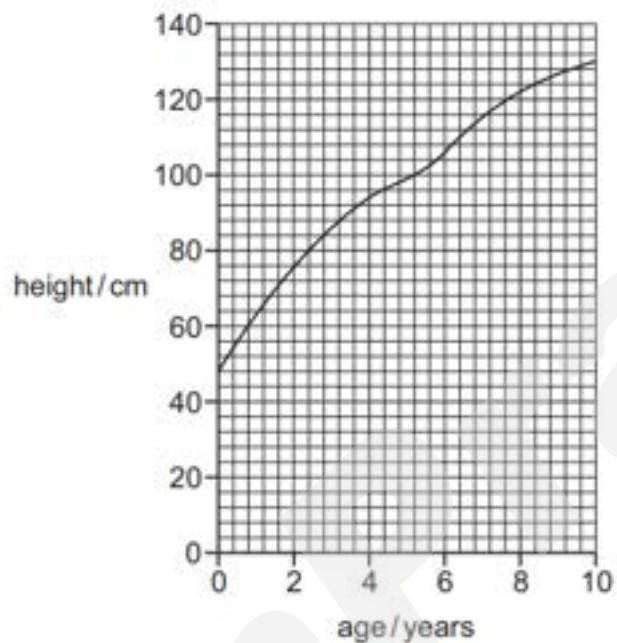


In which age range is the growth rate slowest?

- A** 0–2 years
- B** 8–10 years
- C** 12–14 years
- D** 18–20 years

Oct/Nov 2015 (11)

28 The graph shows the height of a child, from birth to the age of 10.



What was the approximate height of the child at 7 years of age?

- A** 106 cm **B** 116 cm **C** 122 cm **D** 130 cm