

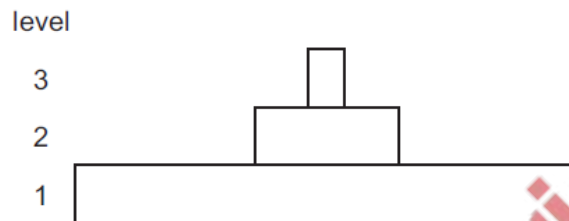
1. **March/2020/Paper\_12/No.35**

What is the principal source of energy for living organisms?

- A herbivores
- B plants
- C photosynthesis
- D the Sun

2. **March/2020/Paper\_12/No.36**

The diagram shows a pyramid of numbers.

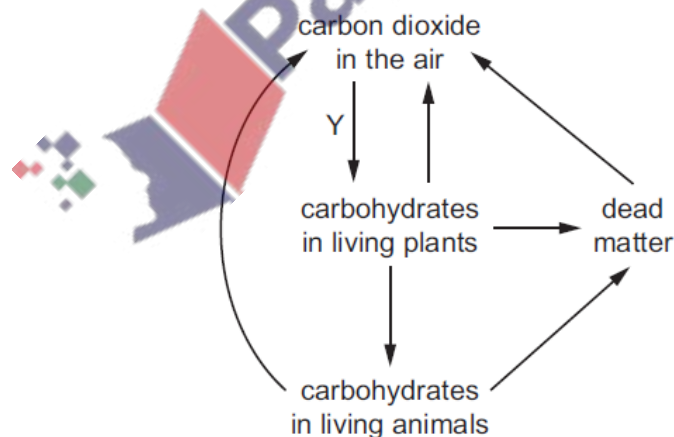


Which type of organism is found at level 1?

- A carnivore
- B decomposer
- C herbivore
- D producer

3. **March/2020/Paper\_12/No.37**

The diagram shows part of the carbon cycle.



Which process occurs at Y?

- A combustion
- B decay
- C photosynthesis
- D respiration

(a) Fig. 5.1 is a photograph of a giant panda.



Fig. 5.1

State the name of the vertebrate group that giant pandas belong to.

..... [1]

(b) Giant pandas live in mountainous regions in central China.

Researchers estimated the numbers of giant pandas in these areas over several years.

The results are shown in Fig. 5.2.

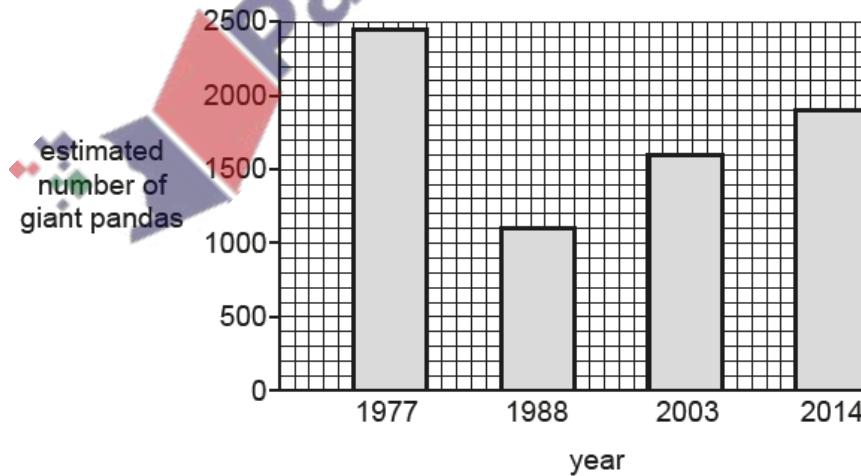


Fig. 5.2

The population of giant pandas was at its lowest in 1988.

(i) State the estimated number of giant pandas in 1988.

..... [1]

(ii) Calculate the change in population size of giant pandas between 1977 and 2014.

..... [1]

(c) In 1988 the population size became so low that giant pandas were considered an endangered species.

Suggest reasons why species such as the giant panda become endangered.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
..... [4]

(d) Giant pandas are no longer endangered due to successful conservation programmes.

Suggest how conservation programmes have helped to increase numbers of giant pandas.

.....  
.....  
.....  
.....  
.....  
.....  
..... [3]

[Total: 10]

5. June/2020/Paper\_11/No.35

The diagram shows a simple food chain.

grass → gazelle → lion

The arrows show the energy flow through the food chain.

Where does the grass obtain its energy?

- A oxygen from air
- B water
- C minerals in soil
- D the Sun

6. June/2020/Paper\_11/No.36

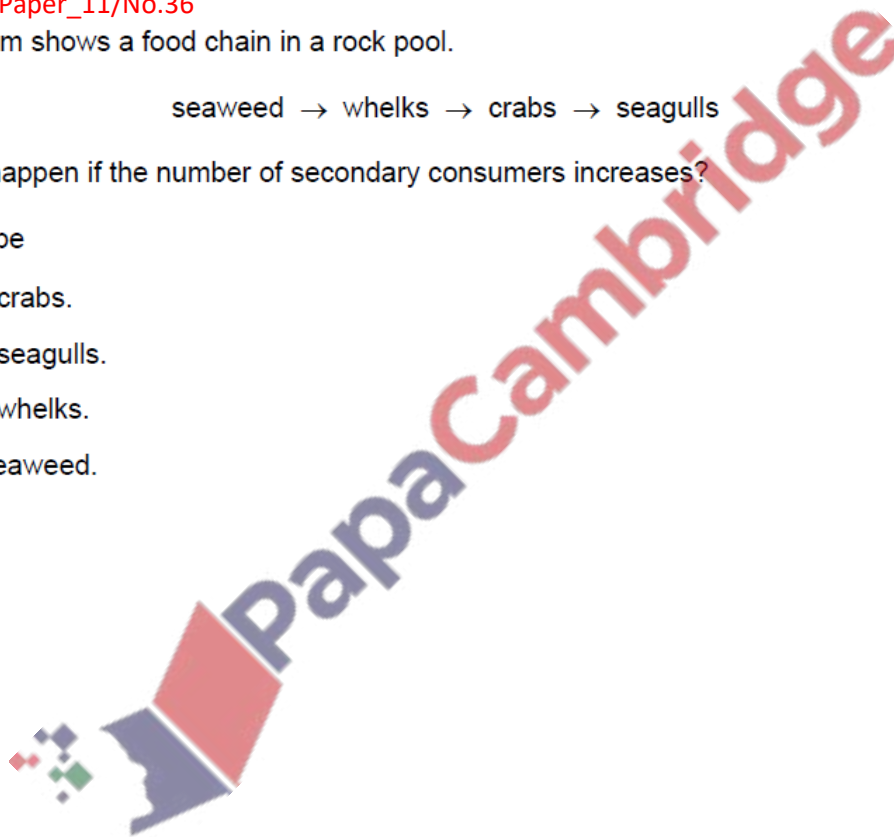
The diagram shows a food chain in a rock pool.

seaweed → whelks → crabs → seagulls

What will happen if the number of secondary consumers increases?

There will be

- A fewer crabs.
- B fewer seagulls.
- C fewer whelks.
- D less seaweed.



7. June/2020/Paper\_12/No.31

The photograph shows a tiger.

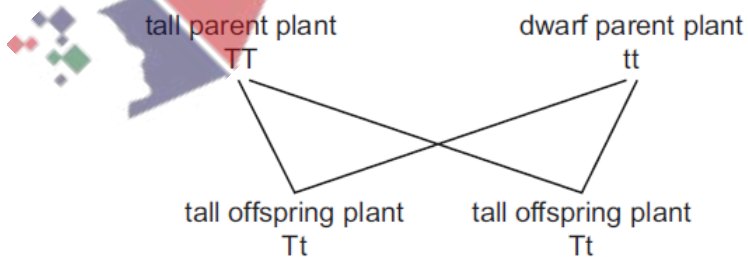


Which visible adaptive feature makes the tiger a good predator?

- A large teeth
- B long whiskers
- C small ears
- D thick fur

8. June/2020/Paper\_12/No.33

The diagram shows the inheritance of height in pea plants.



Which plants have a heterozygous genotype?

- A both parent plants
- B dwarf parent plant only
- C both offspring plants
- D tall parent plant only

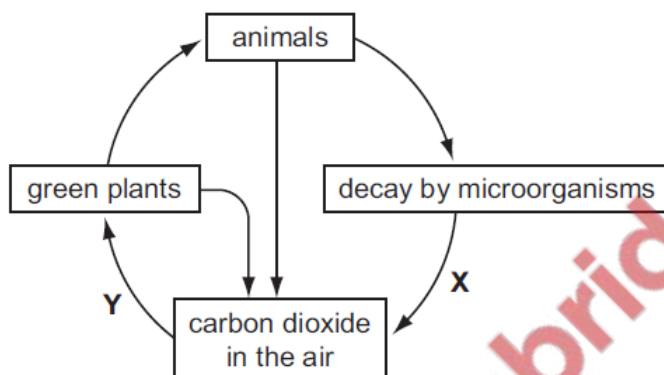
9. June/2020/Paper\_12/No.35

Which is an example of a population?

- A all the animals and plants living in a lake
- B all the different herbivores in a forest
- C all the mahogany trees growing in a forest
- D all the species of animals in Africa

10. June/2020/Paper\_13/No.35

The diagram shows part of the carbon cycle.



What do X and Y represent?

	X	Y
A	photosynthesis	respiration
B	photosynthesis	decomposition
C	respiration	decomposition
D	respiration	photosynthesis

11. June/2020/Paper\_13/No.36

The diagram shows a food chain in a rock pool.

seaweed → whelks → crabs → seagulls

What will happen if the number of secondary consumers increases?

There will be

- A fewer crabs.
- B fewer seagulls.
- C fewer whelks.
- D less seaweed.

12. June/2020/Paper\_21/No.35

The diagram shows a food chain in a rock pool.

seaweed → whelks → crabs → seagulls

What will happen if the number of secondary consumers increases?

There will be

- A fewer crabs.
- B fewer seagulls.
- C fewer whelks.
- D less seaweed.

13. June/2020/Paper\_21/No.36

What is defined as 'all of the populations of different species in an ecosystem'?

- A community
- B environment
- C habitat
- D trophic level

14. June/2020/Paper\_21/No.39

Which process in the nitrogen cycle is involved in the breakdown of amino acids in living organisms?

- A deamination
- B decomposition
- C denitrification
- D digestion

15. June/2020/Paper\_22/No.35

The diagram shows a food chain in a rock pool.

seaweed → whelks → crabs → seagulls

What will happen if the number of secondary consumers increases?

There will be

- A fewer crabs.
- B fewer seagulls.
- C fewer whelks.
- D less seaweed.



16. June/2020/Paper\_22/No.36

What is defined as 'all of the populations of different species in an ecosystem'?

- A community
- B environment
- C habitat
- D trophic level

17. June/2020/Paper\_23/No.35

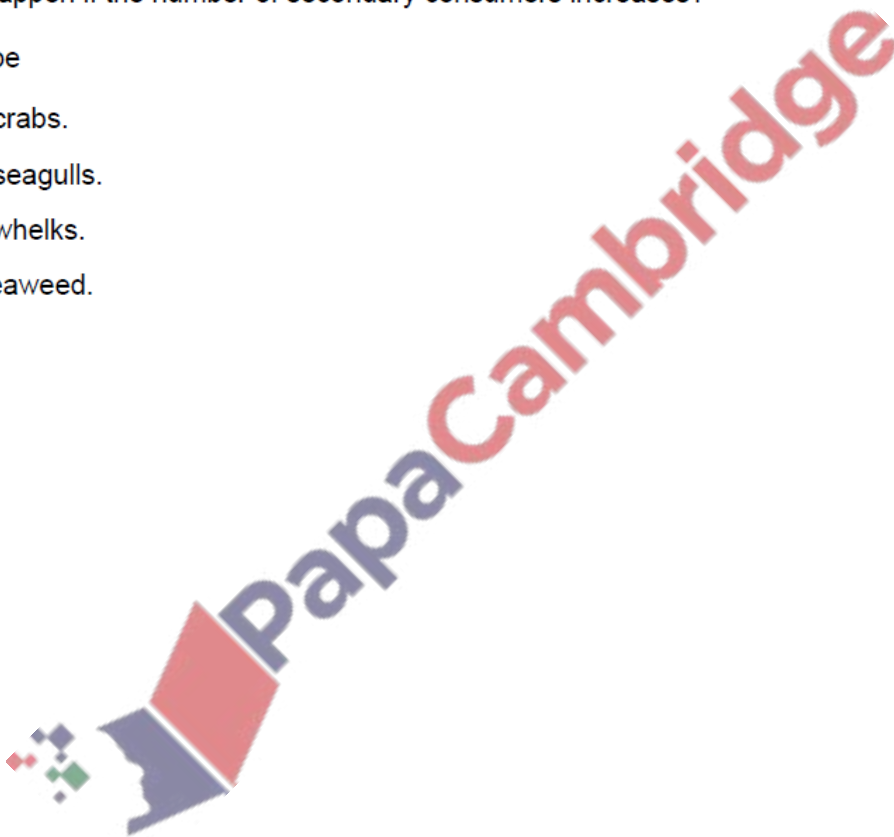
The diagram shows a food chain in a rock pool.

seaweed → whelks → crabs → seagulls

What will happen if the number of secondary consumers increases?

There will be

- A fewer crabs.
- B fewer seagulls.
- C fewer whelks.
- D less seaweed.





(a) Fig. 2.1 shows the human population of a country between 1910 and 2020.

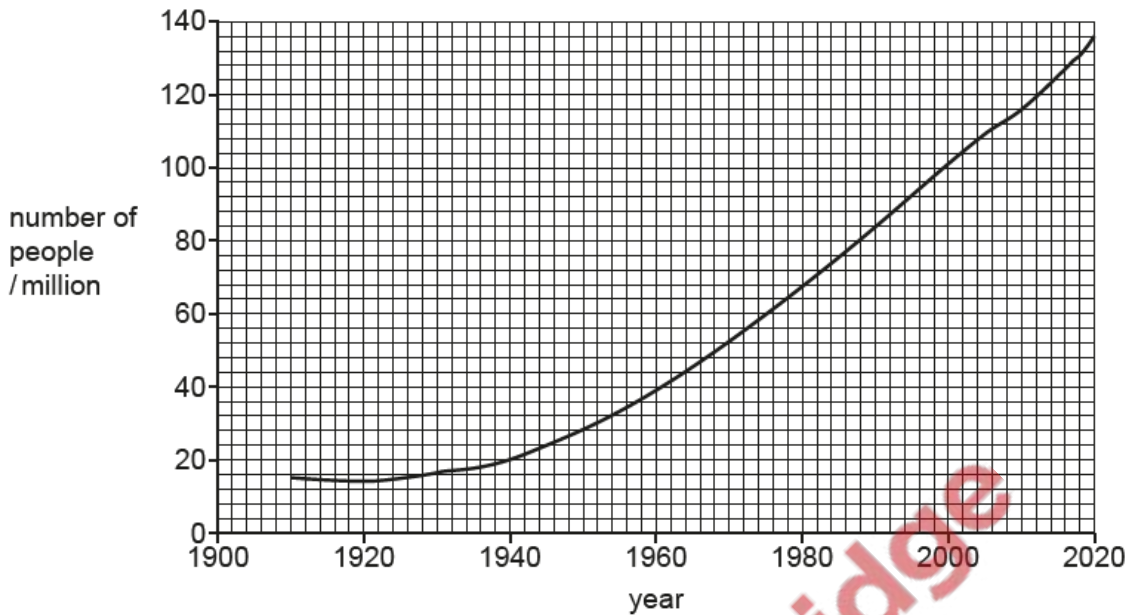


Fig. 2.1

- (i) Calculate the percentage increase in the population of the country between 1940 and 2020.

Space for working.

.....%

[3]

- (ii) Describe the factors that could cause the change in the population size between 1940 and 2020, shown in Fig. 2.1.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

[3]

(b) Some countries have invested in biofuels such as ethanol, biomass and biodiesel.

(i) Describe how ethanol can be made by microorganisms.

.....  
.....  
.....  
.....  
..... [2]

(ii) Some countries use large areas of land to grow maize plants. This crop plant can be used to produce biofuels.

Discuss the negative impact on the **environment** of growing large-scale monocultures of crop plants such as maize.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
..... [4]

[Total: 12]

