

## 8D Ecological relationships

### Assessment for learning...year 8 (level 3-6)

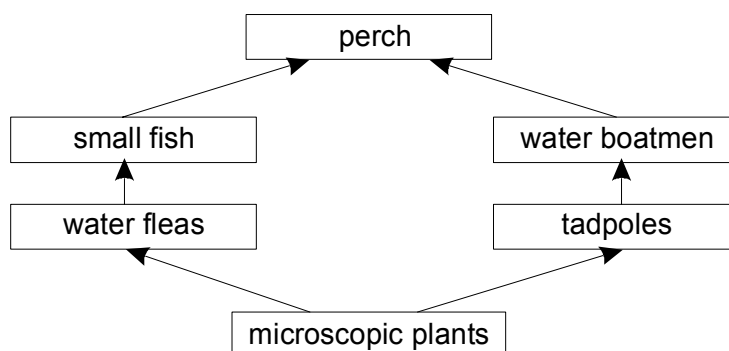
Answer all questions:

Total marks	23
Time allowed	25 mins.

#### Question 1:

A pupil studied the organisms in a pond.

From her observations she drew this simple food web.



(a) Use **only** the information in the food web to answer the following.

(i) Write down **one** food chain from this food web. There should be **four** organisms in the food chain.

..... → ..... → ..... → .....

1 mark

(ii) Write down the **producer** in the food web.

.....

1 mark

(b) Disease suddenly kills all the small fish. Complete the sentence to explain what is likely to happen to the number of water boatmen.

The number of water boatmen is likely to .....

because .....

.....

2 marks

Maximum 4 marks

**Question 2:**

The food chain below shows the feeding relationships between some organisms living in the Arctic.

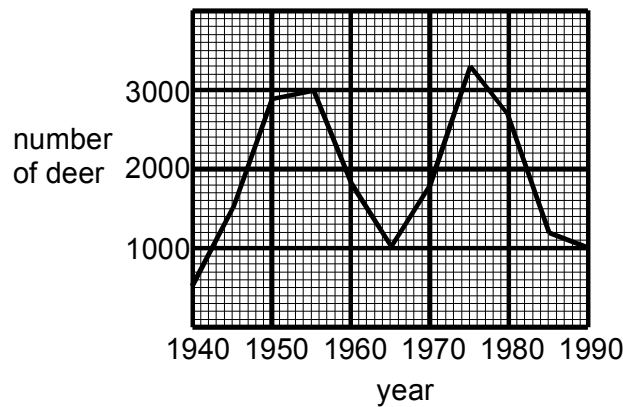


(a) Which organism in the food chain is a predator?

.....

1 mark

In one area of the Arctic the number of deer has been counted every five years since 1940. The graph shows the number of deer.



(b) Suggest a reason why the deer population changed between 1975 and 1990.

.....

.....

1 mark

(c) The population of wolves in the area also changed.

(i) What is likely to have happened to the number of wolves between 1980 and 1990?

.....

1 mark

(ii) The number of **deer** in 1946 was about the same as in 1960. Suggest why the number of **wolves** was probably higher in 1960 than in 1946.

.....

.....

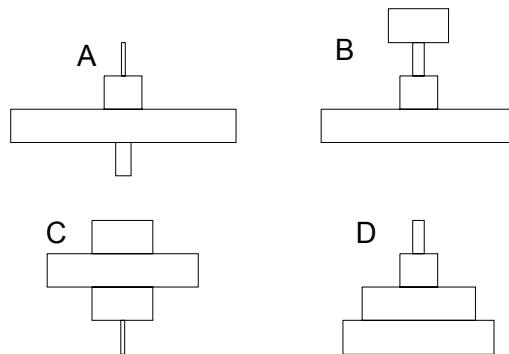
1 mark

Maximum 4 marks

**Question 3:**

Pyramids of numbers represent the numbers of organisms at each stage in a food chain.

Study the four pyramids of numbers A, B, C and D shown below.



(a) For each of the food chains choose the pyramid of numbers which best represents the food chain.

(i) grass → insects → spiders → birds .....

1 mark

(ii) oak trees → aphids → blue tits → sparrow hawks .....

1 mark

(iii) grass → rabbits → foxes → fleas .....

1 mark

(b) (i) Which is the main process transferring energy to the surroundings at each stage in a food chain?

Tick the correct box.

growth

nutrition

reproduction

respiration

1 mark

(ii) Which process transfers energy from organisms at one stage in a food chain to organisms at the next?

Tick the correct box.

reproduction

feeding

movement

photosynthesis

1 mark

Maximum 5 marks

**Question 4:**

The animals shown below live in different parts of a river.



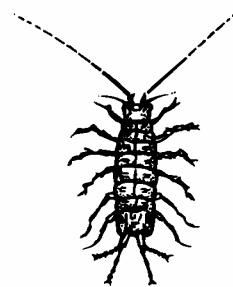
A



B



C

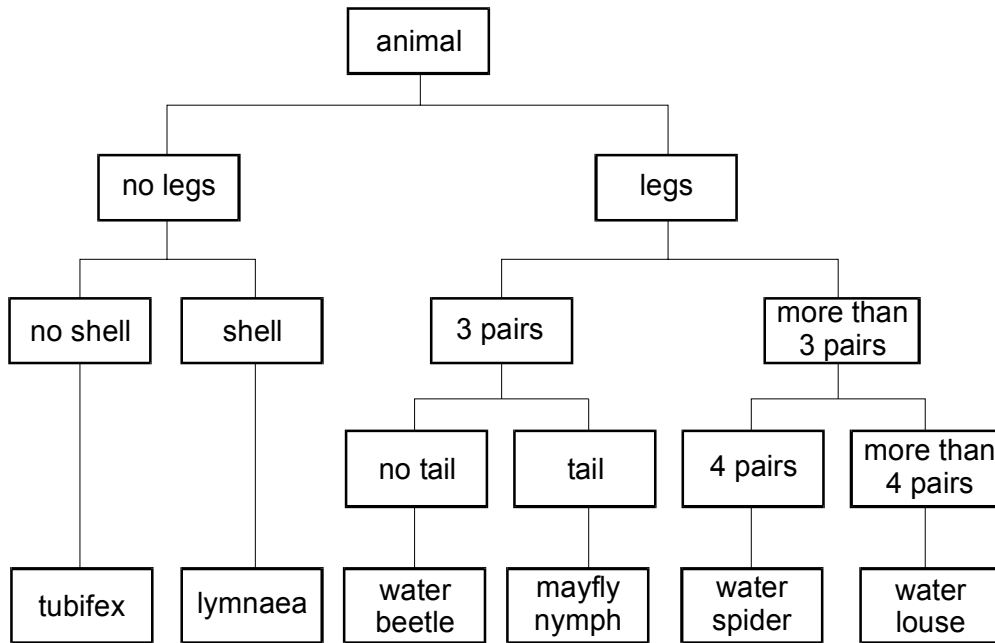


D



E

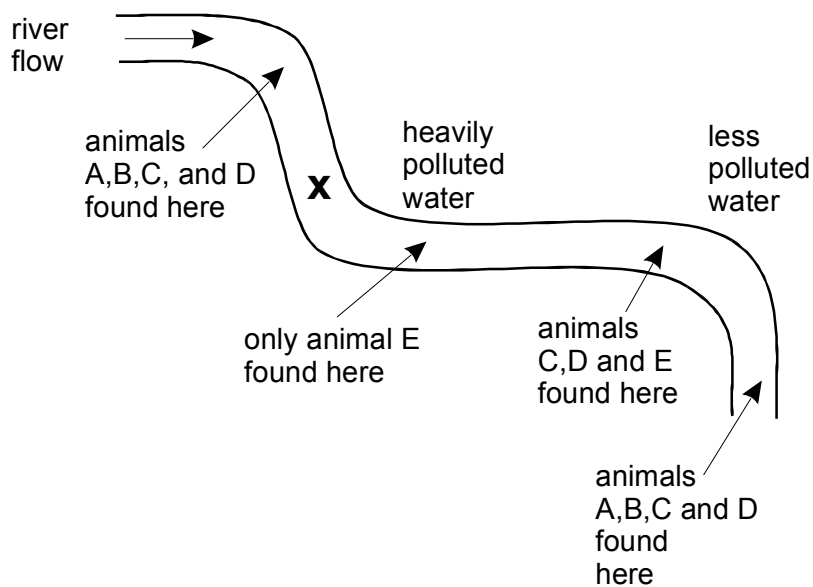
(a) Use this key to identify animals **A**, **B** and **C**.



- (i) Animal **A** is a .....
- (ii) Animal **B** is a .....
- (iii) Animal **C** is a .....

3 marks

(b) The diagram shows a river. Sewage pollutes the river at **X**. The amount of pollution gets less as you go down the river from **X**. The animals A, B, C, D and E were found living in the river at the places shown.



(i) Which animal survives best in polluted water? Give the **letter** of the animal.

.....

1 mark

(ii) **Two** of the animals cannot live in polluted water. Give the **letters** of these two animals.

..... and .....

2 marks

Maximum 6 marks

**Question 5:**

In the left-hand column there are descriptions of four food chains. In the right-hand column there are four pyramids of numbers which are not drawn to scale. Draw a line from each description to the correct pyramid of numbers.

**description of food chain**

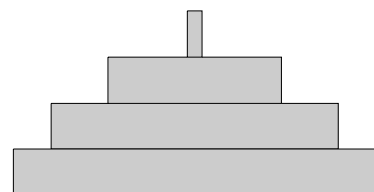
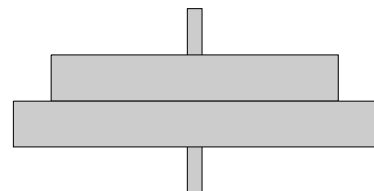
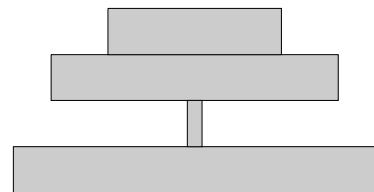
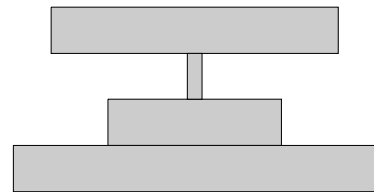
Arthropods feed on tiny algae.  
Sardines feed on tiny arthropods.  
Dolphins feed on sardines.

Antelope feed on grass.  
Lions feed on antelope.  
Fleas live on lions and suck their blood.

Greenflies feed on rose bushes.  
Ladybirds feed on greenflies.  
Swallows feed on ladybirds.

Zebras feed on long grass.  
Ticks suck the blood of zebras.  
Birds sit on the zebras' backs and eat the ticks.

**pyramid of numbers**



4 marks