Environment and feeding relationships & Variations and classification

7C & 7D

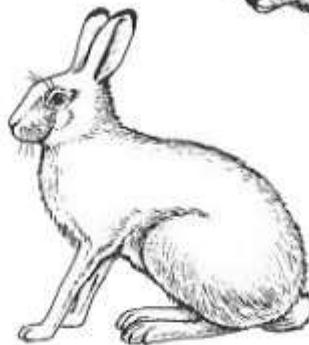31 min
31 marks
Q1-L3, Q2-L4, Q3-L4, Q4-L4, Q5-L5
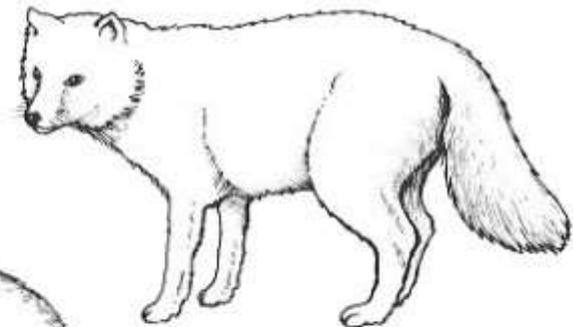
1. The drawings show five different mammals. They are **not** drawn to scale.
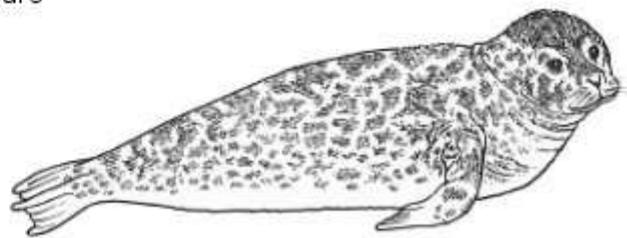
(a) Which fact is only true about mammals but **not** true about other animals?
Tick the correct box.

They can swim. ☐   They have four legs. ☐

They lay eggs. ☐   They produce milk to feed their young. ☐

1 mark

(b) Look at the drawing of the bat.
In what way are bats unusual mammals?

....

....

1 mark

(c) Give **one** way the seal is suited for moving through water.

....

....

1 mark

(d) The porcupine has spines.
How do the spines help a porcupine to survive?

....

....

1 mark

(e) In winter, the fur of the Arctic hare and the Arctic fox becomes thicker and turns white.

(i) How does **thick** fur help an Arctic hare and an Arctic fox to survive during the winter?

....

....

1 mark

(ii) The Arctic fox hunts and eats Arctic hares.
How does **white** fur help Arctic hares to survive in the snow?

....

....

1 mark

maximum 6 marks

2. (a) The photograph below shows a team of dogs called huskies pulling a sledge across the ice.

Huskies need to survive in a cold climate. They must be able to pull a heavy sledge for a long time each day.

Which **two** features would a dog breeder look for when choosing huskies to breed from?
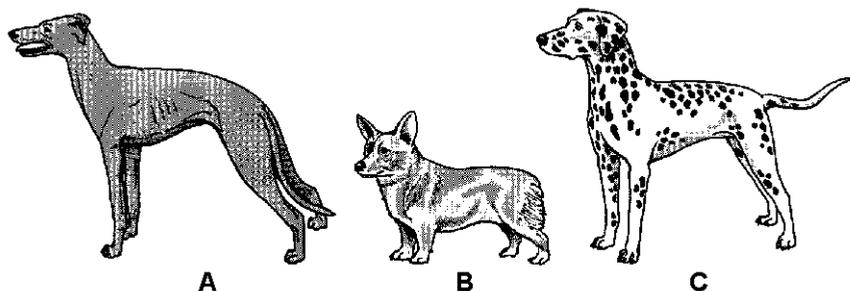Choose from the list of features below and give the reason for each choice.

blue eyes   **fierce nature**   **long tail**

thick fur   **short legs**   **strong muscles**

1. feature ....
                                                                                    1 mark
reason ....

....
                                                                                    1 mark
2. feature ....
                                                                                    1 mark
reason ....

....
                                                                                    1 mark

(b) The drawings below show three dogs. They all look different.

A   B   C

(i)   Which word describes the differences between these dogs?
       Tick the correct box.

       adaptation   ☐   reproduction   ☐

       vaccination   ☐   variation   ☐

<div align="right">1 mark</div>

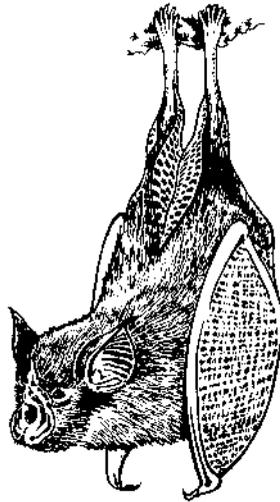(ii)   The drawing below shows a puppy. Dog C is the puppy's mother.

       Why does the puppy look like his mother?
       Tick the correct box.

       Information passed from the mother in an egg.   ☐

       Information passed from the mother in a sperm.   ☐

       Information passed from the mother in milk.   ☐

       Information passed from the mother in blood.   ☐

<div align="right">1 mark</div>

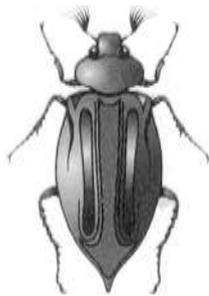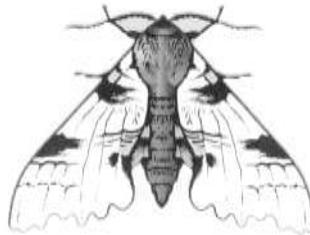<div align="right">Maximum 6 marks</div>

3. The drawing shows a horseshoe bat.

In an investigation, Val counted the number of insects a horseshoe bat ate.
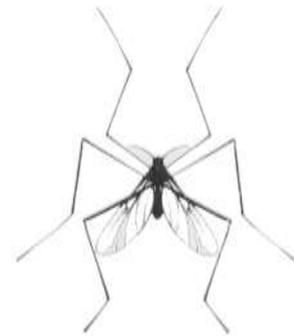Her results are shown below.

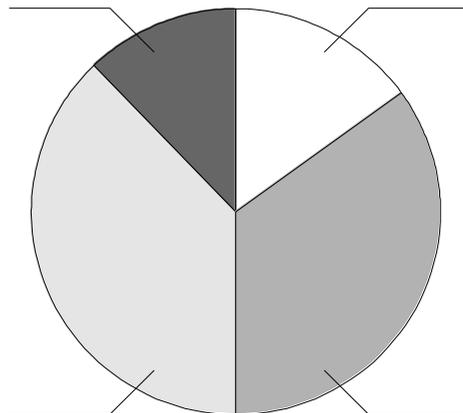| **A** | **B** | **C** | **D** |
| 35 dung beetles | 10 cockchafers | 40 moths | 15 other insects |
| | | | *not to scale* |

(a) Val used the numbers of insects to draw a pie chart.
     Write the letter of each insect by the correct section of the pie chart.

3 marks

(b) Dung beetles eat dung (animal droppings).

    (i) Why are there lots of dung beetles in fields where cows are kept?

....

....

1 mark

    (ii) Why do horseshoe bats live close to fields where cows are kept?

....

....

1 mark

(c) (i) Insecticides are used to kill insects. What will happen to the number of horseshoe bats if the insects are killed?

....

1 mark

    (ii) Give **one** other reason why the number of horseshoe bats might change.

....

....

1 mark

Maximum 7 marks

4. Each of the animals in the drawings below belongs to a different group.

(a) On the line beneath each drawing, write the name of the group the animal belongs to.
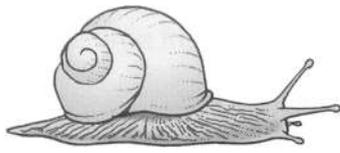Choose names from the list below.

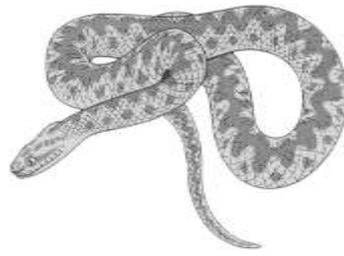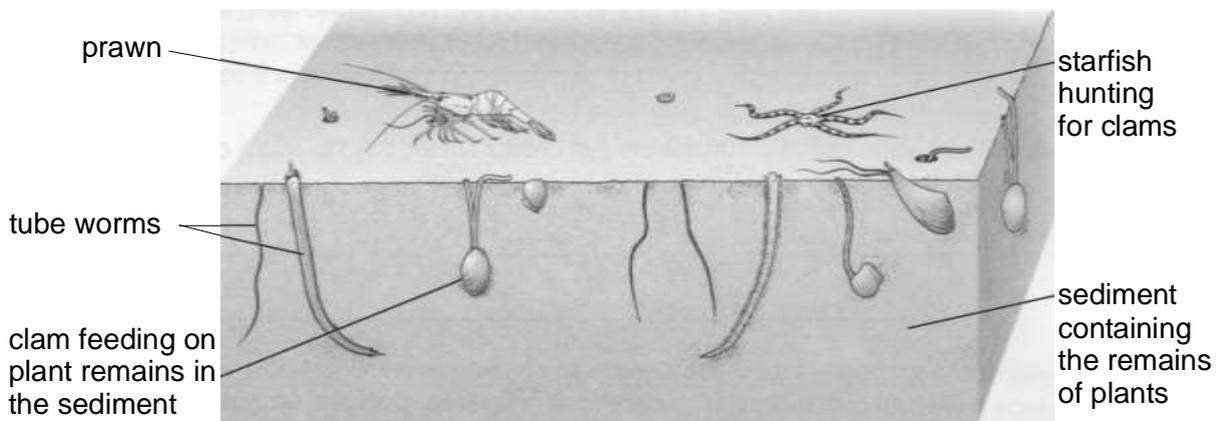**amphibians   crustaceans   insects   mammals   molluscs   reptiles**

....
A

....
B

....
C

....
D

4 marks

(b) Which of the animals drawn above are invertebrates? Give the correct letters.

.... and ....

2 marks

Maximum 6 marks

5. The drawing shows some of the animals which live at the bottom of the North Sea.

not to scale
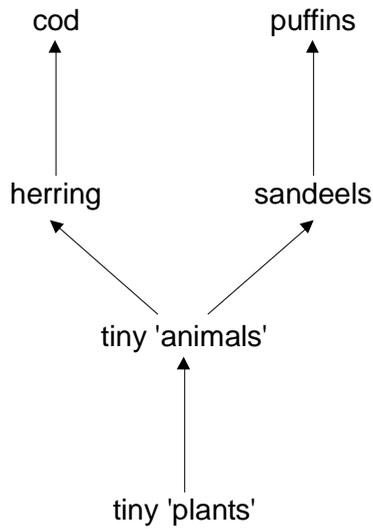
WWF - UK Data Support For Education Service

(a) Suggest **two** advantages clams get from living in the sediment.

1. ……………………………………………………………………………………….

……………………………………………………………………………………….

2. ……………………………………………………………………………………….

……………………………………………………………………………………….

2 marks

(b) Part of a food web in the North Sea is shown below.
     Herring, sandeels and cod are types of fish. Puffins are sea birds.

```
        cod              puffins
         ↑                  ↑
         |                  |
       herring           sandeels
          ↖              ↗
            tiny 'animals'
                 ↑
                 |
            tiny 'plants'
```

- Herring lay eggs in the gravel on the seabed.

- Sandeels live where the seabed is covered with sand.

Millions of cubic metres of gravel and sand are removed from the bottom of the
North Sea every year for roads and buildings.

(i)   Give **one** way removing some of the sand and gravel might cause the
      numbers of herring and cod to decrease.

      herring ……………………………………………………………………….

      …….……………………………………………………………………………….

      ..……………………………………………………………………………………

1 mark

      cod ..…………………………………………………………………………………

      ..…………………………………………………………………………………….

      ..…………………………………………………………………………………….

1 mark

(ii)   Explain why removing some of the sand has led to a decrease in the
        number of puffins.

        .……………………………………………………………………………….

        .……………………………………………………………………………….

        .……………………………………………………………………………….

        .……………………………………………………………………………….

<div align="right">2 marks</div>

<div align="right">Maximum 6 marks</div>