



KS3 Science

Classification and Keys

Question Paper

Time available: 40 minutes

Marks available: 62 marks

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1.

(a) Tom watched birds feeding in his garden. He spotted the birds shown below.



not to scale

Tom recorded what the birds in his garden ate. His results are shown below.

bird	type of food			
	fruit	nuts	worms	seeds
blackbird	✓		✓	
blue tit		✓		✓
bullfinch				✓
dove				✓
sparrow		✓		✓
robin	✓		✓	✓

Use the information in the table to answer the following questions.

(i) Tom put some pieces of fruit in his garden. Which **two** birds will eat this food?

..... and

1 mark

(ii) How many types of bird eat nuts?

.....

1 mark

(iii) Which food from the table opposite will attract the **most types** of bird?

.....

1 mark

(iv) Which bird from the table eats the most types of **food**?

.....

1 mark

(b) What are birds covered with to keep them warm?

.....

1 mark

(c) Many birds reproduce in the spring.



Suggest why birds need extra food in the spring.

.....
.....

1 mark
maximum 6 marks

2.

The drawings below show a stoat, a weasel and an American mink.

The stoat and weasel are British wild animals.
Mink are from America.



stoat



weasel



American mink

(a) They all hunt and eat rabbits.

1 000 American mink were set free into the British countryside in 1998.

(i) What happened to the numbers of rabbits in the countryside?

.....

1 mark

Give a reason for your answer.

.....

.....

1 mark

(ii) How did this affect the stoats and weasels that lived in the countryside?

.....

.....

1 mark

(b) Stoats, weasels and American mink all hunt and eat rabbits.

Complete the sentence below.

The stoats, weasels and American mink are all **predators** and the rabbits are their

1 mark

(c) (i) Give the name of **one** other wild animal in Britain that hunts for small animals such as rabbits.

.....

1 mark

(ii) The American mink were **not** hunted by other animals in the British countryside, but many of the mink died.

Suggest **two** different reasons why the mink died.

1.

1 mark

2.

1 mark

(d) Stoats, weasels and mink are all mammals.

Give **one** way you tell from the drawings that they are mammals.

.....

1 mark

maximum 8 marks

3. (a) The animals drawn below all have backbones.



amphibian



bird



mammal



fish

not to scale

(i) What word describes animals with a backbone?

.....

1 mark

(ii) There are five groups of animals with a backbone. Only four groups are shown above. Give the name of the missing group.

.....

1 mark

(b) The drawing below shows the human backbone. It is made up of a number of small bones.

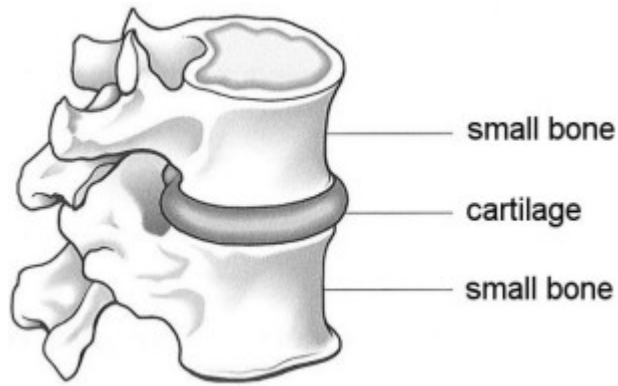


Why is it an advantage that the backbone is made up of small bones rather than one long bone?

.....
.....

1 mark

(c) The drawing below shows two small bones from the backbone.

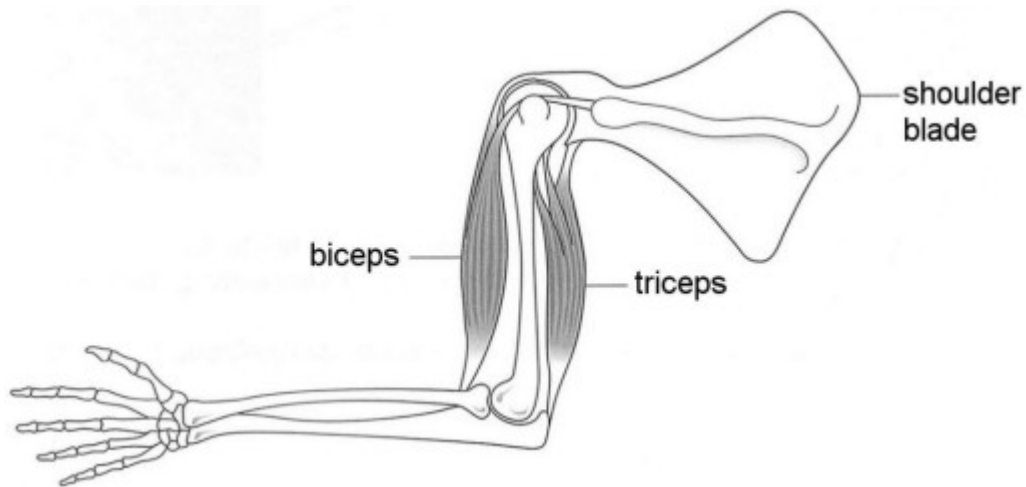


Between the small bones there is a material called cartilage.
Cartilage is softer than bone.
Give **one** advantage of having a softer material between the bones.

.....
.....

1 mark

(d) The diagram below shows the bones and two muscles of an arm.



The biceps and triceps are muscles which raise and lower the forearm.
What happens to the biceps and triceps to **raise** the forearm?

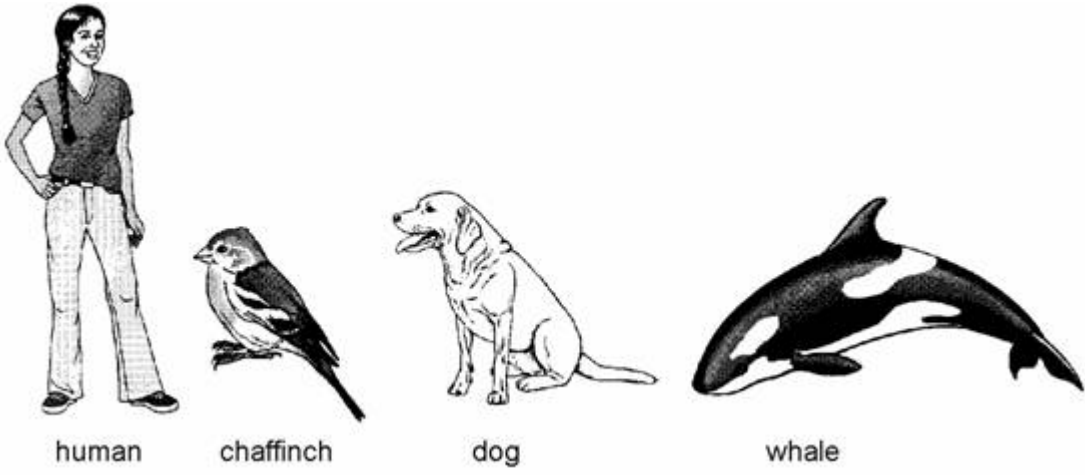
the biceps

the triceps

1 mark
maximum 5 marks

4.

The drawings show a human, a chaffinch, a dog and a whale.



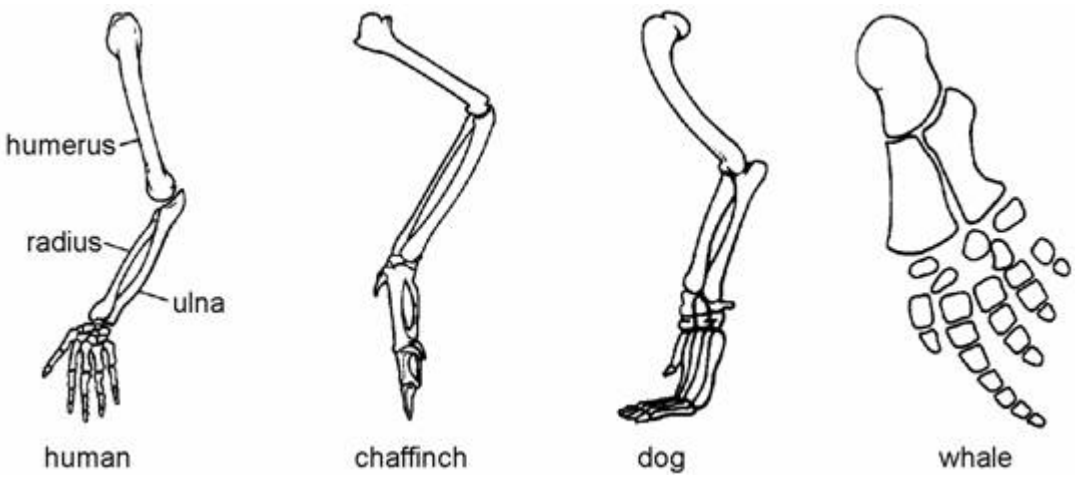
not to scale

One of these animals is a bird. The other three are mammals.

(a) Which group do all four animals belong to?

1 mark

(b) The drawings below show the bones of the front limbs of the four animals.
 Some of the bones of the human limb are labelled.



not to scale

On the drawings, label:

- (i) the ulna of the chaffinch;
- (ii) the radius of the dog;
- (iii) the humerus of the whale.

1 mark

1 mark

1 mark

(c) Describe how the shape of the front limb of the whale is adapted for moving in water.

.....
.....

1 mark

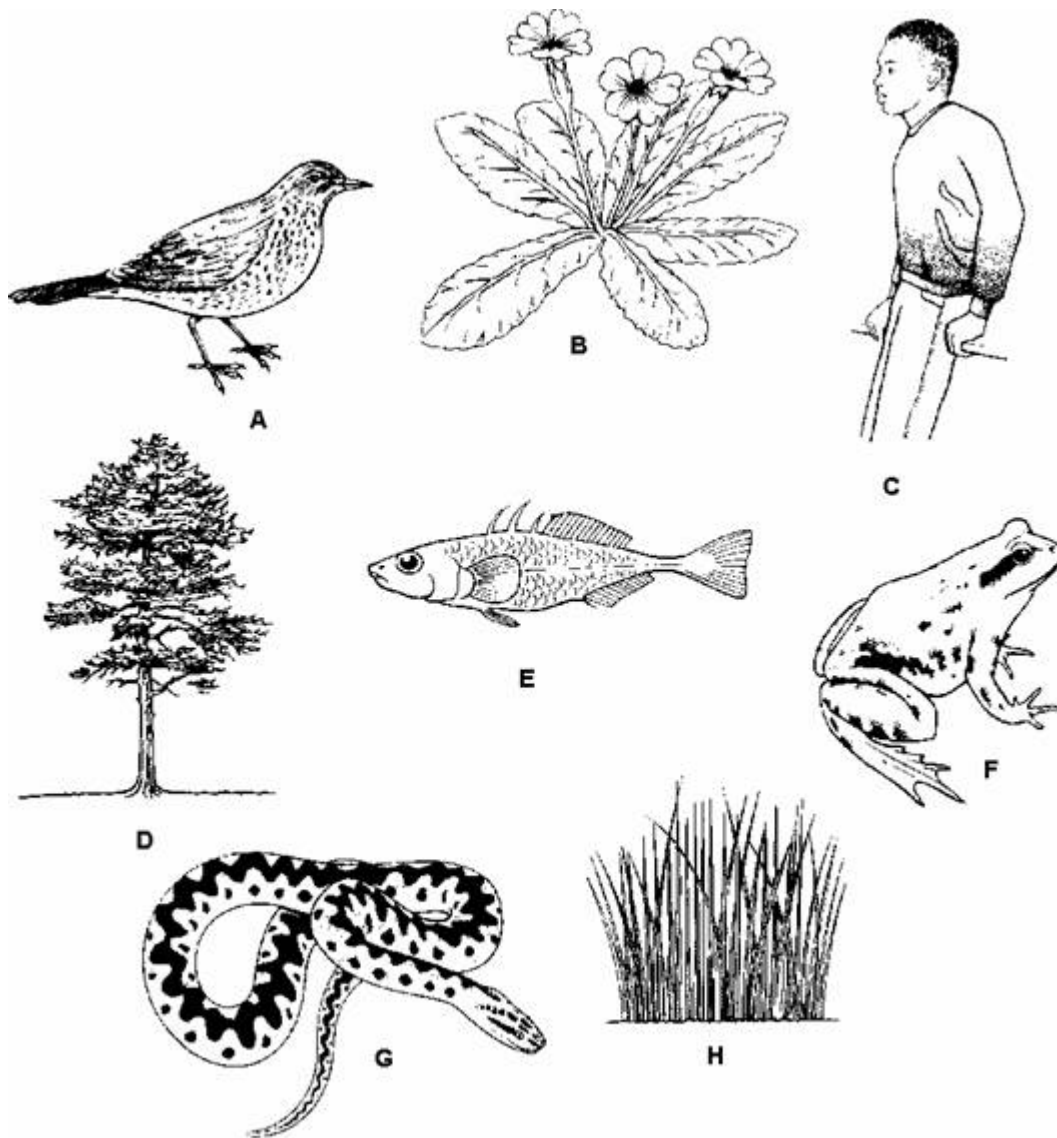
(d) The bones of birds are hollow. How does this help birds to fly?

.....
.....

1 mark

Maximum 6 marks

5. The drawing shows eight living things.



Eight living things are drawn.

Give the letters of:

- (a) **one** living thing which uses gills to take in oxygen; 1 mark

- (b) **one** living thing which produces seeds; 1 mark

- (c) **one** living thing which uses lungs to breathe; 1 mark

- (d) **two** living things which lay eggs in water;
..... and 2 marks

- (e) **two** living things which are covered in scales.
..... and 2 marks

2 marks
Maximum 7 marks

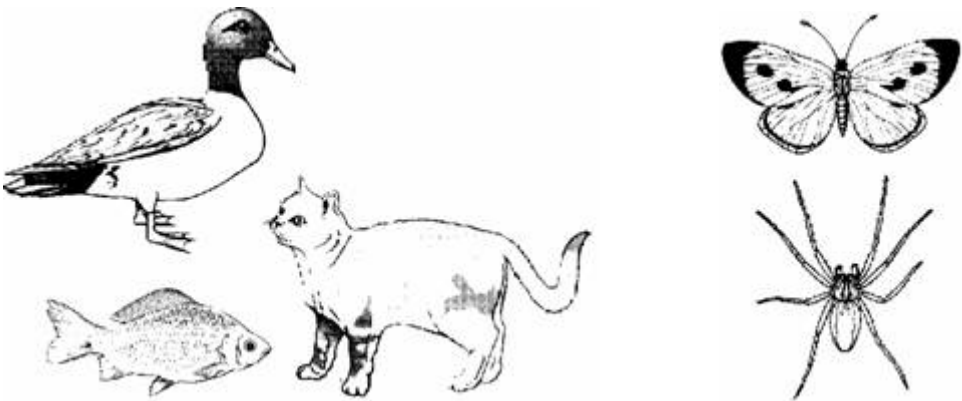
6.

The list in the box shows four ways to sort animals into two groups.

- 1. They have wings. or They do not have wings.
- 2. They have a backbone. or They do not have a backbone.
- 3. They feed their young on milk. or They do not feed their young on milk.
- 4. They have webbed feet. or They do not have webbed feet.

Kate, Tom, Dylan and Rania sorted some animals into groups.

(a) Here are Kate's two groups.

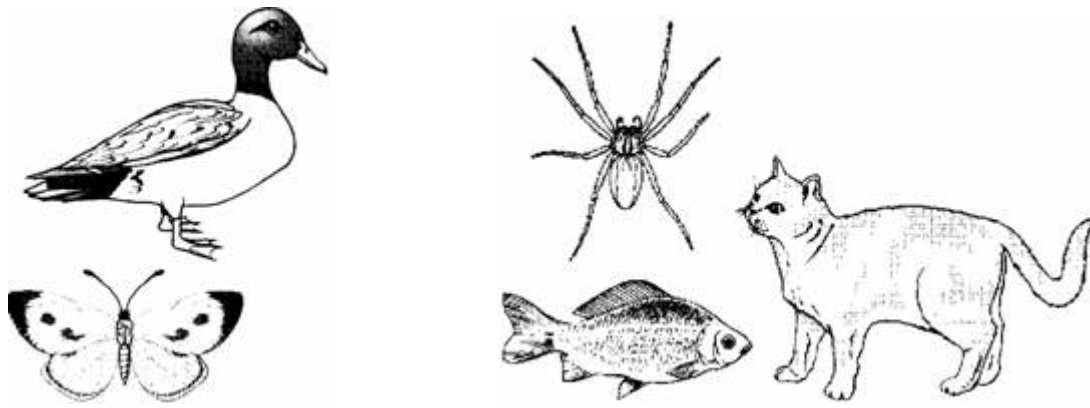


How did Kate sort the animals into groups?

Give the number from the four ways in the box.

1 mark

(b) Here are Tom's two groups.

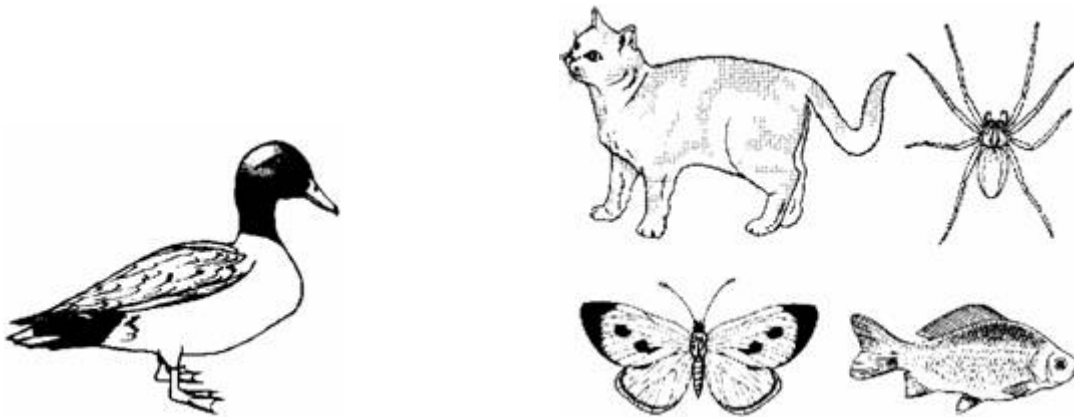


How did Tom sort the animals into groups?

Give the number from the box.

1 mark

(c) Here are Dylan's two groups.

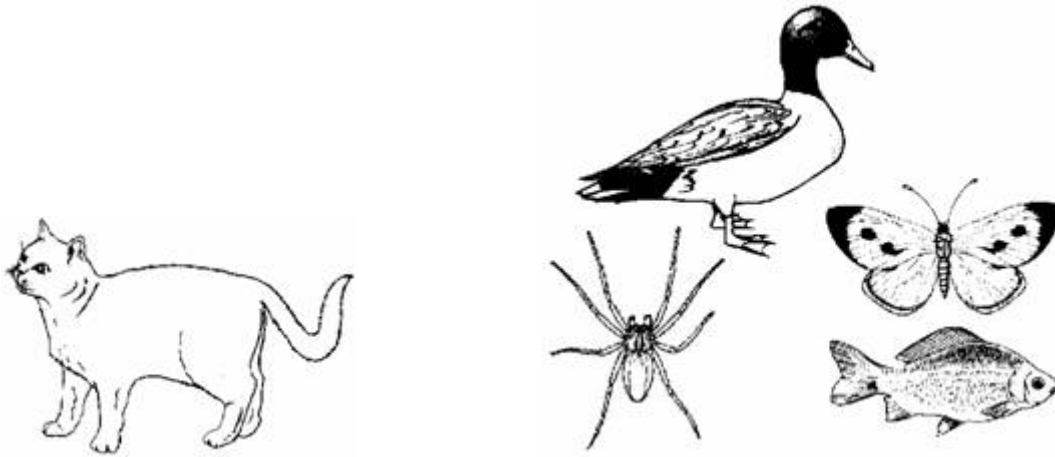


How did Dylan sort the animals into groups?

Give the number from the box.

1 mark

(d) Here are Rania's two groups.



How did Rania sort the animals into groups?

Give the number from the box.

1 mark
Maximum 4 marks

7. The five main groups of vertebrate animals are:

fish amphibians reptiles birds mammals

(a) Which sentence is true?
Tick the correct box.

All vertebrates
breathe with lungs.

All vertebrates
have four legs.

All vertebrates
have a backbone.

All vertebrates
live on land.

1 mark

- (b) Megatherium was a large mammal. It is now extinct.
The drawing shows what scientists think Megatherium looked like.



- (i) How can you tell, from the drawing, that Megatherium was a mammal?

.....

1 mark

- (ii) Give **one** other way that mammals are different from other vertebrate animals.

.....

1 mark

- (c) The drawing below shows a frog.



- (i) To which group of vertebrates does the frog belong?

.....

1 mark

- (ii) Give **one** way the frog is adapted for jumping.

.....

.....

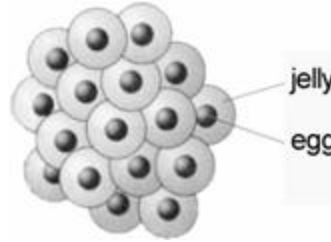
1 mark

(iii) Give **one** way the frog is adapted for moving about in water.

.....
.....

1 mark

(d) The drawing below shows some frog's eggs. The female frog lays her eggs in water.



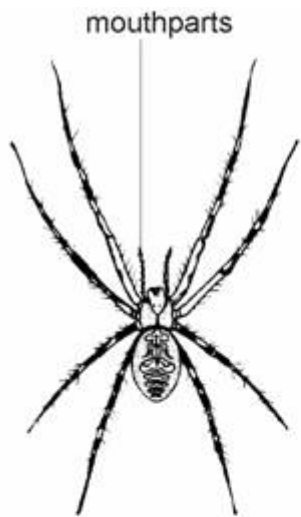
Give **one** reason why the eggs must be laid in water.

.....
.....

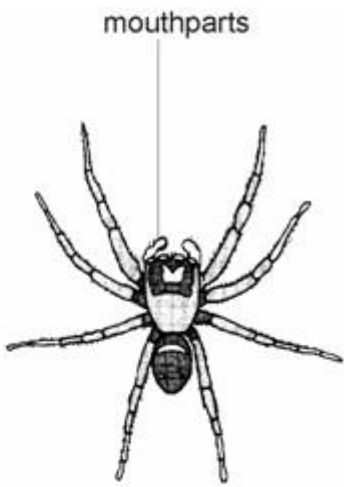
1 mark
Maximum 7 marks

8.

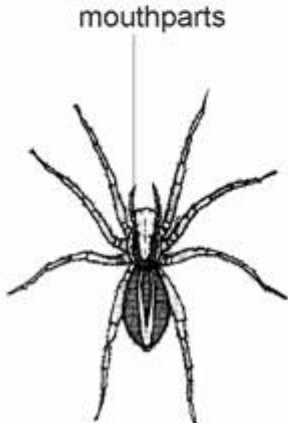
The drawings show four different kinds of spider.



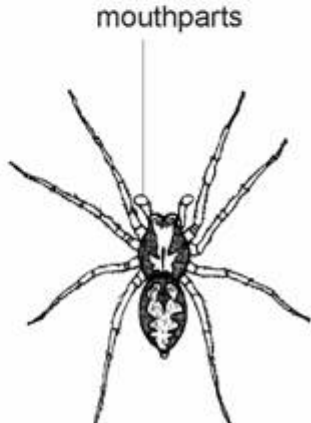
spider A



spider B



spider C



spider D

Look at the drawings of the spiders.
 Use the key to find the name of each spider. Start at 1.
 Write your answers in the table below the key.

- 1** [The spider's mouthparts are rounded. go to **2**
 The spider's mouthparts are pointed. go to **3**
- 2** [The two main parts of the spider's body are different sizes. Jumping Spider
 The two main parts of the spider's body are about the same size. House Spider
- 3** [The spider's legs are about the same length as the body Wolf Spider
 The spider's legs are much longer than the body. Orb Weaving Spider

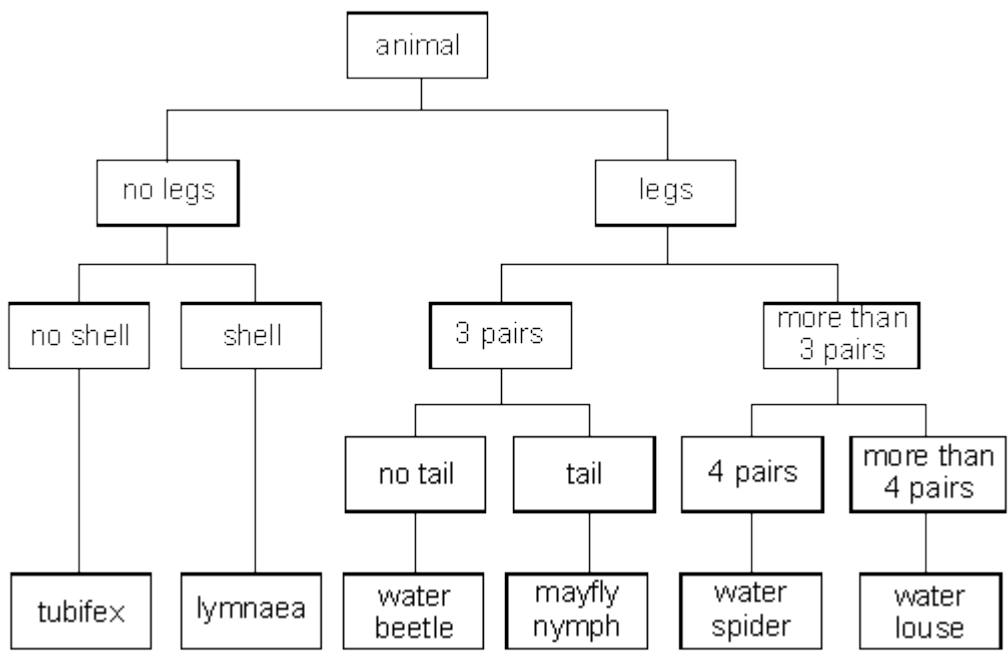
letter of spider	name of spider
A	
B	
C	
D	

4 marks

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



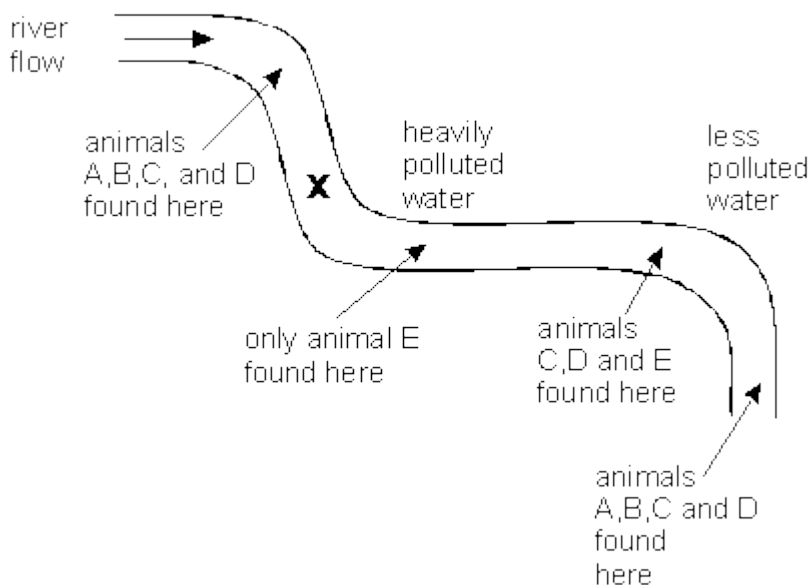
(a) Use this key to identify animals **A**, **B** and **C**.



- (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

10.

The drawings show **four** different mammals.



hedgehog



musk ox



seal



bat

(a) Look at the mammals shown in the drawings.

(i) Write the name of **one** of these mammals which is adapted for swimming.

.....

1 mark

(ii) Write the name of **one** of these mammals which is adapted for living in very cold places.

.....

1 mark

(iii) Write the name of **one** of these mammals whose hair is adapted to protect it from predators.

.....

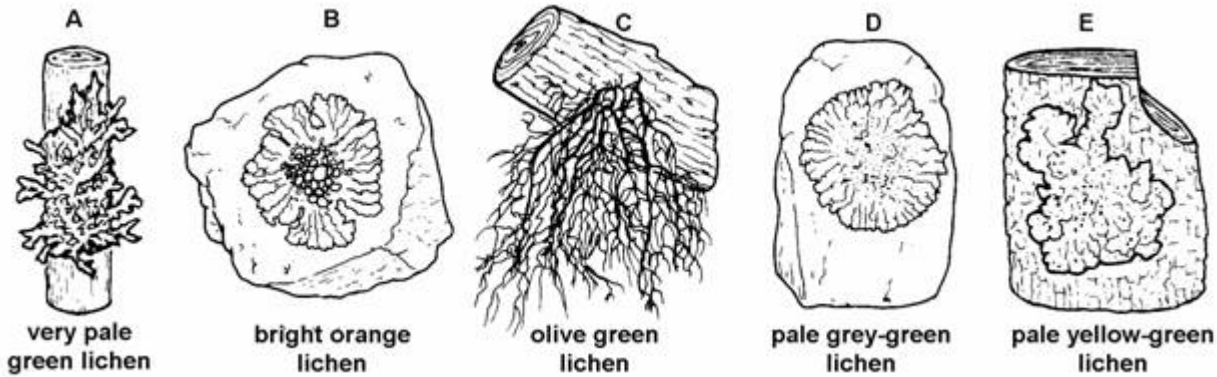
1 mark

(b) There are many different kinds of mammals.
Tick the boxes by **three** sentences which best describe mammals.

Female mammals produce milk to feed their young	<input type="checkbox"/>	Mammals sleep at night	<input type="checkbox"/>
Mammals eat meat	<input type="checkbox"/>	Mammals walk on two legs	<input type="checkbox"/>
Young mammals develop inside the mother's body	<input type="checkbox"/>	Mammals have hair on their bodies	<input type="checkbox"/>

3 marks
Maximum 6 marks

11. The drawings show five different lichens which grow on rocks or trees.



Identify lichens A, C and D using the key below.

- | | |
|--|----------------------------|
| 1. The lichens grow on tree bark..... | Go to 2 |
| The lichens grow on rocks | Go to 4 |
| 2. They grow flat against the surface | <i>Parmelia subrudecta</i> |
| They have branches which grow away from the surface..... | Go to 3 |
| 3. They have long dangling branches | <i>Usnea</i> |
| They have short branches | <i>Evernia</i> |
| 4. They are bright orange | <i>Xanthoria</i> |
| They are pale grey-green | <i>Parmelia saxatilis</i> |

The name of Lichen A is

The name of Lichen C is

The name of Lichen D is

Maximum 3 marks