KS3 Science

Classification

Mark Scheme

Time available: 39 minutes
Marks available: 61 marks

Mark schemes

1. (a) •

accept 'dragonfly'
accept 'housefly'

*if more than two animals are given, deduct one mark for each
incorrect answer minimum mark zero*
accept one ring extending around both

2 (L3)

    (b) • cat
           squirrel

answers may be in either order
both *answers are required for the mark*
if more than two animals are given, award no mark

1 (L3)

    (c) (i) • lizard
              snake

answers may be in either order **both** *answers are required for the
mark*
if more than two animals are given, award no mark

1 (L3)

       (ii) • (dry) scales

accept 'scaly skin'
accept 'leathery eggs'

non-unique features of reptiles e.g. 'cold blooded' **or** *'tail'* **or** *'eyes'
are insufficient*

1 (L4)

[5]

2. (a) (i) feathers

accept 'wings'
'it could fly' is insufficient
accept 'beak'
accept 'hollow or thin bones'

1 (L3)

      (ii) scales

1 (L4)

(b)   any **one** from

- only the imprint of feathers **or** bones are left or seen

    accept 'they do not know whether it had feathers or scales'
    'they do not know if it is a reptile or bird' is insufficient

    accept 'no feathers were found'

    accept 'its flesh or skin is not there'
    or *'only its bones are there'*

- not enough evidence **or** proof

    'no evidence or proof' is insufficient

- it is now extinct

    accept 'there are no animals like it around today'

    accept 'they have not seen one'
    'they do not know what it looked like' is insufficient
    'they do not know what colour it was' is insufficient

                                                                                    1 (L4)

(c)   fossils

                                                                                    1 (L4)

(d)   it is too hot

    accept 'they burn or melt'
    'they are destroyed' is insufficient

    accept 'it is hot'
    accept 'heat'

                                                                                    1 (L3)

                                                                                                [5]

3. (a)   fur **or** hair **or** whiskers

    'they are warm blooded' is insufficient

    accept 'feed their young with milk'
    'feed their young' is insufficient

    accept 'producing milk or has nipples'

    accept 'give birth to live young'
    'they do not lay eggs' is insufficient

    accept 'external or visible ears'
    'ears' is insufficient

                                                                                    1 (L4)

(b)   any **one** from

- webbed **or** wide feet

- streamlined
    accept 'aerodynamic'
    accept 'smooth body'
    accept 'long and thin body'
    'long body' **or** *'thin body' are insufficient*
    accept 'small ears'
    accept 'powerful **or** *long tail'*
    'tail' is insufficient
    accept 'short fur'
    'they have fur' is insufficient

                                                                                      1 (L3)

(c)   (i)   protection from predators **or** the weather **or** the cold
            accept 'keeps them warm'
            'it keeps them safe' is insufficient
            'for protection' is insufficient

                                                                                      1 (L3)

      (ii)   any **one** from

- so otters can breathe
    accept 'otters breathe air'

- otherwise cubs would drown (if water entered the burrow)
    accept 'otherwise it could fill with water'
    'otherwise water can get in' is insufficient
    accept 'cubs cannot swim'
    'so they do not get wet' is insufficient
    accept 'predators could be in the water'

- so the water does not cause the burrow to cave in
    accept 'so the burrow does not collapse'

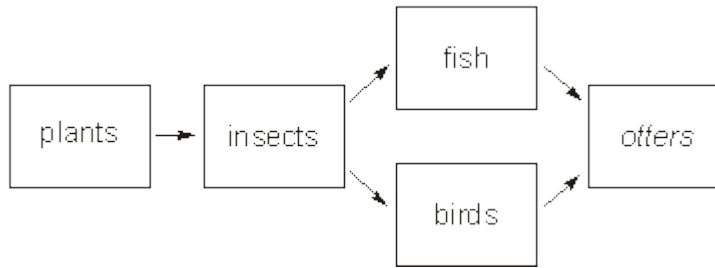   **1 (L3)**

(d)   predator ✓
            if more than **one** *box is ticked, award no mark*

                                                                                      1 (L4)

(e)

*if **all four** answers are correct, award two marks*
award one mark for either 'plants'
***and** 'insects' in their correct places   **or** for 'fish'*
***and** 'birds' in their correct places*

'fish' and 'birds' can be interchanged

2 (L4)

(f)   any **one** from

- so they reproduce

     accept 'produce more others'
     'to increase otter numbers' is insufficient

- for breeding

     accept 'so they can have babies'

- so they mate

     'so they protect each other' is insufficient

1 (L3)

[8]

4.   (a)   (i)   it goes up

1 (L4)

(ii)   it stays the same

1 (L4)

(b) (i) pigeon **or** bird

(ii) any **one** from

- they give birth to live young
  accept 'they give birth' **or** *'they do not lay eggs'*
  or *'babies grow inside the mothers'*

- they have mammary glands
  accept 'they have teats'

- they produce milk
  accept 'they have ears on the outside of their bodies'
  *do **not** accept 'they are warm blooded'*

(c) (i) answers may be in either order

- reptiles
  accept 'lizard'

- fish
  accept 'trout'

(ii) answers may be in either order

- fish
  accept 'trout'

- amphibians
  accept 'frog'
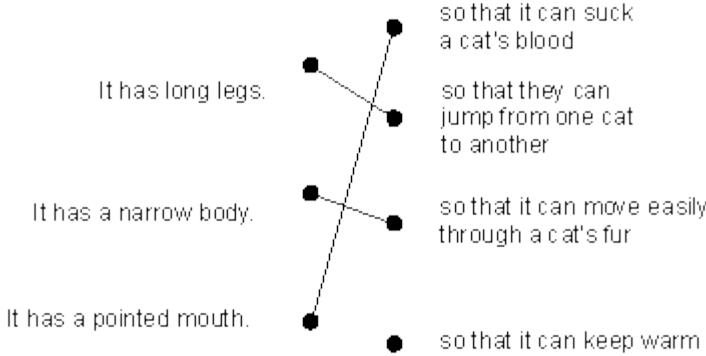
[8]

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5.

(a) claw

1 (L3)

(b) (i) so they are not combed off **or** washed off

accept 'if not, they would be removed'
***or** 'to stop them falling off'*
accept 'to stop the egg falling off'

1 (L4)

(ii) the egg case protects them

accept 'the shampoo does not touch them'
***or** 'they are inside the cases'*
***or** 'the egg cases have lids'*
***or** 'they are protected'*
accept 'shell' for egg case

1 (L4)

(c)

if more than three lines are drawn, deduct one mark for each incorrect line minimum mark zero

3 (L3)

(d) wings

1 (L4)

[7]

6.

(a) A: insects

1 (L3)

B: amphibians

1 (L3)

C: molluscs

1 (L3)

D: reptiles

1 (L3)

(b)　A

　　　C

answers may be in either order
accept 'fly'　or 'insect'
accept 'snail'　or 'mollusc'

[6]

7. (a) (i)　producer

(ii)　predator

(iii)　any **one** from

- prey

- herbivore

(b)　any **one** from

- they had less food

- they would decrease
accept 'no food'　or 'they died out'　or 'they died'

(c)　reptiles ✓
if more than one box is ticked, award no mark

[5]

8. (a) (i)　any **one** from

- A
accept 'tadpole'

- B
accept 'trout'　or 'fish'

(ii)　any **one** from

- B
accept 'trout'　or 'fish'

- D
accept 'crocodile'　or 'reptile'

(b)   backbones

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1 (L3)

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(c)   any **one** from

- it has fins

     accept 'the tail helps it swim'; 'it has a tail' is insufficient
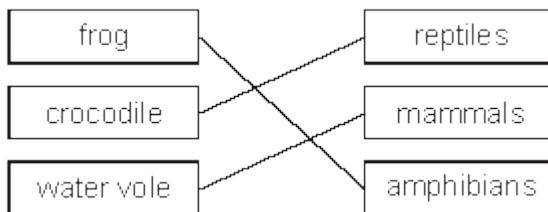
- it is streamlined

     *accept a description of streamlining;
     such as 'it is narrow or thin'*
     accept 'scales make it smooth'   or 'it is smooth'
     *'it has gills' or 'it has gills to breathe or to take
     in oxygen' are insufficient*

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1 (L3)

</div>

(d)

     if all three lines are correct, award two marks
     *if one **or** two lines are correct, award one mark*
     *if more than one line is drawn from any animal,
     award no credit for that animal*

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2 (L3)

[6]

</div>

9.

(a) • fat

     accept 'cream'

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1 (L3)

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(b) (i) • calcium

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1 (L4)

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   (ii)   any **one** from

- in the blood

- in blood vessels
     accept 'plasma'
     accept a named blood vessel
     *accept 'arteries'   or 'veins'   or 'capillaries'
     or 'circulatory system'*
     accept 'blood cells'   or 'red cells'
     accept 'the heart pumps blood'
     'pumped by the heart' is insufficient

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1 (L4)

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(c) (i) • mammals ✓

        if more than one box is ticked, award no mark

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1 (L4)

</div>

(ii) • The milk contains antibodies. ✓

        if more than one box is ticked, award no mark

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1 (L4)

</div>

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[5]

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10. (a) any **two** from

- smooth **or** streamlined

    *accept 'slimy **or** aerodynamic body'*
    accept 'long and thin'
    *'long' **or** 'thin' is insufficient*

- fins

    'flippers' is insufficient
    'large tail' is insufficient

- powerful **or** flat tail

    accept 'gills'
    'can breathe underwater' is insufficient

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2 (L3)

</div>

(b) any **one** from

- they are warm blooded

    accept 'not cold blooded'

- they breathe air **or** have lungs

    accept 'no gills'

- they give birth (to live young)

    accept 'they do not lay eggs'

- they suckle their young (on milk)

    *accept 'they have mammary glands' **or** 'they produce milk'*

- they have hair **or** fur

    accept 'no scales'
    accept 'no fins'
    'they have flippers' is insufficient
    'they are bigger' is insufficient

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1 (L4)

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(c)   any **one** from

- hunting **or** whaling **or** predation

    *accept 'more are killed **or** die than are born'*

    'they died' is insufficient

- pollution

    accept 'oil spills'

- disease

- less (available) food

    accept 'no food'

    *'global warming' **or** 'climate change' **or** 'greenhouse effect' are insufficient*

    1 (L4)

(d)   (i)   where they travel ✓

        if more than one box is ticked, award no mark

        1 (L4)

    (ii)   any **one** from

    - satellite tracking systems have a very large range

        *range can refer to either the whale **or** satellite tracking system*

    - you can find whales **or** them anywhere (on the planet)

        accept 'whales travel long distances'
        *accept 'to find them quickly **or** easily'*
        accept 'you know where they are'
        *accept 'it does not affect the whales' movement' **or** 'cause it stress'*

        *do **not** accept 'to count them'*
        'to find out where they travel' is insufficient as this is the answer to part (di)

        1 (L4)

        [6]