

- M1.** (a) All vertebrates have a backbone  
*if more than one box is ticked, award no mark* 1 (L3)
- (b) (i) it had fur **or** hair  
*accept 'it has ears on the outside of its body'*  
*do **not** accept 'it has a coat'* 1 (L3)
- (ii) any **one** from
- they produce milk to feed the young  
*accept 'they suckle' **or** 'they feed ' their young with milk'*
  - they give birth to live young  
*accept 'they give birth' **or** 'they do **not** lay eggs'*
  - they have mammary glands  
*accept 'they have teats'*  
*accept 'they have fur' **or** 'they have ears on the outside of their bodies' if not given as the answer to part (b) (i)*  
*do **not** accept 'they are warm blooded'* 1 (L3)
- (c) (i) amphibians 1 (L3)
- (ii) it has strong **or** big **or** long legs 1 (L3)
- (iii) any **one** from
- it has webbed feet  
*accept 'it has flippers' or 'it has big feet'*
  - it has strong back legs  
*accept 'it is smooth skinned' or 'it is streamlined'*  
*do **not** accept 'it has paddles'* 1 (L3)

(d) any **one** from

- the eggs do not have a shell  
*accept 'they only have jelly around them'*
- they would dry out on land  
*accept 'to keep the jelly wet'*
- they are fertilised in water
- tadpoles can live only in water  
*accept 'tadpoles have gills'*  
*do **not** accept 'tadpoles hatch from the eggs'*  
*or 'tadpoles need water' or 'so tadpoles can live'*  
*do **not** accept 'to protect them from predators'*

1 (L5)

[7]

**M2.** A Evernia *accept spelling errors*

1

C Usnea *both words required*

1

D Parmelia saxatilis *accept 'P saxatilis*

1

[3]

**M3.** (a) any **two** from

- they live in **or** close to their food  
*accept 'food is available'*
- they are not washed away
- protection  
*accept 'they cannot be seen'*

2 (L6)

(b) (i) any **one** from

- there are fewer eggs  
*accept 'herring lay fewer eggs'*  
*do **not** accept 'they cannot lay eggs'*
- fewer herring eggs hatch
- herring eggs are removed  
*accept 'they have fewer places to lay their eggs'*

1 (L5)

- (ii) • cod have fewer herring to eat **or** less food  
do **not** accept 'they have no herring to eat' 1 (L5)
- (iii) • the habitat of sandeels is reduced **or** destroyed **or** removed  
accept 'sandeels have nowhere to live' 1 (L5)
- puffins have fewer sandeels to eat  
accept 'there are fewer sandeels'  
accept 'sandeels are removed' 1 (L5)

[6]

**M4.** (a) it helps it to hide from its prey 1 (L6)

it helps it to hide from predators  
answers may be in either order  
accept 'hides it from rabbits **or** from animals it eats'  
accept 'hides it from animals which eat **or** hunt it'  
accept 'to camouflage it'  
for one mark only accept 'it is an insulator'  
**or** 'it keeps them warm' 1 (L6)

(b) inherit 1 (L6)

genes 1 (L6)

nuclei  
accept 'nucleus' 1 (L6)

[5]

**M5.** (a) wolf **or** wolves  
  
a relevant reason for a decrease in population should be given 1

- (b) any **one** from
- not enough food
  - deer hunting
  - more types of predator
  - more wolves
  - disease
  - migration
- 1

- (c) (i) decreased **or** went down  
*the answer is 'increased' if the answer to (b) is 'more wolves'*
- answer should refer to deer or food**
- 1

- (ii) any **one** from
- more deer in previous years so more deer food for wolves  
*accept 'more deer in the late 50's than in the early 40's'*
  - wolves bred more when there was more to eat  
*do **not** accept 'more deer' unless suitably qualified*
- 1

[4]

- M6.** (a) (i) • genes **or** DNA **or** chromosomes
- 1 (L7)
- in gametes **or** sex cells **or** eggs or sperm  
*accept 'at fertilisation'*  
*'in the nucleus' is insufficient*
- 1
- (ii) • they have genes **or** DNA **or** chromosomes from both parents  
*accept 'they have genetic information from both parents'*  
*accept 'from eggs and sperm'*
- 1 (L7)

- (b) • they have the same genetic information or the genes or DNA **or** chromosomes
- accept 'they are from the same egg and same sperm'*  
*accept 'the fertilised egg **or** zygote split in two'*  
*accept 'they are from the same fertilised egg*  
*'from the same egg' **or** 'from the same sperm' is insufficient*  
*accept references to the egg dividing if the answer makes*  
*clear that this is after*  
*fertilisation eg 'the egg divides after it has joined with a sperm*  
*'the egg divides in the uterus' is insufficient*

1 (L7)

(c) any **one** from

- eye colour is inherited or controlled by genes
- eye colour is not affected by environmental factors

1 (L7)

any **one** from

- weight and skin colour are affected by environmental factors
- weight is affected by diet **or** exercise and skin colour by the Sun  
*accept 'weight and skin colour are not just controlled by genes'*  
**answer must refer to both weight and skin colour**  
*'weight and skin colour are not controlled by genes' is insufficient*

1

[6]

