



9A Inheritance and variation...mark scheme

Assessment for learning...year 9 (level 3-6)

Question 1:

- (a) brown eyes 1
boy 1

answers may be in any order

*accept 'eyes'
do **not** accept 'height'*

- (b) 1.8 m tall 1
600 N 1

answers may be in any order

*accept 'height'
accept 'weight'
accept 'speaks French'*

- (c) mass of pupil ✓ 1
circumference of head ✓ 1

*if more than **two** boxes are ticked, deduct
one mark for each incorrectly ticked box
minimum mark zero*

[6]

Question 2:

- (a) **prior knowledge of poultry breeding is not expected**
marks should be awarded for answers relevant to the well-being of the chickens
- any **two** from 2
- keep them free of disease
accept 'vaccinate them'
*do **not** accept 'give them an injection'*
 - keep the shed at the correct temperature
 - more light during winter
accept 'the right amount of light'
 - keep them indoors
 - keep them **or** the shed clean
 - keep to their routine
accept 'feed them at the same time'
or 'let them out at the same time'
*do **not** accept 'more space' or 'more room' or 'more males' or 'more comfortable'*
- (b) (i) Lucy 1
if more than one chicken is named, award no mark
- (ii) the ones which lay the most eggs 1
- (c) any **one** from 1
- it is inherited
accept 'inheritance'
 - colour of parents' feathers
 - genes
 - chromosomes
 - DNA
- (d) any **one** from 1
- to let oxygen in
*accept 'so that oxygen **or** air can get through'*
 - to let carbon dioxide out
accept 'so that carbon dioxide can get through'
*do **not** accept 'to let it breathe'*

[6]

Question 3:

- (a) He is sweating a lot. 1
- His heart is beating faster than usual. 1
- He is breathing very quickly. 1

if more than three boxes are ticked, deduct one mark for each incorrectly ticked box minimum mark zero

- (b) He has brown hair. 1
accept 'brown hair' or 'hair'
- He has blue eyes. 1
accept 'blue eyes' or 'eyes'
answers may be in either order

[5]

Question 4:

- (a) it helps it to hide from its prey 1
it helps it to hide from predators 1
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'

- (b) inherit 1
genes 1
nuclei 1
accept 'nucleus'

[5]

Question 5:

- (a) (i) any **one** from 1
• they have inherited different characteristics
accept 'selective breeding'
• they have different genes
accept 'they have different DNA or alleles'
- (ii) any **two** from 2
• amount of food
accept 'amount of grass'
• type of food
• amount of water

- levels of disease **or** quality of health care
accept 'disease' or 'health care'

- levels of stress
- temperature

accept 'climate'
accept 'amount of exercise'
or 'amount of space'
accept 'their hormone levels'

(b) (i) selective breeding

1

accept 'artificial selection' or 'cross breeding'
do not accept 'inter-breeding'

(ii) any **one** from

- resistance to disease

1

do not accept 'good health'

- fast growth rate
- high fertility

accept 'fertile'

- long life
- good skin for making leather
- docile temperament
- hardiness **or** resistance to weather

accept 'prize-winning appearance'
accept 'females' or 'heifers'
accept 'polled' or 'no horns'

[5]