



Year 8 Disease and Variation HW Answers



35 minutes



47 marks

- M1.** (a) 37°C
if more than one box is ticked, award no mark 1 (L5)
- (b) the lotion killed the bacteria
accept 'they died' or 'they were killed or destroyed' 1 (L5)
- (c) the paper disc soaked in water
accept 'the other disc' 1 (L5)
- (d) any **two** from
- keep the lid on the dish
 - seal **or** secure the dish
 - wear gloves
 - wear a mask **or** goggles
 - use tweezers to add the paper disc
*do **not** accept 'do the experiment in a fume cupboard'* 2 (L5)

[5]

- M2.** (a) any **one** from
- there were not enough bacteria in the food **or** body
accept 'the bacteria had to grow first'
 - the bacteria multiplied by the next day 1 (L6)
- (b) the antibiotic **or** medicine killed all the bacteria
*accept 'the antibiotics got rid of all the bacteria'
or 'there were no bacteria left'* 1 (L5)
- (c) any **one** from
- antibiotic **or** medicine had not killed all the bacteria
accept 'not all the bacteria had gone'
 - there were still bacteria left alive 1 (L6)
 - the bacteria multiplied
*accept 'the population rose again'
accept 'they could grow again'
accept 'they reproduced again'* 1 (L6)

(d) any **one** from

- it slows down reproduction
accept 'it stops them reproducing'
or *'it stops them breeding'* **or** *'it stops them multiplying'*
- it is too cold for the bacteria to divide **or** reproduce
accept 'it stops them growing'
accept 'slows down growth'
*do **not** accept 'they are dormant'*
*do **not** accept 'it freezes them'*

1 (L6)

[5]

M3. (a) (i) any **one** from

- resistant to disease
accept 'having antibodies against the disease'
- will not catch the disease
*do **not** accept 'able to fight the disease'*

1 (L7)

(ii) antibodies

accept 'antitoxins'

1 (L7)

(iii) any **one** from

- dead bacteria **or** virus **or** micro-organism
- weakened bacteria **or** virus **or** micro-organism
- non-virulent strain of bacteria
- mild strain of virus
- antigens

1 (L7)

(b) any **one** from

- antibodies pass to baby via placenta
- antibodies pass to baby via breast milk
accept 'through the placenta'
accept 'through mother's milk'
*do **not** accept 'antibodies passed to baby through milk'*

1 (L7)

(c) any **one** from

- it goes down and stays down
accept 'it goes down'
- continues downwards
- fewer people got measles after 1967

1 (L6)

(d) it will increase **or** return to the pre-1967 levels

1 (L6)

[6]

M4. (a) vertebrates

accept 'animals with backbones'
*do **not** accept 'warm blooded'*

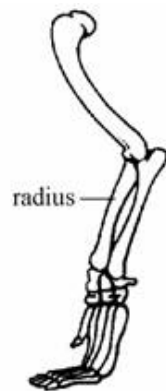
1 (L5)

(b) (i)



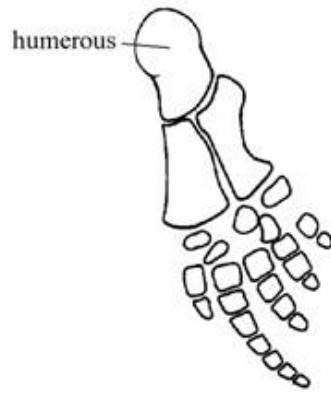
1 (L5)

(ii)



1 (L5)

(iii)



award one mark for each correct label

1 (L5)

(c) any **one** from

- paddle shaped
accept 'large surface'
accept 'it is thick'
do not accept 'it is big' or 'it is strong'
do not accept 'it can paddle in water'
- fin-like
accept 'it is a big fin'
- wide bones
accept 'big bones'
- streamlined
'it is flexible' is insufficient

1 (L6)

(d) they are light

accept 'they make the bird lighter'

1 (L5)

[6]

M5. (a) any **two** from

- less **or** no food
accept 'trees are producers'
- fewer **or** no places to nest **or** shelter
accept 'they have lost their home'
'they have lost their territory' is insufficient
accept 'their habitat is destroyed'
'it spoils the environment' is insufficient
- less **or** no cover
accept 'they cannot hide from predators'

1 (L5)

(b) any **one** from

- more light
- more water
- more space
- more nutrients

accept references to nutrients from trees left to rot

1 (L5)

- more photosynthesis can take place

accept 'photosynthesis can take place'

1 (L6)

(c) any **one** from

- to replace minerals **or** nitrates that have been removed (by plants)

*accept 'minerals **or** nitrates get washed out of the soil'*

- plants absorb the minerals **or** nitrates

'plants feed on the nutrients' is insufficient

- plants need minerals **or** nitrates to grow

accept 'so that plants can grow'

accept 'plants can grow more'

- minerals **or** nitrates **or** they are plant nutrients

1 (L6)

(d) any **two** from

- to provide food for animals

'it is good for the environment' is insufficient

- to provide shelter **or** nesting sites **or** habitats for birds **or** animals

accept to provide homes for animals'

*'to help animals **or** birds survive' is insufficient*

- trees absorb carbon dioxide

- trees produce oxygen

- the roots bind soil **or** prevent soil washing away

accept provides trees to be cut down in the future'

*accept they need trees for paper' **or** 'to get paper'*

2 (L5)

[7]

M6. (a) they trap air

*accept 'they are fluffed up' **or** 'they trap heat'*

1

- (b) (i) any **one** from
- wide field of view **or** they see a larger area
do not accept 'can see better'
 - gives time to build up speed when diving
 - to prevent its shadow from falling on the fish
*accept 'so fish can see it' **or** 'surprise attack'*
do not accept 'so fish cannot hear it'

1

- (ii) any **three** from
- large eyes **or** good eyesight
accept 'eyes positioned forward on the head'
 - can hover **or** large tail for balance
accept 'powerful flier'
 - hooked claws **or** large talons
*accept 'powerful claws **or** legs'*
 - can swoop rapidly **or** dive fast **or** streamlined body
*do not accept 'large **or** powerful beak'*

3

[5]

M7. (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]

M8. (a) (i) Gg
accept 'she was heterozygous'

1

(ii) any **one** from

- two of her children **or** (6) and (9) were normal **or** inherited a recessive gene **or** g from her
accept 'some of her children were normal and some were affected' for both marks
- if she were GG, all her children would have the disease

1

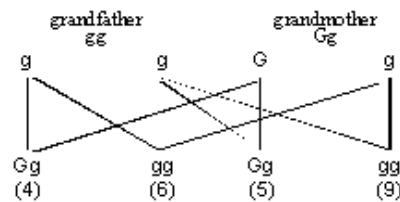
(ii) any **one** from

- some of her children **or** (4) and (5) were affected **or** inherited a dominant gene **or** G from her
- she was affected so she had a dominant gene **or** G
accept 'she was affected'
- if she were gg, none of her children would have the disease
accept a Punnett Square **or** a genetic diagram, for one mark, as part of the explanation:

either

		grandfather gg	
		g	g
grandmother Gg	G	(4) Gg	(5) Gg
	g	(6) gg	(9) gg

or



1

(b) (i) Gg
accept 'he was heterozygous'

1

(ii) he must have inherited a dominant gene **or** G from his mother and a recessive gene **or** g from his father
accept 'he must have got g from his father' a mark may be awarded for a Punnett square or a genetic diagram as above

1

(c) 50% **or** ½ **or** 0.5
accept '1:1' **or** 'evens'

1

(d) (i) any **one** from

- a change in a gene **or** chromosome
accept 'damage to a gene'
- a change in the base sequence of DNA
*accept 'a change in the DNA **or** the genetic information'
or 'wrong base added to DNA'
*accept 'development of a new characteristic'**

1

(ii) any **one** from

- X rays
- radiation
- UV light
*accept 'sunlight'
accept a named mutagenic chemical such as 'benzene'
or 'cigarette tar'
*accept 'incorrect replication of DNA'**

1

[8]

