

- M1.** (a) $(140 + 240 + 380 + 450 =)$ 1210 1
- (b) the local people decided to farm cattle 1
- a company starts growing plants for biofuels 1
- (c) carbon dioxide
in this order only 1
- photosynthesis 1
- (d) animals and birds migrate because there is less food 1
- more habitats are destroyed 1
- (e) any **one** from:
• breeding programmes (for endangered species)
• regeneration (programmes)
• reintroduction of field margins / hedgerows
• awareness raising with politicians / public
• recycling 1

[8]

- M2.** (a) fuel / houses / paper
allow any object made from wood 1
- farming / agriculture / replanting
allow roads / homes / factories 1
- carbon dioxide / greenhouse gas / pollution **or** relative named pollutant 1
- warming / temperature increase 1
- (b) (i) none of species left / died out 1
- (ii) may have products useful to humans / examples
allow preserve for future generations or 'still there to look at'
allow affect food chains / cycles or extinction of other species
allow non human reasons eg loss of habitat
ignore environmental effects 1

[6]

- M3.** (a) (i) 40
accept -40 or +40 1
- (ii) **Step 1** 92 1
- Step 2** 18 1
- Step 3** 74
*correct subtraction of answer in **step 2** from answer in **step 1** gains 1 mark*
correct answer 74 with no working gains 3 marks
ignore sign 1
- (b) (i) both animals and plants 1
- (ii) microorganisms 1
- (iii) carbon dioxide 1

[7]

- M4.** (a) warmer / dryer
allow greenhouse effect / global warming
ignore wind 1
- (b) (i) genes / alleles / chromosomes / DNA / genetic material / genetics
allow inheritance
allow nutrition / food / metabolism / growth rate
ignore environment 1
- (ii) natural selection / evolution
allow survival of the fittest 1

[3]

- M5.** (a) (i) carbon dioxide 1
- (ii) sulfur dioxide 1
- (b) (i) reduces land available for animals and plants 1
- (ii) metals 1
- (c) (i) pesticide 1
- (ii) kill other animals 1

[6]

- M6.** (a) any **one** from:
- increased pollution
 - dumping waste
- allow described consequence e.g. vermin*
accept (increased) landfill
accept (increased) fly tipping.
- 1
-
- (b) (i) (mass of SO₂) decreases
- 1
- and then levels off / plateaus
- 1
-
- (ii) 2008
- clear evidence of calculating 700 (000) = 1 mark*
- 2
-
- (iii) any **one** from:
- acid rain
 - erosion of statues / buildings
 - destruction of habitats
 - reduction in biodiversity
 - damage to lichen
 - breathing problems
- ignore reference to ozone layer*
allow damage to plants.
- 1
-
- (c) Carbon dioxide being absorbed in oceans and lakes
- 1
- Photosynthesis by trees
- 1

[8]

M7. (a) 60

correct answer gains 2 marks

if answer incorrect evidence of using 40 gains 1 mark

2

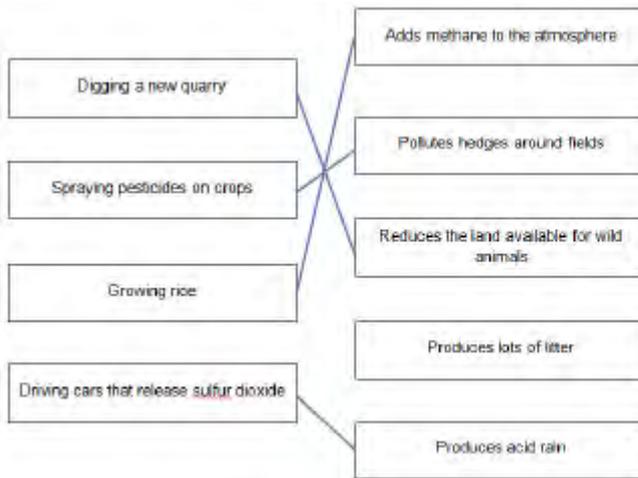
(b) any **two** from

ignore temperature rise / global warming

- climate change / described e.g. hotter summers / drought / seasons change
- rise in sea levels / flooding
allow other environmental effects
- glacier melting / ice caps melting
- forest fires
- habitat destruction
- effect on organisms
- eg extinction / migration

2

[4]



1 mark for each correct line

extra line from box in left hand column cancels mark

M8.(a)

4

(b) any **two** from:

- climate change
ignore 'Earth warmer'
- more extreme weather / changes to weather (patterns) / described
- rise in sea level
- melting of ice caps
- reduced biodiversity
- changes to migration patterns
- changes in distribution of species
accept faster plant growth / tropical species can be grown in UK
accept tropical diseases / example spread to temperate regions

2

[6]

M9. (a) genes 1

chromosomes 1

(b) (i) higher yield 1

less use of pesticides 1

(ii) any **two** from:

- uncertain about effects on health
- fewer bees
- might breed with wild plant
- seeds only from one manufacturer

2

[6]