

**National 5 Biology**

**Biodiversity & the Distribution of Life**

1. Show in a table 3 abiotic and 3 biotic factors. (2)
2. Name 5 different types of biome. (5)
3. The following table shows the distribution of grey and red squirrels in Scotland over a 12 year period.

<i>Year</i>	<i>Grey Squirrel numbers</i>	<i>Red Squirrel numbers</i>
<i>1</i>	110	180
<i>2</i>	140	140
<i>3</i>	160	130
<i>4</i>	190	110
<i>5</i>	210	90
<i>6</i>	240	85
<i>7</i>	265	75
<i>8</i>	270	70
<i>9</i>	280	60
<i>10</i>	300	50
<i>11</i>	310	40
<i>12</i>	325	25

- (a) Show the results from the above table on the same line graph. (4)
- (b) In what year were both populations of equal number? (1)
- (c) What was the ratio of grey squirrels to red squirrels in year 10? (1)
- (d) What was the ratio of red squirrels to grey squirrels in year 5? (1)
- (e) Calculate the percentage increase in grey squirrels over this 12 year period. (2)
- (f) Calculate the percentage decrease in red squirrels over this 12 year period. (2)
- (g) Predict the numbers of grey squirrels and red squirrels 10 years later. (2)

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4. Show in a table each of the following words along with a definition for each.

Flora; fauna; niche; habitat; ecosystem; desertification; predation.

(7)

5. The following table shows a predator/prey relationship over a period of 40 weeks.

<i>Time (weeks)</i>	<i>Prey numbers</i>	<i>Predator numbers</i>
<i>0</i>	250	22
<i>3</i>	420	32
<i>6</i>	640	46
<i>9</i>	730	64
<i>12</i>	800	88
<i>15</i>	810	110
<i>18</i>	760	125
<i>21</i>	600	150
<i>24</i>	440	90
<i>27</i>	280	25
<i>30</i>	320	30

(a) On a piece of graph paper, draw a line graph to show how the numbers of prey change over this time period.

(3)

(b) On the same graph, add another y-axis on the right to show the predator numbers and plot these as a line graph.

(2)

(c) Describe the changes in prey numbers over this time period.

(1)

(d) Describe the changes in predator numbers over this time period.

(1)

(e) Explain why the numbers of prey begins to fall after week 15.

(1)

(f) Explain why the numbers of predators begins to fall after week 24.

(1)

6. (a) Name 2 human activities which have resulted in habitat destruction.

(2)

(b) Name any 2 water pollutants.

(2)

Total = 40