(a) State **one** reason why scientists use past data when studying species distribution.
(1 mark)

As they can see where the species once was and how its distribution has changed over time.

(b) Dibblers are carnivorous marsupials which feed on small vertebrates such as mice, birds and lizards as well as insects and other invertebrates. Explain how the presence of dieback may have affected the population of dibblers. (3 marks)

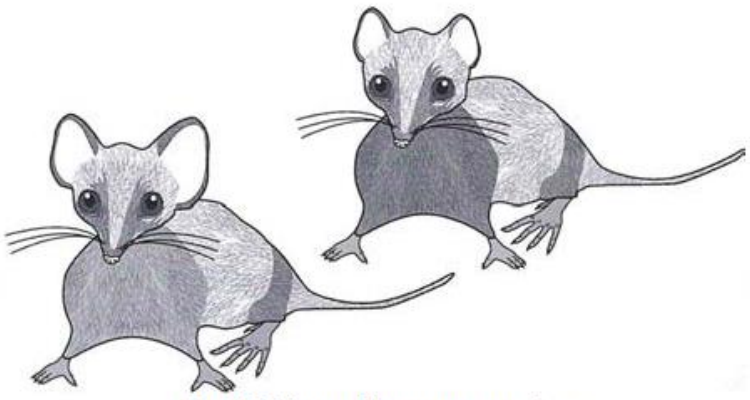
The presence of dieback causing a loss of leaves and branches of the tree would mean less food and suitable habitats for smaller and herbivorous animals, Meaning they would relocate. Without these smaller animals to feed on, Dibblers would have less food to eat and be negatively affected.

Question 3 (continued)

(c) State **one** reason why scientists would be interested in predicting suitable habitats of animal species. (1 mark)

Climate change and land cover change will mean that biomes & climactic conditions will shift, mean that natural animal habitats will be lost. Predicting suitable habitats for animal species means that there is a

Genetic diversity is important to the survival of a species. The illustration below shows an example of diversity between two dibblers.



Two dibblers of the same species

(d) Describe why genetic diversity is important to the survival of a species. (2 marks)

Genetic diversity means that the species has more of a chance of surviving alterations in the environment. For example, giraffes evolved to have long necks as there was more food available higher in the trees, meaning that giraffes with slightly longer necks (due to genetic diversity) were more attractive and had advantages over the others, and their traits were passed on. If there was no diversity, even slight alterations would mean disaster for organisms as they would not be able to evolve and adapt.

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