

CHAPTER 4	Speculating About Speciation Answer Key	BLM 4.3.5A
ANSWER KEY		

1. If individuals in the population of rabbits on the island with predators had adaptations that helped them to survive and reproduce, then natural selection would likely result in these characteristics becoming more prevalent in this population. i.e., protective coloration to hide from predators, being able to outrun the predator, or sense organs that allowed them to see/hear the predators sooner.
2. In order to survive, the populations would have to have adaptations for their respective food source(s). It would be expected that offspring would be selected for different characteristics, such as size of mouth, size of teeth, type of teeth, or changes to the digestive system best suited to the food source available.
3. In order to survive, the rabbits would have to adapt to survive in the climate of their respective islands. Survivors would be selected for characteristics suited to the climates, i.e., size of ears, length of fur, thickness of fur, fur on feet, or behavioural adaptations such as types of burrows that allow them to maintain a constant body temperature.
4. It would depend if the two populations had enough time to develop post-zygotic barriers to reproduction. If they were separated long enough, the gene pool of each population could have changed sufficiently to prevent the production of viable offspring. It would depend on how long the populations have been apart and if the conditions were different enough for natural selection or other forces to change the gene pool in each population.