

The diagram below shows four species of birds that evolved from an ancestral species that had a small, pointed beak. Today, all four species inhabit the same island.



1. Which statement best explains the variation in the beaks of these four species?
(1) Over time, an abundance of seeds for food led to increased similarities between the species. (2) Over time, an abundance of seeds for food led to increased differences between the species. (3) Competition for limited food resources led to selection for similar traits. (4) Competition for limited food resources led to selection for different traits.

Base your answers to questions 2 and 3 on the information below and on your knowledge of biology.

A plant known as caltrop is found on one of the Galapagos Islands. The caltrop plant produces seeds with tough, spiny coats. There is a bird species, *Geospiza fortis*, that can crack the tough seed coat and eat the contents inside. On one part of the island where there are many of these birds, the caltrop plants produce fewer seeds and the coats of the seeds have longer and more numerous spines. On another part of the island where there are few of these birds, the plants produce more seeds and the seed coats have fewer, shorter spines.

2. Identify one variation the caltrop seeds have for survival.

3. Identify one process that can result in adaptations.
