

Name \_\_\_\_\_

# NATURAL SELECTION

**Directions:** Read the information below.

## Natural Selection

Natural selection is the process by which advantageous traits are passed on to successive generations. These traits are ones which lead to greater chances of survival. This concept may sound difficult to understand, but it can be easily observed in animals. In fact, Charles Darwin visited the Galápagos Islands off the coast of South America in 1835 and observed the animals living there, which led him to form the theory of natural selection.

What Darwin most famously observed was the tortoise population. The Galápagos are a series of islands; thus, the conditions on each island may be slightly different. He noticed that on one island, the vegetation was close to the ground, while on another island, the vegetation was higher up, causing the tortoises to lift their heads high up to reach the food. Consider the island where the food was higher up. The tortoises there had a unique feature to their shells: the top of the shells by the head had a space that was curved upward, allowing the animals to raise their heads higher. Without this feature on their shells, they would be unable to lift their heads to reach food. On the other island, however, where vegetation was low to the ground, Darwin discovered that the tortoises had typical shells, without the special adaptation. These tortoises could not lift their heads up high because their shell would get in the way.

This is an example of natural selection. Over time, the tortoises on the first island could only survive if they had this adaptation in their shells. Thus, the theory of natural selection says that because the curved shells were advantageous to their survival, this is the trait that continued onward for generations, which is why all the tortoises on this island eventually had that feature.

**Directions:** Answer the questions below.

1. Describe the theory of natural selection in your own words.
2. Suppose that you stumbled upon a community of earthworms. We know that earthworms tend to be eaten by birds. Imagine that some of the earthworms were able to perceive the presence of predatory birds quicker than others, allowing them to hide. If you were to re-visit this population of earthworms several generations later, what might you expect to find according to the theory of natural selection? Why?
3. Explain why natural selection is good for humans and animals. How do we benefit from it?