

# Chapter 15

## The Theory of Evolution

### Reinforcement and Study Guide

#### Section 15.1 Natural Selection and the Evidence for Evolution

In your textbook, read about Charles Darwin and natural selection.

For each statement, write **true** or **false**.

- \_\_\_\_\_ 1. H.M.S. *Beagle*, upon which Charles Darwin served as naturalist, set sail on a collecting and mapping expedition in 1831.
- \_\_\_\_\_ 2. The environments that Darwin studied exhibited little biological diversity.
- \_\_\_\_\_ 3. By careful anatomical study, Darwin found that the many species of plants and animals on the Galapagos Islands were unique and bore no relation to species seen in other parts of the world.
- \_\_\_\_\_ 4. The tortoises of the Galapagos Islands are among the largest on Earth.
- \_\_\_\_\_ 5. After returning to England, Darwin studied his collections for 10 years.
- \_\_\_\_\_ 6. Darwin named the process by which evolution proceeds *artificial selection*.

You are a naturalist who traveled to the Galapagos Islands. Below are excerpts from field notes. Next to each set of notes, write a heading. Use these choices: Overproduction of Offspring, Natural Selection, Struggle for Existence, Variation.

7.

Field Notes
Female finches found on the Galapagos Islands lay enormous numbers of eggs.
_____

8.

Field Notes
These finches compete for a particular species of insect that inhabits the small holes found in tree bark.
_____

9.

Field Notes
Some finches' beaks are long, some are short. The finches with long beaks are better adapted to remove the insects from the bark.
_____

10.

Field Notes
The finches with the long beaks survive and produce greater numbers of offspring with long beaks.
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**Chapter**  
**15**
**The Theory of Evolution, *continued***
**Reinforcement and Study Guide**
**Section 15.1 Natural Selection and the Evidence for Evolution, *continued***

*In your textbook, read about natural selection and adaptations.*

Identify the type of structural adaptation that the statement describes. If the statement applies to both, write **both**. Use these choices: **mimicry, camouflage, both**.

- \_\_\_\_\_ **11.** Enable(s) an organism to blend in with its surroundings
- \_\_\_\_\_ **12.** Provide(s) protection for an organism by copying the appearance of another species
- \_\_\_\_\_ **13.** The coloration of a flounder that allows the fish to avoid predators
- \_\_\_\_\_ **14.** Involve(s) changes to the external appearance of an organism
- \_\_\_\_\_ **15.** A flower that looks like a female bee

*In your textbook, read about evidence for evolution.*

Complete the chart by checking the kind of evidence described.

Evidence	Type of Evidence				
	Homologous Structure	Analogous Structure	Vestigial Structure	Embryological Development	Genetic Comparisons
<b>16.</b> A modified structure seen among different groups of descendants					
<b>17.</b> In the earliest stages of development, a tail and gill slits can be seen in fish, birds, rabbits, and mammals.					
<b>18.</b> Exemplified by forelimbs of bats, penguins, lizards, and monkeys					
<b>19.</b> The forelimbs of flightless birds					
<b>20.</b> DNA and RNA comparisons may lead to evolutionary trees.					
<b>21.</b> Bird and butterfly wings have same function but different structures					
<b>22.</b> A body structure reduced in function but may have been used in an ancestor					