Name _____ Date _____

Study Guide 10.1: Early Ideas About Evolution

KEY CONCEPT
There were theories of biological and geologic change before Darwin.

VOCABULARY

evolution	fossil	gradualism
species	catastrophism	uniformitarianism

MAIN IDEA: Early scientists proposed ideas about evolution.

In a phrase, tell what each scientist did to help develop evolutionary theory.

Scientist	Contribution to Evolutionary Theory
1. Linnaeus	
2. Buffon	
3. E. Darwin	
4. Lamarck	

5. What two conditions must be true for a group of animals to be considered the same species?

_____

_____

6. Lamarck's ideas of evolution are known as the inheritance of acquired characteristics. What was incorrect about his theory of how organisms evolve?

_____

_____

7. In the 1700s, many people believed that species were fixed and did not change. How did plant hybridization—a type of crossing that could be observed in experiments—help change this view?

_____

MAIN IDEA: Theories of geologic change set the stage for Darwin's theory.

8. Write a description of each theory in the space provided.

Geologic Theory	Description
catastrophism	
gradualism	
uniformitarianism	

Vocabulary Check

9. What word refers to traces of an organism that existed in the past?

_____

10. What is the process of biological change by which descendants come to differ from their ancestors?

_____

11. Events such as volcanoes, floods, and earthquakes are the basis of what geologic theory?

_____

12. What geologic theory can be summarized by the phrase "the present is the key to the past"?

_____

Who's Who?

Linnaeus	Lamarck	Buffon	E. Darwin

_____ 13. Charles Darwin's poetic grandfather

_____ 14. Thought that a giraffe's long neck evolved from reaching high in trees

_____ 15. Grouped living organisms into categories based on what they looked like

_____ 16. Wrote *Historie Naturelle* (Natural History) in 1749'

Study Guide 10.2: Darwin's Observations

KEY CONCEPT
Darwin's voyage provided insights into evolution.

VOCABULARY

variation	adaptation

MAIN IDEA: Darwin observed differences among island species.

1. What is variation among members of *different* species called?

   _____

2. What is variation among members of *the same* species called?

   _____

3. What island chain in South America was the source of many of Darwin's insights?

   _____

4. Darwin saw populations of various species that seemed well-suited to their environment. What did this suggest?

   _____

MAIN IDEA: Darwin observed fossil and geologic evidence supporting an ancient Earth.

5. Darwin observed fossils of huge animals such as *Glyptodon*, a giant armadillo. Why were these fossils of interest to him?

   _____

   _____

6. Many people in the 1700s thought that Earth was only about 6000 years old. How did the fossil organisms Darwin saw lead him to think Earth must be much older than that?

   _____

   _____

7. Darwin also observed fossil shells of marine organisms high up in the Andes mountains, and saw an earthquake move land that was underwater above sea level. How did he apply these insights to the evolution of organisms?

   _____

   _____

8.Look at Figure 2.2 in your textbook. What differences between the two Galápagos tortoises can you identify from the two pictures?

_____

_____

Vocabulary Check

variation	adaptation

_____ 9. the difference in the physical traits of an individual from those of other individuals in the group to which it belongs

_____ 10. a feature that allows an organism to better survive in its environment

_____ 11. A tortoise population lives in an area with high grass. These tortoises have longer necks than tortoises that live in other areas. The long necks are an example of this.

_____ 12. One bird in a population has a slightly thicker beak than its relatives. This thicker beak is an example of what in the population.

Be Creative

In the space below, draw a sketch of a bird that may eat the food choice that is given in the left column.

Food choice	Sketch
Eats large, hard-shelled nuts	
Eats fruit and insects	