

Section 15–2 Ideas That Shaped Darwin’s Thinking (pages 373–377)



TEKS FOCUS: 3A Analyze, review, and critique hypotheses; 3C Impact of research on scientific thought; 3F History of biology and contributions of scientists

This section describes the theories of other scientists who influenced Darwin, including Hutton, Lyell, Lamarck, and Malthus.

An Ancient, Changing Earth (pages 374–375)

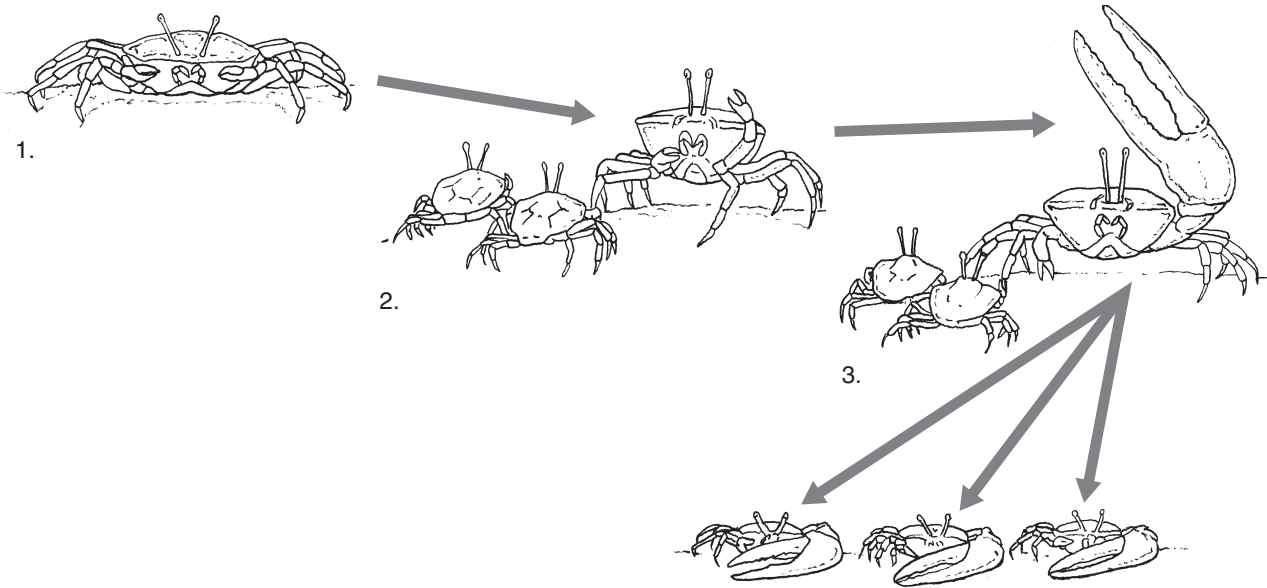
- Two scientists who helped Darwin and others recognize how old Earth is were _____ and _____.
- Circle the letter of each idea that was proposed by James Hutton.
 - Earth is a few thousand years old.
 - Layers of rock are moved by forces beneath Earth’s surface.
 - Most geological processes operate extremely slowly.
 - The processes that changed Earth in the past are different from the processes that operate in the present.
- Circle the letter of each sentence that is true about Lyell’s work.
 - His book, *Principles of Geology*, was published after Darwin returned from his voyage.
 - His work explained how awesome geological features could be built up or torn down over long periods of time.
 - His publications helped Darwin appreciate the significance of the geological phenomena that he had observed.
 - He stressed that scientists must explain past events in terms of processes that they can actually observe.
- In what two ways did an understanding of geology influence Darwin? _____

Lamarck’s Evolution Hypotheses (page 376)

- Is the following sentence true or false? Lamarck was among the first scientists to recognize that living things have changed over time. _____
- Is the following sentence true or false? Lamarck proposed that all organisms have an innate tendency toward complexity and perfection. _____
- How did Lamarck propose that species change over time? _____

8. How did Lamarck pave the way for the work of later biologists? _____

9. Which step in the diagram below shows the inheritance of acquired traits as proposed by Lamarck? _____



Population Growth (page 377)

10. Circle the letter of each sentence that is true about Thomas Malthus.
- a. He was an important influence on Darwin.
 - b. He was an English naturalist.
 - c. He believed that war, famine, and disease limit the growth of populations.
 - d. His views were influenced by conditions in twentieth-century England.
11. Is the following sentence true or false? The overwhelming majority of a species' offspring survive. _____