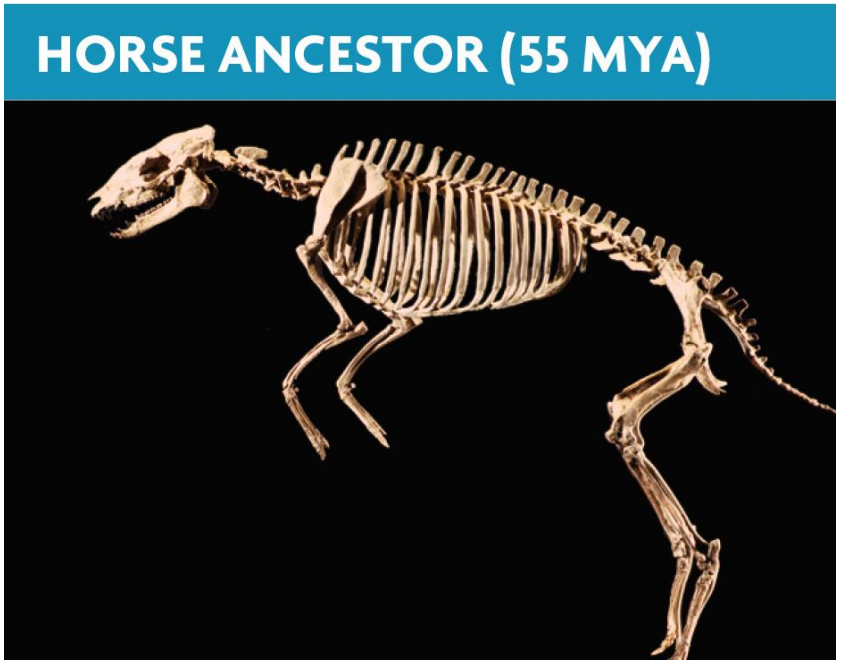
10.1 Early Ideas About Evolution

KEY CONCEPT

There were theories of biological and geologic change before Darwin.

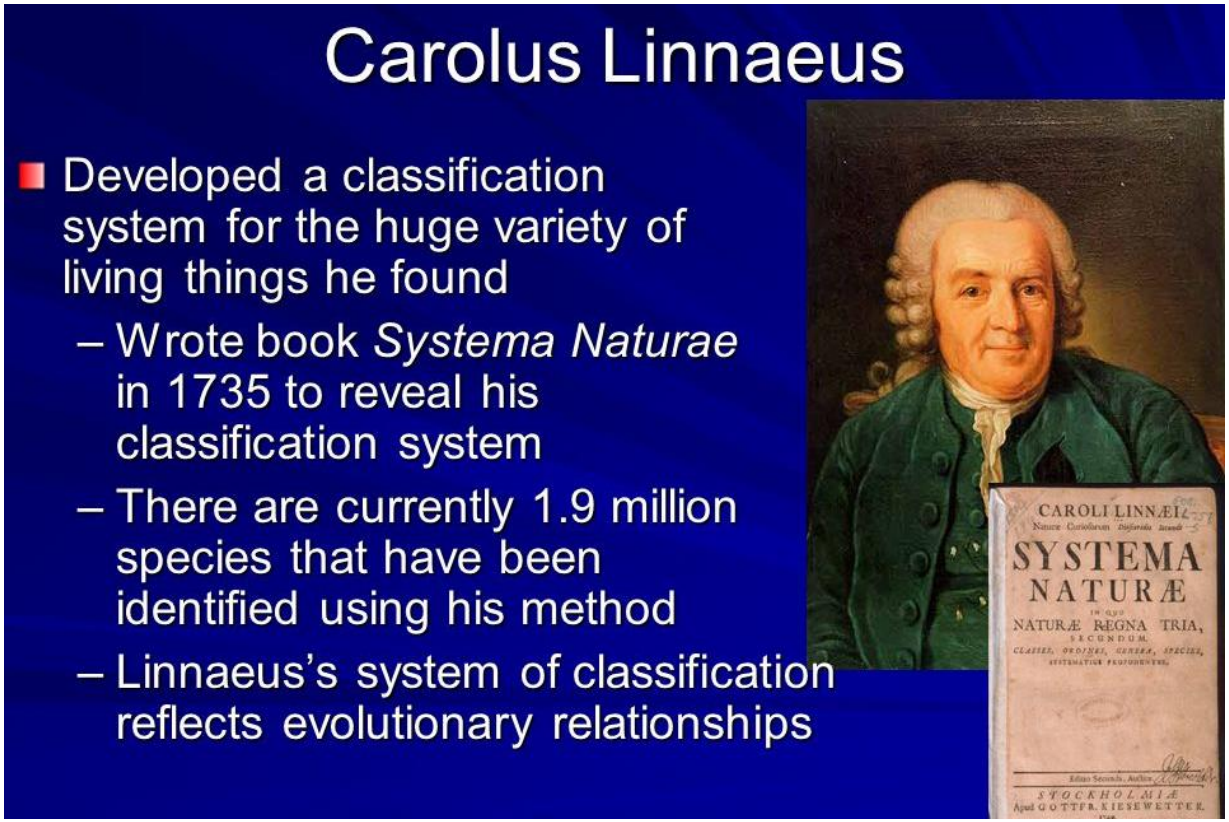
10.1 Early Ideas About Evolution

- **Early scientists proposed ideas about evolution.**
  - **Evolution** is the biological change process by which descendants come to differ from their ancestors.
  - A **species** is a group of organisms that can reproduce and have fertile offspring.



10.1 Early Ideas About Evolution

- There were many important naturalists in the 18th century.
  - **Linnaeus**: Developed a classification system for all types of organisms known at the time based upon their physical similarities.



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- There were many important naturalists in the 18th century.
  - **Buffon**: Proposed that species shared ancestors and suggested that Earth is much older than6000 years.

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- There were many important naturalists in the 18th century.
  - **Erasmus Darwin**: Proposed that all organisms descended from a common ancestor, and that more-complex forms of life arose from less-complex forms.
  - Grandfather of Charles Darwin

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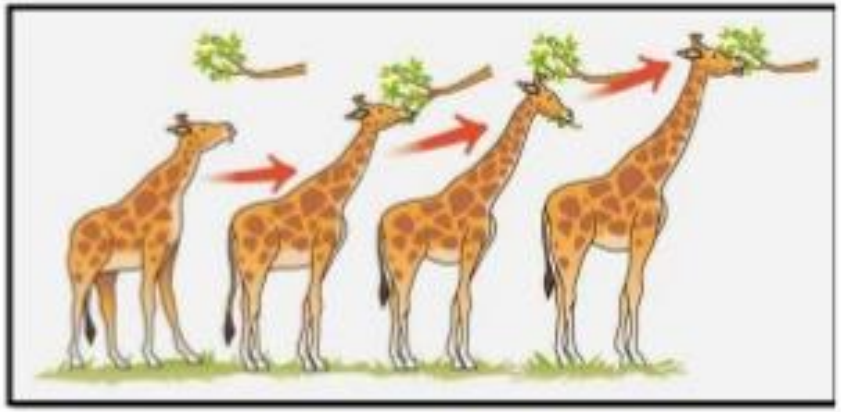
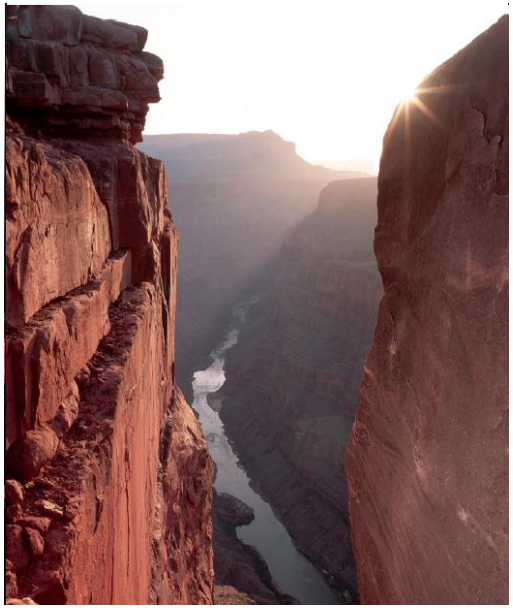
- There were many important naturalists in the 18th century.
  - **Lamarck**: Proposed that all organisms evolved toward perfection and complexity and that structures became larger or smaller with use or disuse.

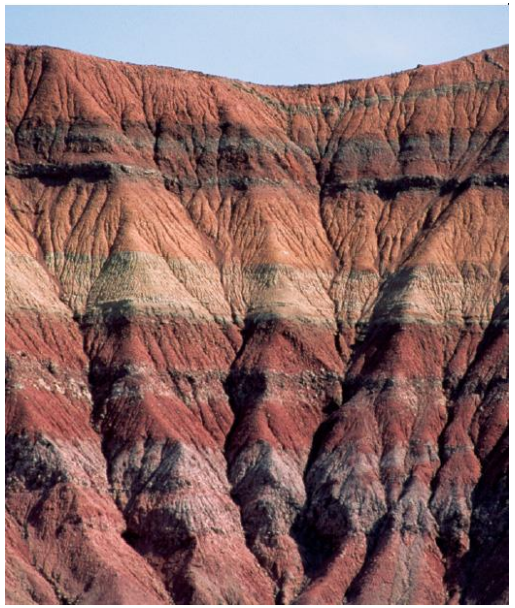
Lamarck's Theory: Giraffes inherited long necks from short necked ancestors who continually stretched their necks to reach food.



10.1 Early Ideas About Evolution

- **Theories of geologic change set the stage for Darwin's theory.**
  - There were three theories of geologic change.
    - catastrophism
    - gradualism
    - uniformitarianism





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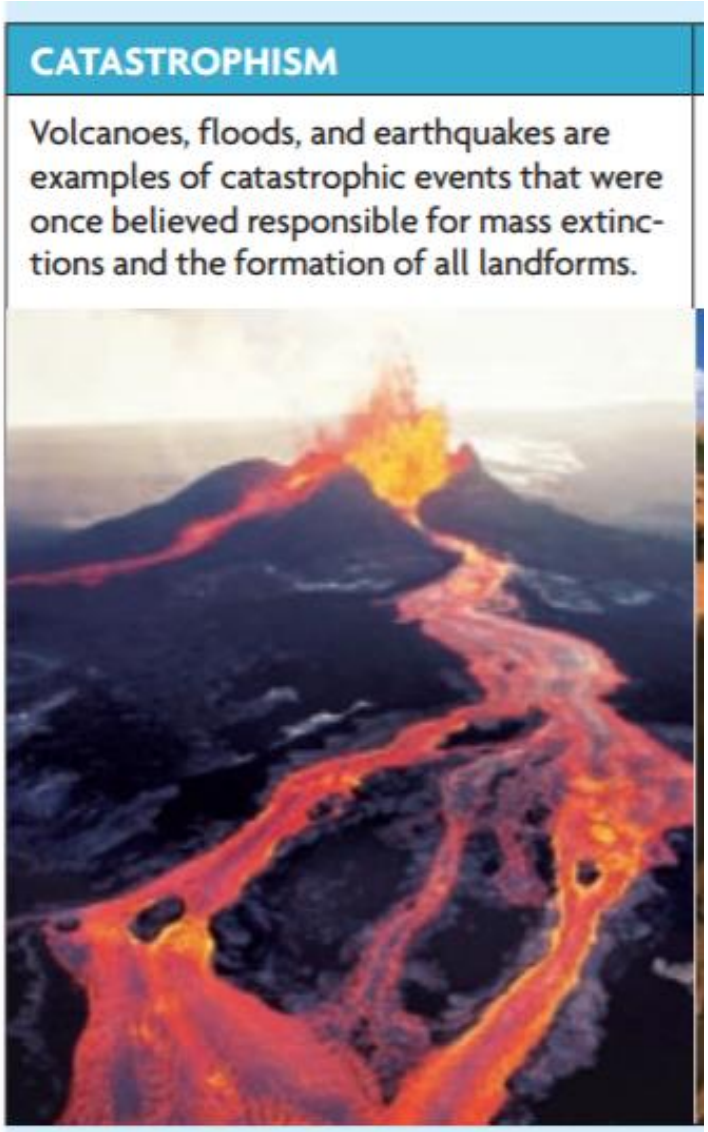
- **Theories of geologic change set the stage for Darwin's theory.**
  - **Catastrophism** - Natural disasters such as floods and volcanic eruptions have shaped landforms and caused species to become extinct.

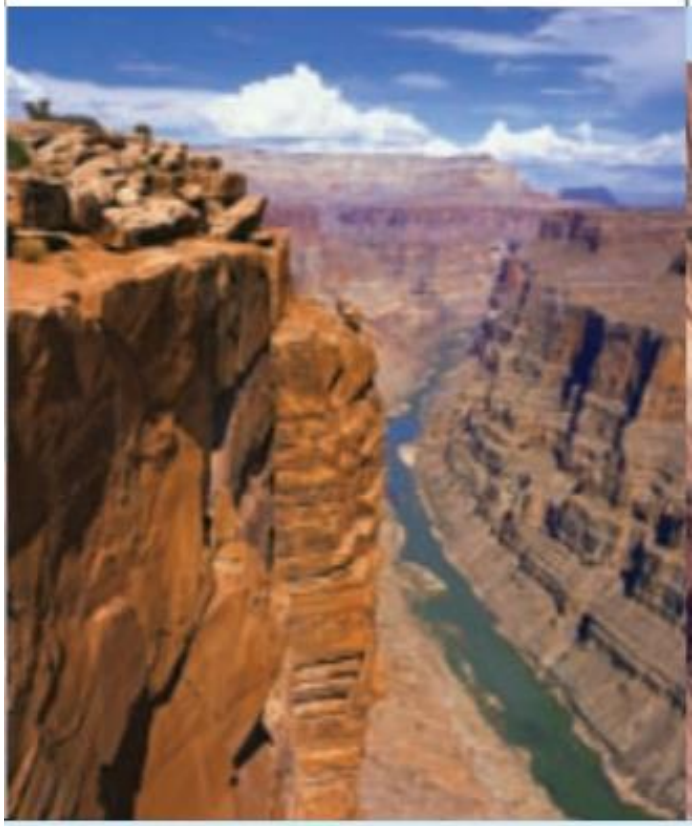


10.1 Early Ideas About Evolution

- **Theories of geologic change set the stage for Darwin's theory.**
  - **Gradualism** - Changes in landforms resulted from slow changes over a long period of time.

GRADUALISM

Canyons carved by rivers show gradual change. Gradualism is the idea that changes on Earth occurred by small steps over long periods of time.



10.1 Early Ideas About Evolution

- **Theories of geologic change set the stage for Darwin's theory.**
  - **Uniformitarianism** - The geologic processes that shape Earth are uniform through time.

10.1 Early Ideas About Evolution

- **Uniformitarianism** is the prevailing theory of geologic change.