

Geologic History of New York Reference Tables Facts

1. Geologic Time Scales are read from the bottom (oldest) to the top (youngest).
2. The Earth is approximately 4,600 million years old (4.6 billion years old).
3. The Precambrian Eon represents most of Earth's history, but it is rare to find fossils of that time because organisms that existed during that time did not have hard body parts that could fossilize.
4. The subdivisions of geologic time are based mainly upon fossil evidence.
5. Most organisms over time have become extinct.
Mass extinctions are thought to be caused by meteorite impact events and/or global climate change.
6. The fossil record supports the theory of evolution:
An increase in the complexity of organisms can be seen in the fossil record.
7. The Earth's atmosphere changed from having no oxygen to an abundance of oxygen as a result of CO₂ gas being released from Earth's interior (**out-gassing from volcanic activity**). The CO₂ was later converted to O₂ by plant photosynthesis.
8. **Index fossils** are remains of organisms that lived for a relatively short period of time but found over a large geographic area.
9. Many of the fossils found in New York State suggest that parts of New York were once a shallow marine environment.
10. There is no rock record in New York for the Permian, Paleogene, or Neogene Periods.
11. An **orogeny** is a major mountain building event.