Earth 22 – Earth's Past

Background

Beginning with the Precambrian period, Earth's past is a vast series of time-periods – chronological dating that relates geological strata to time. The geologic time scale (GTS) is used by geologists, paleontologists, and other Earth scientists to describe the timing and relationships of events that have occurred during Earth's history.

The Precambrian started with the origin of the earth about 4.5 billion years ago and ended 570 million years ago. The timeline is grouped into eons, eras, and periods (each successively smaller units of time).

Precambrian rocks on most continents have revealed that additional primitive life-forms existed approximately 3.5 billion years ago. In the late Precambrian, the first multi-cellular organisms evolved, and sexual division developed. By the end of the Precambrian, conditions were set for the explosion of life that took place at the start of the Cambrian.

Key Questions

- What is the general sequence of Earth's atmosphere beginning at Earth's formation through the present?
- In what way has the atmosphere contributed to the evolution and diversity of life on Earth?
- What evidence do scientists examine to support your responses above?

Assignment (Essay and Presentation)

Essay

- Craft a two-page essay responding to the key questions posed (with one APA reference).
- In the essay, use appropriate grammar, spelling and punctuation.
- Avoid "fluffy" sentences and "filler."
- Use Times New Roman (12) font with double spaced lines.

Presentation

- Craft an overview presentation based on the Essay which summarizes your findings.
- Include a meaningful, summarized time line depicting Earth's atmospheric beginning through current day.
- Use at least one of the "seven diagrams" to inform an audience about the relationship of Earth's atmospheric evolution and the "birth" and evolution of life forms. (A matrix would serve this requirement well).

Possible Starting Point Web References/Sources

https://www.sciencedirect.com/science/article/pii/S0012821X19303619

https://www.nationalgeographic.com/science/prehistoric-world/precambrian-time/

https://slate.com/technology/2014/07/the-great-oxygenation-event-the-earths-first-mass-extinction.html

https://www.cdc.gov/habs/pdf/cyanobacteria_faq.pdf

https://en.wikipedia.org/wiki/Cyanobacteria

https://en.wikipedia.org/wiki/Cyanobacteria

https://en.wikipedia.org/wiki/Evolution_of_cells

https://en.wikipedia.org/wiki/Methanotroph

http://www.citationmachine.net/apa/cite-a-book