

Geology for Teachers Project

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A. Description

My project is a lesson plan to introduce geologic time as part of the Natural Selection unit in my biology classes. It will come after the basic elements of the theory of Natural Selection have been presented.

B. Objective/Goals

To enrich the study of Natural Selection by introducing the geologic time scale and connecting it to the study of life through fossils. The fossils will be the Iowa Devonian fossils that I have collected in this course and pictures of fossils from other era. This lesson will be based on the place-based learning principle because I will use the Bedrock Geologic Map of Iowa 1998 and the stratigraphic column of Iowa (2004) that we received in class as well as my Iowa fossils.

C. Implementation

- a) I will use the stratigraphic column of Iowa (2004) to introduce geologic time.
- b) The bedrock geological map of Iowa will be used to illustrate how the bedrock in Iowa originated in different geological time periods.
- c) My fossil collection will then be presented. I have the following specimen:
 - a. A horn coral
 - b. A sponge fossil
 - c. A variety of brachiopods
 - d. Samples of colonial coral fossils
 - e. Several stromatoporoids
- d) I will also use the Fossils of Iowa brochure that I obtained at the Devonian fossil gorge and the fossil identification sheet obtained at Rockford Fossil and Prairie Center. I will also try to obtain the Fossils Rocks Time pdf file and poster from the USGS.
- e) Students will be given additional "unknown" fossils to identify using the materials provided.

D. Evaluation

Students will provide a 5 paragraph response to the following question:

The Iowan fossils studied are from the Devonian age. These organisms are now extinct. Explain this situation using the theory of Natural Selection.