

"Ex Libro Lapidum Historia Mundi"

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Geology of Iowa for Teachers

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PROJECT DEVELOPMENT

- a. Students will **DEPICT, DESCRIBE, and DETAIL** a geological record of Northeast Iowa.
- b. Students will be able to **ESTABLISH** an appreciation and understanding of a geological perspective of Northeast Iowa by:
 1. **ANALYSIS** of topographical features.
 2. **OBSERVATION** of Fossil Records.
 3. **COMPOSITION** of a Natural History chronicling important events.
 4. **DESCRIPTION** of locations of geological interest about Northeast Iowa.
 5. **COMPLETION** of Field Research.
 6. **COLLECTION** of fossils at the internationally famous Nautiloid Cephalopod Fossil Site in Graf, Iowa.
 7. **COLLECTION** and **ORGANIZATION** of rocks and minerals within the vicinity.
 8. **ANALYSIS** of water impacts, glacial disturbances, wind effects, and soil maps.
 9. **RELATION** of the past, present, and potential future climatic conditions of Northeast Iowa.
- c. Students will **ACHIEVE** these **OBJECTIVES** by following **ASSESSMENT METHODS**:
 1. Observations
 2. Discussions.
 3. Completion of Laboratory Reports.
 4. Assembly of pictures and slides.
 5. Collection of samples from the field.
 6. Power Point presentations.
 7. Construction of a Map of the **PAST**.
 8. Construction of a Map of the **PRESENT**.
 9. Construction of a Map of the **FUTURE**.
 10. A Calendar detailing significant Geological and Biological events.
 11. Discussion of the Roles of Human Impact upon Planet Earth.
- d. The **EFFECTIVENESS** of the project will be **EVALUATED** by Students' successful completion of the **ASSESSMENT METHODS** based upon:

1. Clarity of Thought.
2. Composition of Compelling Conclusions.
3. Cogency of Expression.
4. Accuracy of Presentation.
5. Attention to Detail.
6. Accuracy of Interpretations of Human Impact.
7. Completion of the Graf, Iowa Fossil Site Laboratory Report.

e. The major portion of my PROJECT will include a Field Trip to the internationally famous Nautiloid Fossil Site in Graf, Iowa. Based upon their OBSERVATIONS and INTERPRETATIONS, they will be provided the opportunity to RESPOND to the following Questions:

1. DISCUSS your initial impressions of the Fossil Site.
2. DRAW and DESCRIBE the rock formation that you observe.
3. DISCUSS the origin of the rock formation.
4. DRAW and DESCRIBE the fossils you locate.
5. COMPARE the fossils you locate with those of others.
6. DRAW and DESCRIBE the appearance of the organism when it was alive.
7. DETAIL the environmental conditions in which the Nautiloid Cephalopods existed.
8. DISCUSS potential causes of the extinction of Nautiloid Cephalopods.
9. DEFEND or REFUTE: The Fossil Record represents a complete history of the history of Life upon Planet Earth.
10. DESCRIBE how scientists examine the Earth's past.
11. DESCRIBE how scientists examine the present Earth.
12. DISCUSS how you have studied the Earth.
13. COMPOSE at least three compelling conclusions detailing your understanding of the Graf Fossil Site.