

TRB 4:4 - Investigation 6 - Dinosaur Extinction

Summary

Students will research and analyze theories on why dinosaurs became extinct.

Group Size

Individual

Materials

Chart paper for brainstorming ideas

Access to the internet (If not possible print off needed information and make copies for the students)

Books or articles on the theories of dinosaur extinction

- [Dinosaur Extinction Theory Form](#) (pdf)

Lined paper for students formulated questions

Additional Resources

Books:

Exline, J., et al: 2002, Earth's Changing Surface, Prentice Hall, New Jersey

Moyler, R., Daniel, L., Hackett, J., Baptiste, P., Stryker, P., Vasquez, J.: 2000, Learning About Earth's History. McGraw Hill, New York

Moyler, R., Daniel, L., Hackett, J., Baptiste, P., Stryker, P., Vasquez, J.: 2000, Classifying Living Things, McGraw Hill, New York

Living Things, McGraw Hill, New York

Palmer, D.: 1996, Pocket Fossils, DK Publishing, New York

Background for Teachers

There are varied theories as to what caused the extinction of the dinosaur. As evidence and information is gathered, some ideas become more widely accepted than do others. Some causes of extinction are as proposed:

The Asteroid/Meteor Impact Theory

Volcanism Theory

Plate Tectonics

Marine Regression

Mammal Competition

Disease/Epidemic

Super Nova

Cosmic Ray/Radiation

Climate Changes/Orbital Changes

Vegetation Changes

[http:// www.zoomdinosaurs.com/](http://www.zoomdinosaurs.com/) has some excellent background information under Extinction: Why did the dinosaurs go extinct? Share the "Studying Extinction" information with the class before they begin their research. It will explain in simple terms to students how fossils can tell the history of Earth. "What is Extinction", "The Alvarez Asteroid Theory," and "Other K-T Extinction Theories" are good sources for the students to get research information from.

Intended Learning Outcomes

1. Use science process and thinking skills
2. Manifest Scientific attitudes and interests

3. Understand science concepts and principles
4. Communicate effectively using science language and reasoning

Instructional Procedures

Pre-Assessment/Invitation to Learn

Tell the students that one of the great, unsolved mysteries in science is the disappearance of the dinosaur.

Pose the question “What happened to the dinosaur?” to the students.

Brainstorm and record all the students’ responses as to what they think caused the disappearance of the dinosaurs.

Instructional Procedure

Using books, articles or the internet have students research one of theories explaining the extinction of dinosaurs. (See students Websites under Additional Resources for research locations on the web.)

Have the students take notes as they research. They will need to find clues as to what the cause may have been. Have them record the evidence that they find to support their theory on the Dinosaur Extinction Theory page. They should also record weaknesses in the theory.

Have the students formulate three to five questions that can be answered using the information they have gathered on the extinction of dinosaurs.

Have the students trade papers and have a partner answer their questions.

Extensions

Language Arts-

Have a debate featuring the two most popular theories, asteroid extinction vs. volcanic extinction. Have each group present their findings. Have the students use scientific evidence to back up their theory. (*Standard I, Objective 1,2*)

Students could study several theories of extinction. They will need to compare the information gathered for different theories and then decide which theory they think is the most likely cause of dinosaur extinction. (*Standard VII, Objective 1, 2, 3*)

Have a “Scientific Conference.” Each group will present and defend their theory in a debate with other “scientists.” Explain and discuss the nature of a scientific theory. Discuss why evidence sometimes leads scientists to disagree about theories. (*Standard VIII, Objective 6*)

Homework and Family Connections

Have the students ask their parents how they think the dinosaurs became extinct. Then have the students tell their family and parents different theories for their extinction. Have a discussion about it. (Dinosaurs Extinction Theory Page)

Have the students tell their parents about the debate (if they had one in class) and the position they took for the argument.

Send home the websites listed above for the students to look up more information about dinosaur extinction.

Assessment Plan

Evaluate the questions the students formulated against the notes they took and the theory page they filled in. Were the questions formulated based on the research done?

Have the students do a persuasive writing response on the theory they chose. Have them give evidence for possible correctness of their theory (or evidence that disproves their theory).

Authors

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