

Case Details

Case Title:

Who let the bones out?

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Grade Level(s):

Middle School

Subject(s):

Earth Science

Summary:

A mysterious find in a Madagascar may shake up everything we know about ancient human life! A group of paleontologists has discovered an ancient human skull in proximity to a dinosaur fossil, prompting some in the public to ask if dinosaurs and humans coexisted. To prepare for their upcoming appearance on the Oprah show, the scientists need to get their data in order and decide whether or not the two specimens are from the same time period.

Adapted from:

Adapted From: Turner B.L. & Shamsid-Deen, K. K. (2005). Dinosaur Find.

Suggested Citation:

Ford, A. L., & Sheehan, E. (2008). *Who let the bones out?*. Retrieved June 03, 2012 from Emory University, CASES Online Web site:
http://www.cse.emory.edu/cases/casedisplay.cfm?case_id=904

Notes:

We adapted this case by changing the original location of the story, the architectural dig, and the implementation plan. Turner, B. L., & Shamsid-Deen, K. K. (2005). Dinosaur find. Retrieved July 12, 2006 from Emory University, CASES Online Web site: http://www.cse.emory.edu/cases/casedisplay.cfm?case_id=170

Learning Objectives:

1. Examine and interpret primary data, examining the validity of their own and others' interpretations and formulating a scientific argument.
2. Describe the principles of uniformitarianism and relate them to stratigraphic layering and geological age.
3. Distinguish relative from absolute dating.
4. Describe the process of radioactive decay and how it permits radiocarbon dating and potassium-argon dating of fossil material.
5. Describe the process of radioactive decay and radioisotope dating.
6. Construct stratigraphic models showing how fossils of different ages can be near each other but in different stratigraphic layers.

7. Differentiate between different rock types found in stratigraphic profiles and how they typically form.
- 8.

National/State Standards:

SCSh1. Students will evaluate the importance of curiosity, honesty, openness, and skepticism in science. (NSES Content Standard A)

S6E5. Students will investigate the scientific view of how the Earth's surface is formed. (NSES Content Standard D)

c. Describe processes that change rocks and the surface of the Earth

f. Describe how fossils show evidence of the changing surface and climate of the Earth

g. Describe soil as consisting of weathered rocks and decomposed organic material.