

Case Details

Case Title:

Survivor mountain series: Quivering, shivering alps

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Grade Level(s):

Middle School

Subject(s):

Earth Science

Summary:

The Survivor Mountain team faces its second challenge when they arrive at a small mountain town. All of the town's citizens are in a state of panic and confusion and it is up to you and the team to determine what caused the terrifying shaking and loud noises. When you and the team solve the mystery, create a videotaped group newscast or newspaper article that will explain what happened to the town in order to answer the citizen's questions and ease their fears.

Adapted from:

Gore, P.J. (1998). Dacula, Georgia earthquake intensity exercise. Retrieved October 13, 2008 from <http://facstaff.gpc.edu/~pgore/daculaquakedata.html>

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Brooks, B. M., & Dundee, S. B. (2008). *Survivor mountain series: Quivering, shivering alps*. Retrieved June 03, 2012 from Emory University, CASES Online Web site: http://www.cse.emory.edu/cases/casedisplay.cfm?case_id=163

Notes:

This case is the second of 2 cases in the Survivor Mountain Series, based on the popular television show, "Survivor." The case can be used independently, or in conjunction with the first case: [Mystic Mountains](#).

Learning Objectives:

1. Earthquakes as a destructive or constructive Earth force
2. Faults including strike-slip faults, normal faults, reverse faults
3. Interplate earthquakes and intraplate earthquakes
4. Types of stress in the Earth's crust including shearing, tension, and compression
5. Seismic waves, magnitude, and epicenter
6. Mercalli Intensity Scale

National/State Standards:

Georgia Performance Standards

S7CS1. Students will explore of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works. (NSES Content Standard A)

S7CS6. Students will communicate scientific ideas and activities clearly. (NSES Content Standard A)

S7CS7. Students will question scientific claims and arguments effectively. (NSES Content Standard A) a. Question claims based on vague attributions (such as "Leading doctors say...") or on statements made by people outside the area of their particular expertise. b. Identify the flaws of reasoning that are based on poorly designed research (i.e., facts intermingled with opinion, conclusions based on insufficient evidence).

S7CS8. Students will investigate the characteristics of scientific knowledge and how that knowledge is achieved. (NSES Content Standard A) Students will apply the following to scientific concepts: a. When similar investigations give different results, the scientific challenge is to judge whether the differences are trivial or significant, which often requires further study. Even with similar results, scientists may wait until an investigation has been repeated many times before accepting the results as meaningful. b. When new experimental results are inconsistent with an existing, well-established theory, scientists may pursue further experimentation to determine whether the results are flawed or the theory requires modification. c. As prevailing theories are challenged by new information, scientific knowledge may change.

S6E3. Students will recognize the significant role of water in earth processes. (NSES Content Standard D)

S6E4. Students will understand how the distribution of land and oceans affects climate and weather. (NSES Content Standard D)