

Lesson Plan: Earthquakes!

Area: Geology

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Supplies needed:

- marshmallows
- toothpicks
- modeling clay
- firm Jell-O and rectangular pan
- plates

Introduction:

- What are earthquakes? On what kind of soil do they do the most damage?

Directions and demonstration:

1. Make a slab of clay approximately 4" x 4" x 1".
2. Place it in the center of plate #1.
3. Cut a slab of Jell-O about 4" x 4" x 1".
4. Place it in the center of plate #2.
5. Using toothpicks and marshmallows, build two identical one story towers.
6. Press one tower down firmly into the clay on plate #1.
7. Press the other tower down firmly into the Jell-O on plate #2.
8. Add a second and third story to the tower on each plate.
9. Gently shake the table to simulate an earthquake.
10. Observe the reaction of each structure to the shaking.

Follow-up:

- Describe how your structures reacted on the different ground conditions. (The Jell-O and the clay)
- What do you think would happen to your structures if you made them taller? How does this activity relate to real life earthquakes like the 1989 Loma Prieta earthquake?
- Redesign your structures so that they can withstand the shaking better.
- Explain that ground conditions can have considerable effect on the intensity with which an earthquake is felt. Wet soils like beaches, marshes, and reclaimed landfill sites tend to shake the most, while solid bedrock shakes the least.

Source:

Ponzio, Richard. (1991) "4-H SERIES- Beyond Duck and Cover." Cooperative Extension, 4-H Center, University of California, Davis, CA 95616, 916-752-8824, FAX 916-752-3969.