

CWSF 2012 - Charlottetown, Prince Edward Island



Lydia Wong

Buildings in Earthquakes

Challenge: Discovery

Category: Intermediate

Region: Toronto

City: Toronto, ON

School: Harbord Collegiate

Abstract: Past earthquake investigations have shown that seemingly unstable structures survived because their loose building anchors allowed them to rock. This project will investigate this phenomenon by conducting an experiment that shakes a structural model using a homemade shaker with loose and firm foundation anchors. Relative displacement of the structure will be compared.

Biography

Lydia Wong lives in downtown Toronto and is a tenth grade student at Harbord Collegiate Institute. Three years ago, Lydia completed a Science Fair project for her middle school on soil liquefaction, a phenomenon occurring in soil during earthquakes. This project was initially thought of when she was sculpting clay figurines with natural clay found in a campsite during a family trip. Lydia observed that when she shook the clay in a container, the clay softened and was easily moulded. This year, she decided to base her project on the buildings themselves during earthquakes. She plans to further her experiment by experimenting with different earthquake motions and by building a more realistic building model. Lydia believes that other students thinking about doing a project should base their projects on something that not only interests them, but that can be applied to their own lives. She enjoys playing a variety of sports such as basketball, ultimate Frisbee, and baseball and also teaches and learns karate as a black belt. When Lydia has time, she enjoys teaching her grandmother piano, gardening and playing with her younger sister. In the future, Lydia plans to pursue a career in engineering.