

National Engineers' Week Student Competitions

UAA Engineering & Computing Building, Anchorage, AK

Saturday February 18, 2017; 10:00 am - 2:30 pm

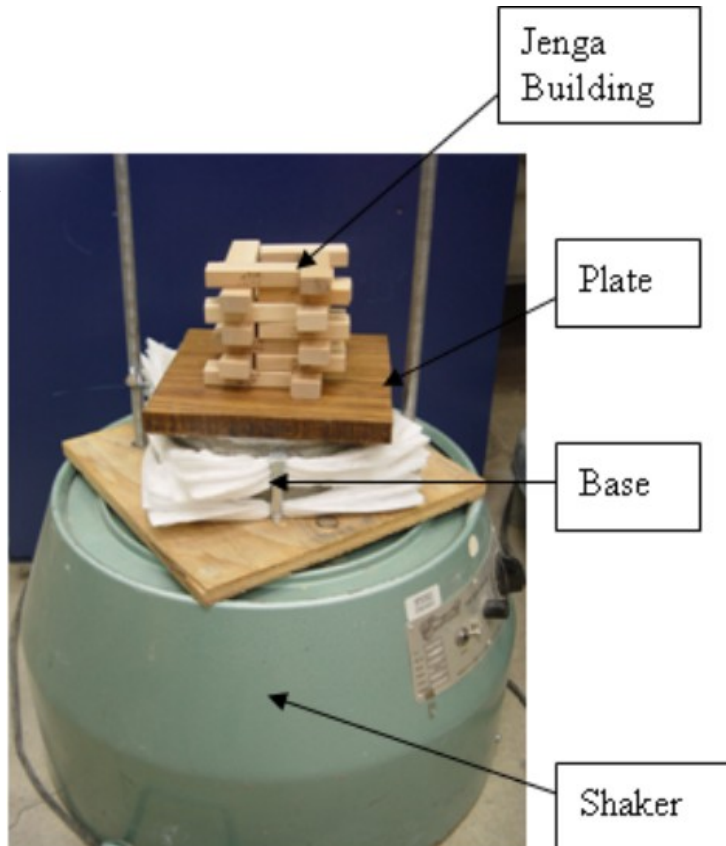
Shake & Break Competition

In earthquake prone regions, buildings are designed to withstand ground shaking produced by tremors. The building codes usually include a significant number of redundant measures that are employed to protect the integrity of the structures. One way of demonstrating the damaging force generated by an earthquake is the “Shake Table” test.

Objective: Your task is to build a structure with Jenga Blocks which will withstand the earthquake generated by the Shake Table. The winning structure will be the one with the highest point total.

Rules:

1. You may use as many as sixty (60) blocks that will be available at the competition.
2. The structure must be at least ten (10) stories high. (The image shows a building of 7 stories high)
3. The building may take any shape that can be built with the blocks.
4. No glue or other adhesive is allowed.
5. Only materials provided at the competition may be used.
6. The building must be contained by the (20cmx20cm) plate and transported on the plate to the base.
7. The base is predetermined, though may vary from the photo; it contains the metal cylinders, and energy absorbing padding.



Testing & Scoring:

1. The shake test will terminate when two or more blocks fall off.

2. One (1) point will be added for every second up to and including ten (10) seconds.
3. Two (2) points will be added for every second past ten (10) seconds.
4. Two (2) points will be added for each complete story above ten (10) levels, that remains after the simulation is complete.

Highest total points wins!!!