# Earthquake Engineering Challenge

Name:_____

Materials:

- 10  small sticks
- 10 large sticks
- Varying sizes of rubber bands
- Earthquake shake table

In small groups, your team will plan and build a structure that will withstand even the highest magnitude earthquake. You can only use the supplies given. You must get your design approved before building.

**Step 1: Plan**

As a team discuss how buildings withstand earthquakes and how to design a quake-proof model. Then draw a model. List the materials you will need (how many of each size stick, and how many rubber bands).

**Step 2: Hypothesize**

How well do you think your structure will hold up?

How many shakes do you think it can last before falling down?

How confident are you in your design?

Now go get your design approved!

**Step 3: Build**
As a team, build your design. Draw your final product here, and list the materials you used (how many of each size stick, and how many rubber bands).

**Step 4: Test**
Now it is time to test your design! Strap your structure to the shake table and watch it shake!
Watch how other teams' designs hold up and see which team has the toughest design.

**Step 5: Reflect**

How well did your structure will hold up?

How many shakes did you withstand?

What was the weakest part of your design? What was the strongest part of your design?

What would you do differently next time?