

Thursday 11<sup>th</sup> February - Practical

LO: To gain an understanding of life in an earthquake zone.

### How to make an earthquake proof building

**You will need:**

- 30 small (cut) straws per group
- Marshmallows
- Scissors
- Two pints of jelly per group, ready made in a flat, rectangular dish



You can substitute these items for anything else you have in your house!

You have 30 small straws and marshmallows to make a building resistant to earthquakes. The Earth has limited resources, so therefore engineers also have limited resources when building structures. You can make large or small cubes or triangles with the straws and marshmallows. Cut the straws if you need to.

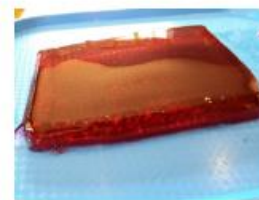


Remember that cubes are a good basic structure.

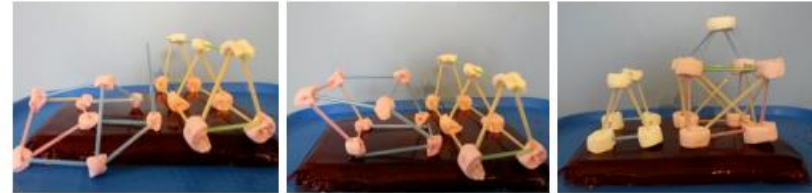
Cross bracing makes cubes stronger.



Here are some different designs. Which ones do you think will be the most earthquake-resistant?



Keep your jelly in the pan, or turn it out onto a tray. The jelly is going to be the ground. Place your buildings on this ground!



Tap the jelly (or the side of the pan) to simulate seismic waves. Observe what happens to your structures. You may want to video record this, so before you start shaking the jelly, nominate one person to record the experiment.

**In your group, ask yourselves these questions**

- What did we see happen?
- What can we do to make our buildings stronger? Did it topple?
- Should we make the footprint (base) bigger? Should we make the structure taller or shorter?

If you have time, have a go at redesigning your structures to improve earthquake resistance.