



The Tech Challenge

Presented by
Dell Technologies

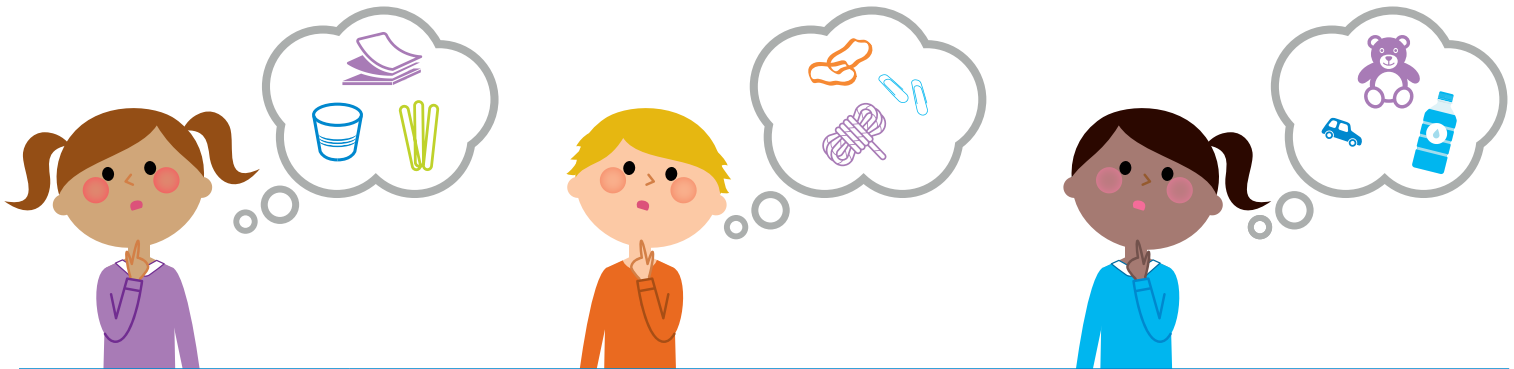
Earthquakes!


Ready for a little Tech Challenge fun? It's time to build an earthquake-safe structure!

Created June 2020

In this challenge, you will build a structure and test it for earthquake safety. Safe structures will have little or no damage after an earthquake.

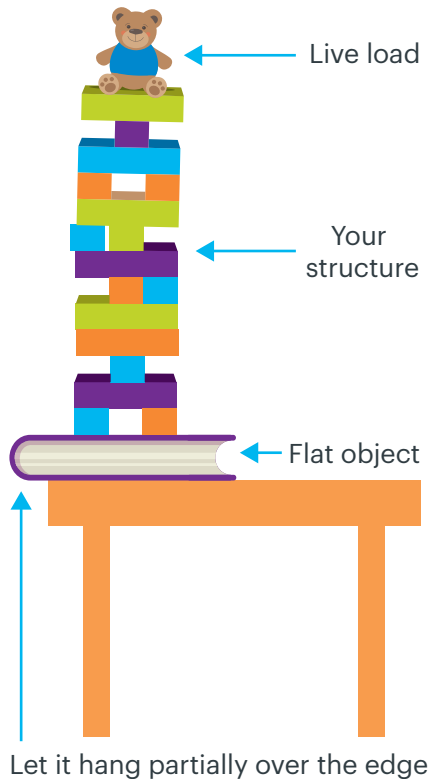
You will need some building materials, connectors and a live load. Use what you have and be creative!



Building materials	Connectors	Live Load	No tape or glue!
<ul style="list-style-type: none"> • Paper and cardboard • Plastic cups • Paper plates • Toilet paper rolls 	<ul style="list-style-type: none"> • Rubber bands • Paper clips • Twist ties • Pipe cleaners 	<ul style="list-style-type: none"> • Toys • Small water bottles 	 <p>Why? Because building without tape or glue lets you change your designs faster and makes it easier to reuse materials.</p>

Ready, set, build!

1. Build a 2-4 foot tall structure out of everyday materials.
2. Find something flat and hard like a book or cutting board that your prototype will fit on. Set that on a table and let it hang partially over the edge.
3. Put your prototype on the flat object. Then shake that flat object! Earthquake! How did your structure do?
4. Add your live load. A live load is the weight of all the stuff inside a building like people and furniture.
5. Where you put the live load will affect how the building moves in an earthquake. How does the weight affect the results?
6. Try putting the weight in different parts of the structure and test again.



Bonus challenges

- Build a higher structure.
- Add more weight in different parts of your structure.
- Put toy people in your structure. What happens to them during your earthquake?

Questions to ask yourself

- Why did you choose the materials you used?
- What else could you use to "make" an earthquake?
- If you had access to any building material, what would you use? Why?

Share what you build on Facebook using **#TheTechChallenge**

thetech.org/techchallenge