



TALLEST TOWER CHALLENGE

Put your engineering skills to the test!
This month, we're building towers.

Challenge Goal:

To build the tallest tower possible using only two different materials.

Instructions:

1. Choose 2 materials to build your tower & record them in your data table. Need some inspiration? Here's some great materials: cups, books, toothpicks, card, yarn, play-doh, popsicle sticks, tape, rubber bands, and so much more!
2. On a flat surface, assemble your tower using your chosen materials.
3. Measure the height of your tower with a ruler. Record your results on the data table.
4. Can you build an even taller tower? Recycle your materials and try again!

ABOVE & BEYOND

What would happen...

if you pushed your tower?

if you put something heavy on top of your tower?

if you shook the table your built your tower on?



THINKING ABOUT TOWERS



To build a tall tower, an engineer designs the tower to withstand many forces that act on a building. The building should be able to stand tall despite gravity, people inside the building, the weather, and the environment all impacting the building.

FORCES:

GRAVITY

downward force with the weight of a tower

STRONG WINDS

sideways force that pushes on a tower

EARTHQUAKES

sideways force that shakes a tower

SUPPORT:

STRONG FOUNDATION

supports the weight of a tower at the base of the building. Skyscrapers have deep underground foundations! A sturdy foundation resists the pressure of strong winds and helps a tower stand tall.

FLEXIBILITY

towers may have flexible foundations and special building materials that absorb the energy from an earthquake. You might feel the building shake, but the special construction absorbs shock and reinforces the structure so the tower won't fall over.

DATA SHEET

Use the table below to record your tower building experience. There is room here to describe 3 different towers, but you can build as many as you want! Fill in the 2 building materials you used, how tall your tower was, and any notes about your building process. How long did it take you to build? Did your tower ever fall down? Did you go above & beyond in your tower building challenge?

TOWERS BUILT	BUILDING MATERIAL #1	BUILDING MATERIAL #2	HEIGHT OF TOWER	BUILDING NOTES
1				
2				
3				