



CUP TOWER CHALLENGE

Engineer a tower using plastic cups.

Materials

Plastic cups
Paper



Procedure

- Place a plastic cup upside down on the floor or a table.
- Place a piece of paper on top of the cup and place another cup on top of that paper.
- Keep stacking cups one on top of the other with paper in between. Try to build a tower that is as tall as you are. Does it work?
- Next, try setting 2 cups side by side and laying a piece of paper horizontally across both.
- Place 2 more cups on top of those. Keep stacking cups, 2 at a time. Can you build a taller tower?
- Try experimenting with different ways of stacking the cups and the paper and see which one allows you to build the tallest tower.

Results

You built a tower out of plastic cups!

Why?

Engineers design and build structures that are useful to humans, such as bridges and towers. During that design process, engineers brainstorm ways to build structures to meet human needs, build and test those structures, and improve upon their previous designs. After making an improvement on their design, they may test and tweak their design several more times. Engineers are also subject to certain constraints when designing structures. In your case, you were limited in the materials you were able to use. Engineers in real life may have a budget they have to stick to or a certain amount of space available to build on.

To learn more about engineering, check out the early engineering designs in the Cultural History Gallery at the Pink Palace Museum.