STRUCTURAL ENGINEERING

STRUCTURAL ACTIVITY

Straw/Toothpick Towers

Materials

- toothpicks
- pool noodles cut into rings
- scissors

OR

- sticky tape
- straws
- scissors

Original source link: Teach Engineering: Straw Towers activity

Instructions

The goal of this activity is to build a tall, stable tower.

Buildings are stable if they don't fall over from wind blowing on their sides or light shaking of the base they are built on.

The group who is able to have the tallest, most stable straw/toothpick tower is the winner.

Students are to stick the toothpicks into pool noodle rings in order to build up their tower. If you cannot get pool noodles, then an alternate method is to use straws and sticky tape.

Students are given 5-10 minutes brainstorming tower designs, drawing sketches and coming up with ideas.

Part of the brainstorming session may be to explore building techniques. What is the least amount of tape needed to keep a straws upright? How many toothpicks are needed to keep a pool noodle rings supported and stable? What is the best shape for support and stability?

Groups are given a time limit to build their tower, trying to create the tallest, most stable structure.

Extended challenge

Create a structure that can hold the weight of a tennis ball. The goal is to build the tallest structure using only 15 straws and a roll of tape. *Rules: No part of the structure can be taped to the ground or table.*

ACTIVITY