

Tall Tower Challenge at London Children's Museum

Your inspiration for this activity is the CN Tower, but you will be designing to build your tower with paper straws and tape to hold up a golf ball.

Attached is design record for your project. This is a worksheet for the design and building. All engineering involves a detailed design before building and a record of that design and how it performed.

There is a live Zoom session to talk about engineering, to introduce this activity and to provide help and assessment as needed on Saturday March 13 at 10:00 EST. Please go to <http://nemontario.ca/events/>, scroll down to the 13th on the calendar and click on "Event Details" to register for this and possibly the afternoon event as well (Ship the Chip).

A material and tool list is provided below with some notes on alternatives to scrounge around home. A limited number of material kits are available for pick-up from [London Children's Museum](#) (LCM) by calling 519-434-5726. The kit will also include a predesigned template to fabricate and compare to your design.

You can also use these instructions, if you wish to do these activities asynchronously (not on the Zoom event).



Materials

- (25) Paper straws (or plastic)
- (1) Roll of tape
- (1) Golf ball for testing (or anything of similar weight (50 g) and size (4 cm))

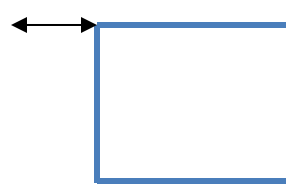
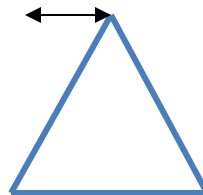
Tools

- Scissors
- Tape measure

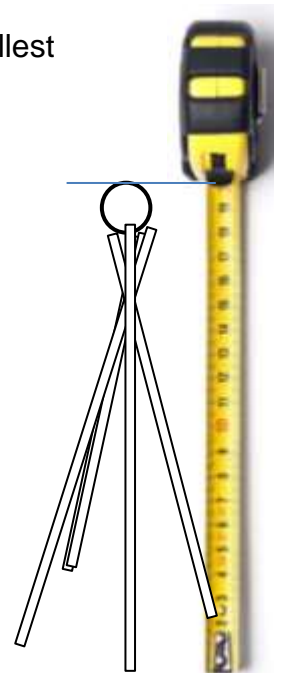
Some helpful hints:

- Use the worksheet to sketch your design and work out how many straws you will use and how tall your tower will be.
- You don't need to use all the straws. The goals are twofold – to design the tallest possible tower and to build it to that predicted height.
- Use the tape to align the straws to build a strong structure
- The height will be measured from the top of the golf ball
- Triangular structures will have more strength than rectangular – try it out

Push and pull on the top



See you all on Saturday March 13!



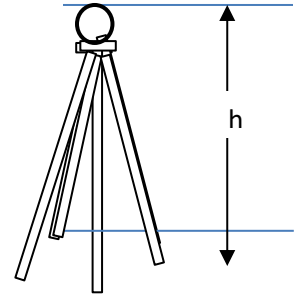
Design Record – Tall Tower Challenge



Designer _____ Date _____

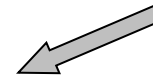
Brainstorming (ideas for how to build the tallest tower to hold a ball on an “upper deck” using the given materials: paper straws and tape – use back for initial concepts)

(sketch & calculations)



Number of straws needed: _____, Projected height: _____ cm

Review (Will the design work? Is it complete?) Approval _____



Testing

Actual height _____ cm – From the top of the golf ball to the table or floor

Number of Straws _____

Structural Test – Place ball on upper deck

Result and review

Assessment (what would you do next time?)