



#SkillsAtHome Challenge Series

Challenge #4 – Marshmallow Bridge

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Challenge—Your challenge is to design and create a bridge using mini marshmallows and toothpicks! Challengers will be judged by the longest distance covered as well as by the largest weight held by their bridges. Challengers are first asked to create a scaled design of their bridge before constructing it. Don't worry, if you don't have mini marshmallows or toothpicks available, we have listed a couple substitute materials that could work instead!

To submit your bridge challenge entry, we ask that you include a picture of your bridge's design on paper, a picture of your bridge across a measured gap, and a picture of your bridge holding a weight (dimes to be used as weights). Upload all three photos of your bridge design in one Twitter post while recording the length (in centimeters) of the gap your bridge covered. Please be sure to record the amount of dimes held by your bridge within your post for marks! Tag @SkillsOntario and use the hashtag #SkillsBridgeChallenge in your submission post!

Challenge Materials

You Will Need:

- 45 6-CM** Connectors (Toothpicks) - See Material examples for other suitable substitute materials.
- 25** Connectors (Mini Marshmallows) - See Material examples for other suitable substitute materials.
- Up to 30** dimes (to be used as weights during testing)
- 1 piece** of paper cut exactly into a 10cm x 2cm rectangle (to be used to hold your weights)

| Material Examples | |
|---|--|
| Stick-like Items <i>(No longer than 6 cm in length)</i> | Connector-like items |
| Toothpicks Kabob sticks Spaghetti/linguini Paper rolled into tubes | Play'doh Marshmallows Modelling clay Tape (Must be cut into 1 cm lengths) Etc. |

Skills: Design and Planning, Communication, Creativity, Attention to Detail

Skilled Trades/Technologies: Ironworker, Elevating Device Mechanic, Architectural Design, Welder

[Click here for a full list of all recognized Ontario skilled trades](#)

Note: Health and Safety is always important. Please be sure to check with a parent or guardian when participating in challenges. If you are under the age of 18, ask for parental guidance.

Challenge Rules

1. Challengers are to build a freestanding structure using only 25 Connectors (Marshmallows) and 45 Sticks (Toothpicks). Challengers may not use more than the limited amount. Challengers are to include a picture of their bridge covering a measured gap in their submission post.
2. Challengers must first create a blueprint design on paper and include a picture of it within the submission post for evaluation. The structure is to be based upon this blueprint.
3. Using the paper rectangle, you must create a platform to hold your weights on your bridge. Using 1CM pieces of tape, you may fasten the platform to the bridge BUT the tape may NOT touch the toothpicks.
4. Challengers must also take a picture of their bridge holding the weight in order for Structure Weight points to be awarded.
5. Structures are NOT allowed to be supported by anything other than Marshmallows and Toothpicks. (Not leaning on wall, chair, etc.)
6. No Lego/K'nex/other similar building toys are to be used. Only household items such as the ones listed in the 'Material Examples' list.
7. Once you are done, upload your pictures of your bridge and the weight being held in a post to Twitter. Be sure to tag @SkillsOntario in your submission and use the hashtags #SkillsAtHome and #SkillsBridgeChallenge!

Judging/Scoring

Submissions will be marked in the following:

| Structure Length (Avg. toothpick/stick length is 6 cm) | Points |
|--|-----------|
| 5 CM and smaller | 0 points |
| < 11 CM | 5 points |
| < 26 CM | 10 points |
| < 41 CM | 15 points |
| 42 CM + | 20 points |
| Total Marks (Total out of 20) | |

| Structure Strength (Dimes to be used as weights) | Points |
|--|-----------|
| No weight | 0 points |
| 1-6 Dimes | 5 points |
| 7-12 | 10 points |
| 13-19 | 15 points |
| 20 + | 20 points |
| Total Marks (Total out of 20) | |

| Design Plans (To be drawn on paper) | Points |
|--|-----------|
| No Plan was provided | 0 points |
| Basic Plan was provided | 5 points |
| Challenger had plans with measurements. | 10 points |
| Plans were to scale with measurements outlined. Detailed. Straight edge was used. | 15 points |
| Plans were to scale with measurements outlined. Detailed. Straight edge was used. Lines are neat. Legend provided. | 20 points |
| Total Marks (Total out of 20) | |

Challenger Total Marks: / 60 points