

THE MARSHMALLOW CHALLENGE

LEAD YOUR TEAM THROUGH A STICKY SITUATION

GOAL: Build the tallest free standing structure possible that supports a marshmallow using 20 pieces of spaghetti, one yard of tape and one yard of string!



Teams of 2 - 4



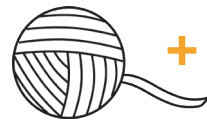
18 minutes

Using the following:



< 20 STICKS OF SPAGHETTI

A YARD OF
STRING



A YARD OF
TAPE



ONE
MARSHMALLOW



1

ASSEMBLE A KIT FOR EACH TEAM

In advance of the meeting, create a marshmallow challenge kit for each team, with each kit containing twenty sticks of spaghetti, one yard of masking tape, one yard of string and one marshmallow. These ingredients should be placed into a paper lunch bag, which simplifies distribution and hides the contents, maximizing the element of surprise.

- **Spaghetti:** Ensure that you use uncooked spaghetti. Avoid spaghetti as it is too thin and breaks easily. Fettucini is too thick.
- **String:** Include string that can be easily broken by hand. If the string is thick, include scissors in your kit.
- **Marshmallow:** Use a name brand or private label brand of marshmallows that measure the 'standard' size, about an inch and a half across. Avoid mini or jumbo marshmallows. Also avoid stale marshmallows. You'll want squishy marshmallows that give the impression of lightness.
- **Masking Tape:** Get standard 3/4" masking tape.
- **Rules:** Hand out a copy of the rules (page 4 of this packet) to each team.

Also ensure that you have the following tools to run the challenge:

- **Measuring Tape:** Have a contractor's retractable measuring tape available after the challenge is finished so you can measure the height of the structures.
- **Countdown App or Stopwatch:** The actual marshmallow challenge takes eighteen minutes. Eighteen minutes seems to be the magic time. Twenty minutes is too long and fifteen is too short. You can use a stopwatch, but better yet is to use a video projector and display the countdown time.
- **Video Projector and Sound System (optional):** Time out a play list of exactly 18 minutes of music. You'll want the challenge to end at the conclusion of the last song.

2

DELIVER CLEAR INSTRUCTIONS

Be clear about the goals and rules of the Marshmallow Challenge.

- **Build the Tallest Freestanding Structure:** The winning team is the one that has the tallest structure measured from the table top surface to the top of the marshmallow. That means the structure cannot be suspended from a higher structure, like a chair, ceiling or chandelier.
- **The Entire Marshmallow must be on top:** The entire marshmallow needs to be on the top of the structure. Cutting or eating part of the marshmallow disqualifies the team.
- **Use as Much or as Little of the Kit:** The team can use as many or as few of the 20 spaghetti sticks, as much or as little of the string or tape.
- **Break up the Spaghetti, String or Tape:** Teams are free to break the spaghetti, cut up the tape and string to create new structures.
- **The Challenge Lasts 18 minutes:** Teams cannot hold on to the structure when the time runs out. Those touching or supporting the structure at the end of the exercise will be disqualified.
- **Ensure Everyone Understands the Rules:** Don't worry about repeating the rules too many times. Repeat them at least three times. Ask if anyone has any questions before starting.

3

START THE CHALLENGE

Start the countdown clock and the music with the start of the challenge.

- **Walk around the Room:** It's amazing to see the development of the structures as well as notice the patterns of innovation most teams follow.
- **Remind the Teams of the Time:** Countdown the time. Usually, I call 12 minutes, 9 minutes (half-way through), 7 minutes, 5 minutes, 3 minutes, 2 minutes, 1 minute, 30 seconds and a ten-second count down.
- **Call Out How the Teams are Doing:** Let the entire group know how teams are progressing. Call out each time a team builds a standing structure. Build a friendly rivalry. Encourage people to look around. Don't be afraid to raise the energy and the stakes.
- **Remind the Teams that Holders will be Disqualified:** Several teams will have the powerful desire to hold on to their structure at the end. Usually because the marshmallow, which they just placed onto their structure moments before, causing the structure to buckle. The winning structure needs to be stable.

4

FINISH THE CHALLENGE

After the clock runs out, ask everyone in the room to sit down so everyone can see the structures. Likely, just over half the teams will have standing structures.

- **Measure the Structures:** From the shortest standing structure to the tallest, measure and call out the heights. If you're documenting the challenge, have someone record the heights.
- **Identify the Winning Team:** Ensure they get a standing ovation and a prize (if you've offered one).
- **Wrap up with the Lessons of the Marshmallow Challenge:** Describe some of the key lessons of the marshmallow challenge:

Kids do Better than Business Students: *On virtually every measure of innovation, kindergarteners create taller and more interesting structures.*

Prototyping Matters: *The reason kids do better than business school students is kids spend more time playing and prototyping. They naturally start with the marshmallow and stick in the sticks. The Business School students spend a vast amount of time planning, then executing on the plan, with almost no time to fix the design once they put the marshmallow on top.*

The Marshmallow is a Metaphor for the Hidden Assumptions of a Project:

The assumption in the Marshmallow Challenge is that marshmallows are light and fluffy and easily supported by the spaghetti sticks. When you actually try to build the structure, the marshmallows don't seem so light. The lesson in the marshmallow challenge is that we need to identify the assumptions in our project – the real customer needs, the cost of the product, the duration of the service – and test them early and often. That's the mechanism that leads to effective innovation.

- **Show Tom Wujec's 6 minute TED Talk to wrap-up!**

Adapted from:
<https://www.tomwujec.com/design-projects/marshmallow-challenge/>



THE MARSHMALLOW CHALLENGE

LEAD YOUR TEAM THRU A STICKY SITUATION

GOAL: Build the tallest free standing structure possible that supports a marshmallow using 20 pieces of spaghetti, one yard of tape and one yard of string!



Teams of 2 - 4

18 minutes

Using the following:



20 STICKS
OF SPAGHETTI



A YARD OF
STRING



A YARD OF
TAPE



ONE
MARSHMALLOW

RULES

1. Use only materials provided (spaghetti, tape, string) and use as much or as little as you want.
2. Yes, you can break the spaghetti, cut the string, rip the tape.
3. Must be free-standing (can't tape to table or suspend from ceiling or table).
4. Marshmallow must be whole (yes, you can skewer it!)
5. 18 minutes and then we measure; highest marshmallow off tabletop wins. No holding the structure when time runs out!
6. There is not a trick solution, break the rules and you will be disqualified!

Adapted from:
<https://www.tomwujec.com/design-projects/marshmallow-challenge/>