

# Marshmallow Design Thinking Challenge

(Adapted from [The Marshmallow Challenge](#) by Tom Wujec)

## Overview

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The challenge of building tall structures has lured people into structural engineering for a long time. Managing our gravitational well in order to elevate usable space above the surface of the Earth is harder than it looks. As a result, engineering is always searching for creative minds that can dream of new designs.

## Design Rationale

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hieroglyph.asu.edu states:

- The main design problem is to determine the shape that minimizes the weight of material while providing adequate strength
- Not only is the area of material important, so is its distribution
- To have lateral stability the tower must have bending resistance.

## Problem Scenario

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Your team has been selected to attend the National Tallest Marshmallow Building Competition held in Roma, Italy. Your team will need to build the tallest free-standing structure in just 18 minutes that will hold a perfectly formed marshmallow on top; the structure cannot be propped up, held, or suspended from the ceiling.

## Parameters

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- Build the tallest freestanding structure in 18 minutes: the winning team is the one that has the tallest structure measured from the floor to the top of the marshmallow. That means the structure cannot be suspended from a higher structure.
- The entire marshmallow must be on top: cutting or eating or mutilating part of the marshmallow disqualifies the team.
- Teams can use some or all of the materials designate, in whole or apart, but may not use additional materials.
- When finished, no member can hold the structure to keep it from falling.
- No member can use the Internet or outside sources for information.

## Success will be determined by

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- Addresses the design challenge
- Uses the provided materials
- The winning team creates the tallest free form structure that can hold a marshmallow.
- Teams can use as many or as few of the 20 spaghetti sticks, as much or as little of the string or tape. The team cannot use the paper bag as part of its structure.

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