

## Structural Engineering: MARSHMALLOW CHALLENGE (6-8)

### KEY CONCEPTS:

- A [structural engineer](#) analyzes and designs the support systems for buildings, bridges and other constructs.
- Originally designed by [Peter Skillman](#), the marshmallow challenge reflects the same issues found in the real world of structural engineering and design. Issues like limited resources, learning by doing and collaboration are all challenges engineers face.



### LITERACY CONNECTION:

Think of books like [House with a Clock in its Walls](#) by John Bellairs. What type of structural engineer could build a house like that?

Remember, movies rarely go along with the book, so if you've seen the movie, compare it to the original story. What is different? Which did you like better?

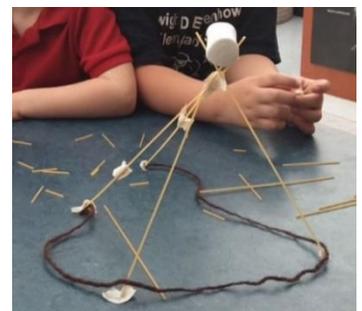
### ACTIVITY: MARSHMALLOW TOWER CHALLENGE



Materials: 20 pieces of uncooked spaghetti, 1 yard (3 feet) of masking tape, 1 yard (3 feet) of string or yarn, 1 marshmallow, measuring tape

**This is a great TEAM activity!**

1. Take a few minutes to start planning out your design.
2. See how tall you a structure you can build using ONLY the given supplies in 20 minutes.
3. You do NOT get extra or replacement supplies.
4. The marshmallow must sit on the tower WITHOUT being damaged, tied or taped.
5. Measure how high up is your marshmallow?



### **What is happening?**

The goal: Using the materials given, build the tallest structure possible with the marshmallow INTACT and on the TOP of the structure. It seems simple, but requires collaboration, creativity and team work.

**EXPLORE:** This is now a popular activity in professional engineering and design workshops as well as team building. Tom Wujec has given insightful [TED Talks](#) on this very challenge.

For an example of this activity, watch the video: [STEM Marshmallow Challenge](#)

*This at-home educational activity is from the Literacy Coalition of Palm Beach County's literacy-based Stories & STEM program. Stories & STEM is made possible with support from Prime Time Palm Beach County, Inc., which receives significant funding from the Children's Services Council of Palm Beach County, Inc.*

*Having fun? Send pictures or video links of you and your Stories & STEM projects to [csharkey@literacypbc.org](mailto:csharkey@literacypbc.org)*