



KENTUCKY DERBY
— MUSEUM —

MARSHMALLOW & SPAGHETTI STRUCTURE

A MULTI-DISCIPLINARY LESSON ON
CRITICAL THINKING, SCIENCE, ENGINEERING, DESIGN/BUILDING FOR
3RD - 12TH

HISTORY

Have you been to the Churchill Downs Grandstand? Have you seen the famous Twin Spires?

They are **125 years** old!

When the first Kentucky Derby was run in 1875, the Twin Spires were not part of the grandstand. They were created 20 years later when a new grandstand was built in 1895. Over the years they have become one of the most recognized structures in all sports. The Twin Spires are standing on top of the oldest section of the complex is not only a symbol of Churchill Downs, but also for the state of Kentucky.

The Twin Spires are a recognized landmark and serve as an icon for all thoroughbred racing.

- Designed by 24-year-old Joseph D. Baldez
- Created for ornamental purposes
- Illustrate late 19th century architecture
- It is on the National Register of Historic Places

Since their construction in 1894-95, the Twin Spires of Churchill Downs have witnessed every passing Kentucky Derby.



MARSHMALLOW & SPAGHETTI STRUCTURE (GRADES 3-12)

Challenge: Use your imagination and creativity to create a structure similar to the Twin Spires.



Core Academic Standards:

(Science) 3-5-ETSI-3, MS-ETSI-3, HS-ETSI-3
(Art) VA:Cr1.2.3, VA:Re9.1.3, VA:Cr1.1.4, VA:Cr1.2.5,
VA:Cr2.2.5, VA:Cr2.1.6, VA:Cr2.1.7, VA:Cr2.1.8,
VA:Cr1.1.1, VA:Cr2.1.III, VA:Cr3.1.II

TIME TO BRAINSTORM



TIPS
CLUES
HINTS

Create sketches of any ideas you have and make plans for how you will build the structure.
-Good planning, design, and patience is essential to build a strong, steady structure.

Practice by building different shapes such as squares, triangles, and rectangles using spaghetti and marshmallows.

Some things to think about:

- Do you have a design in mind?
- Think about the shapes that are used to build strong structures like pyramids, towers and bridges.
- Balance – Can the structure hold itself?
- Do you have a strong foundation?
- How tall can you build?
- What is the strongest structure?



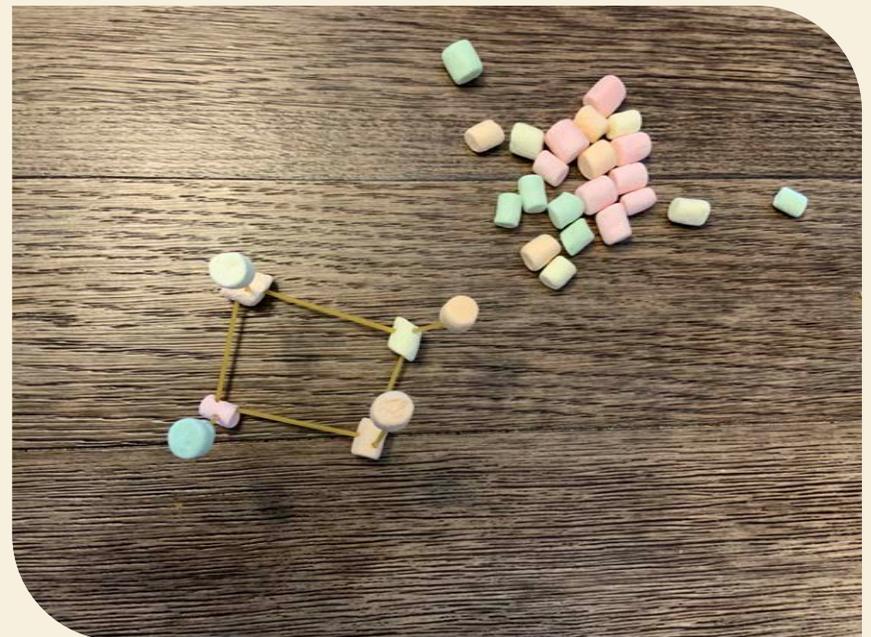
THINGS YOU NEED:

- Mini Marshmallows
- Spaghetti
- A flat surface to build on
- Lots of patience

TIME TO BUILD

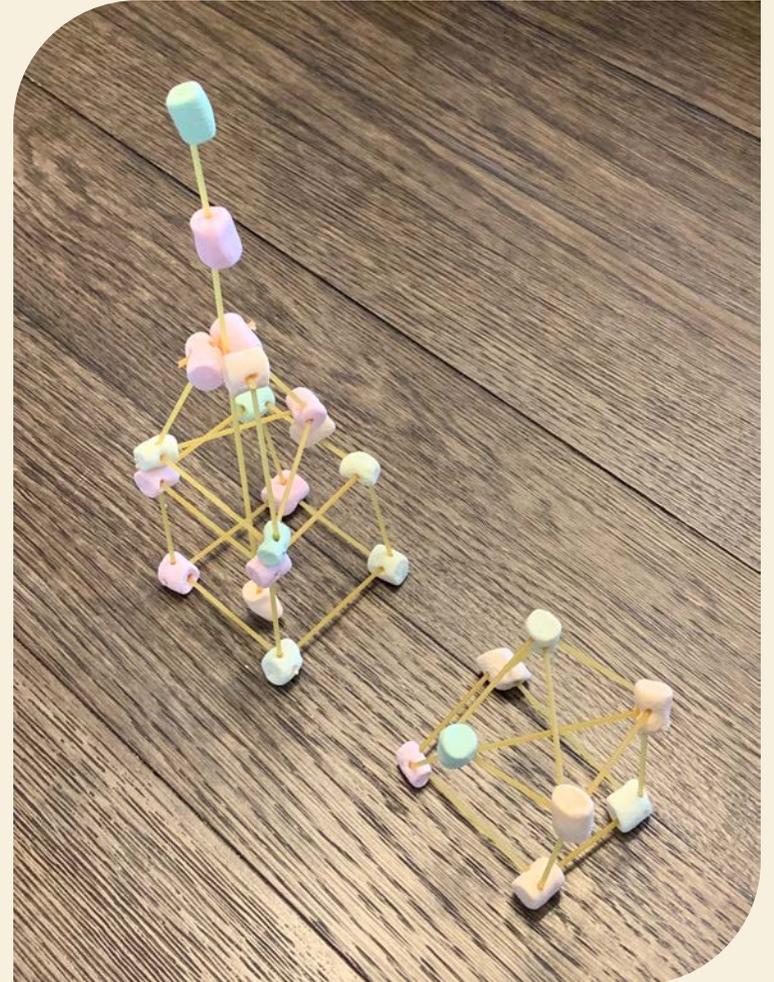


- Break spaghetti into desired sizes
- To attach, push spaghetti deep into the marshmallow
 - Use marshmallows as the joints in the structure
- Tip – Use two strands of spaghetti for extra strength



TELL US ABOUT YOUR FINISHED STRUCTURE

- 3 things that worked well
- 3 things that didn't work
- What will you change next time?



**Make sure to post your
creations to social media
so everyone can enjoy!**

Use [#derbyeveryday](#)

