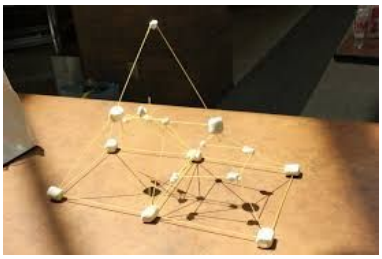
Graysville Elementary School - Title I presents:

Family S.T.E.M. Challenge at Home
March 23 - 27, 2020

Challenge 3 - Tallest Tower



Materials Needed:

- 20 spaghetti noodles
- 30 mini marshmallows
- Ruler or Measuring Tape

Instructions:

1. Brainstorm ideas how to create the tallest tower using the spaghetti noodles and the mini marshmallows
2. On a flat, level surface begin constructing your tower
3. Your tower must be free standing
4. Measure your tower from the base to the top
5. Record your finding in this Google Form (click the link)
6. What changes could you make to your tower to increase the height? For example:
    a. Make a more narrow base?
    b. Make a wider base?
7. Take a photo of your student with their structure and send it to mwatson.ges@catoosa.k12.ga.us

S.T.E.M. Take Away

The Tallest Tower challenge uses engineering to invent, design, and create solutions to human problems under constraints. Using spaghetti and marshmallows, students experiment with different structures to determine which ones are able to handle the greatest amount of load. Their experiments help them to further understand the effects that compression and tension forces have with respect to the strength of structures. Spaghetti cannot hold much tension or compression; therefore, it breaks very easily. Marshmallows handle compression well, but do not hold up to tension.

Standards Applied:

- **K-2nd:** *MGSEK.G.5. Model shapes in the world by building shapes from components.*
- **3rd-5th:** *MGSE3.MD.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.*