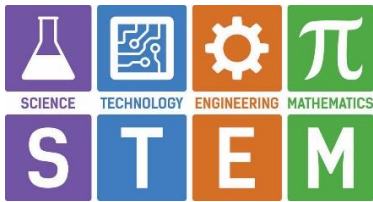


TMA STEM Fair

- Who:** All elementary students are welcome to participate. *
- When:** Thursday, January 24, 2019
9:00 am to 5:00 pm
** “Challenge” projects/prototypes are due January 23.
- Where:** TMA Multipurpose Room (Right)
- What:** Complete one “Challenge” from the following list and share the results.

*The Extension students will be working on their “Challenge” during their science classes.

If you are interested in participating, please **register in advance by filling out the TMA Design Challenge sheet (Only “Before” section). Final registration deadline is January 11, 2019.

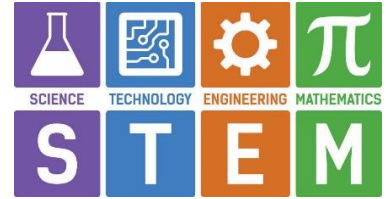


Name: _____

Class: _____

TMA STEM Design Challenge 2019

** Before (Registration Form)	Which challenge are you interested in? _____	
	Draw your design.	What supplies do you need? _____ _____ _____ _____ _____ _____ _____ _____ _____
After	What worked well? _____ _____	
	What did not work well? How did you fix it? _____ _____ _____	



Challenge 1

Supplies: 14 straws, 5 pipe cleaners, Scissors

Challenge: Build a straw tower that is at least 10 inches tall and stands for a minute without falling.

Challenge 2

Supplies: 15 straws, Tape, Scissors, Ruler, Cup of 50 of the same coins

Challenge: Build a straw bridge that holds a cup of 50 coins at least 4 inches off the ground for 60 seconds.

Then test how many coins it can hold before falling.

Challenge 3

Supplies: 10 straws, Scissors, Tape, 1 baking dish filled with water

Challenge: Build a raft that holds 10 coins for 60 seconds without sinking.

Can you build the raft a second way?

Challenge 4

Supplies: 1 baking dish, 1 poster board cut to fit the baking dish, 20 straws, Tape, Scissors, 1 marble

Challenge: Tape pieces of straw onto the poster board to build a maze. Then have a classmate try to roll a marble from the start of the maze to the finish.

Challenge 5

Supplies: 1 straw, 1 piece of tape, Scissors, 1 index card, 1 measuring tape, An alien ship or rocket template

Challenge: Build a straw rocket by wrapping your index card tightly around your straw to make a cylinder. Tape along the sides to secure it.

Wiggle out your straw and tape down the top of the cylinder.

Tape the alien or rocket ship onto the cylinder and slide the straw back into the open end.

Blow through the straw and watch your rocket blast into the air.

How can you make it fly further? Faster? Try it.