

# Somerset STEM Poster Exhibition: March 27, 2020

- **All students are highly encouraged to do a STEM Fair project!**
- Students will have a chance to display posters and describe them to high school volunteers!
- All students who attend with their poster will receive a small prize!
- Need help with project ideas or a PowerPoint template? Just contact [SomersetSTEM@gmail.com](mailto:SomersetSTEM@gmail.com) !

## Important Information

- Posters (typically trifold style, 36"x 48") should be brought to the STEM Fair (6:00PM-8:00PM) on Friday, March 27, 2020
- For Gr 5 ALS students – please follow the guidelines sent out by Ms. Toning
- For K-4 students – a variety of project styles (scientific method & measurement, engineering, or demonstration) are valued
- This event will focus on our students' posters
- Our goal is to give every student a chance to talk about their poster with a volunteer (plan on ~1 minute, including answering a question)
- Register your project here: <https://forms.gle/oDEbWRjYY4V23m5R8>
- We will need high school Volunteers who can help run the event and talk to students about their posters! Contact: [SomersetSTEM@gmail.com](mailto:SomersetSTEM@gmail.com)



# Ten STEM Fair Project Ideas

Feel free to use these project ideas – they will help you make a measurement and collect your own interesting data!

Measure the period of a pendulum	Make a simple pendulum with string and a weight. Measure its period with different weights, lengths, and starting angles. <a href="https://explorable.com/pendulum-experiment">https://explorable.com/pendulum-experiment</a>
Measure the movement of the stars	Use a protractor to build a tool for measuring the movement of the stars. Measure the movements of some stars every half-hour on a clear night. <a href="https://explorable.com/build-an-astrolabe">https://explorable.com/build-an-astrolabe</a>
Experiment with popping popcorn	Using 100 kernels of popcorn, measure the fraction that popped and their volume. Compare different types of popcorn or different brands. <a href="https://explorable.com/experiments-with-popcorn">https://explorable.com/experiments-with-popcorn</a>
Measure the age of a tree	Try different methods for measuring the diameter of a living or dead tree, including measuring its diameter. <a href="http://www.wikihow.com/Determine-the-Age-of-a-Tree">http://www.wikihow.com/Determine-the-Age-of-a-Tree</a>
Experiment with rolling dice	Roll a pair of dice 108 times to determine which sums occur most frequently. Or roll a single die 60 times to see how fair it is. <a href="http://www.mathsisfun.com/activity/dice-experiment-2.html">http://www.mathsisfun.com/activity/dice-experiment-2.html</a> <a href="http://www.mathsisfun.com/activity/dice-experiment-1.html">http://www.mathsisfun.com/activity/dice-experiment-1.html</a>
Build a catapult and measure its range	Build a catapult and measure how far it launches candy. Try changing the design and measure whether it increases or decreases range. <a href="http://thestemlaboratory.com/conversation-heart-catapults/">http://thestemlaboratory.com/conversation-heart-catapults/</a>
Measure “dancing raisins”	Measure how long “dancing raisins” float and try different foods and sodas. <a href="https://www.stevespanglerscience.com/lab/experiments/dancing-raisins-the-bubble-lifter/">https://www.stevespanglerscience.com/lab/experiments/dancing-raisins-the-bubble-lifter/</a>
Measure surface tension of water	Measure how many drops of pure water a penny can hold. Try different liquids and try to make your measurements reproducible. <a href="https://www.scientificamerican.com/article/measure-surface-tension-with-a-penny/">https://www.scientificamerican.com/article/measure-surface-tension-with-a-penny/</a>
Experiment with baking powder in recipes	Compare muffins baked with different amounts of baking powder. If possible, try to measure the volume or density of the baked muffins. <a href="https://www.scientificamerican.com/article/bring-science-home-baking-cornbread/">https://www.scientificamerican.com/article/bring-science-home-baking-cornbread/</a>
Measure gases expanding and contracting	Use a tape measure to determine how much a balloon changes in size when it is heated or cooled. <a href="https://www.scientificamerican.com/article/measure-gases-expand-and-contract/">https://www.scientificamerican.com/article/measure-gases-expand-and-contract/</a>

Have your own idea, but need help turning it into an experiment with a measurement? Contact [SomersetSTEM@gmail.com](mailto:SomersetSTEM@gmail.com)

# RECOMMENDED SLIDES

- You can use the following slides as a template – just print and attach to your trifold poster board
- Feel free to modify to suit your project and individual style!

# **YOUR PROJECT TITLE**

**Your First & Last Name**  
**Grade #, Room #, Teacher's Name**

# QUESTION

(example) How does the period of a pendulum change with its weight and its length?

(Write down the question that your project is trying to answer)

(Think carefully about what you are trying to measure)

(If your experiment changes, just change your question to match)

# **HYPOTHESIS**

My hypothesis is... (this is what you think the answer to your question will be, and why)

# PROCEDURE

I used the following steps in my project:

- ① (example) Measured a 40-cm length of string
- ② (example) Attached a 8-ounce weight to one end
- ③ (example) Attached the other end to a hook on the ceiling
- ④ (example) Raised the weight to a 45-degree angle from vertical
- ⑤ (example) Measured 10 periods of the pendulum with a stopwatch

# DATA/RESULTS

<b>Experiment</b>	<b>Meas 1</b>	<b>Meas 2</b>	<b>Meas 3</b>	<b>Meas 4</b>	<b>Meas 5</b>	<b>Average</b>
40-cm pendulum, 8 oz weight	2.2	2.0	2.1	2.2	2.0	2.1 seconds
40-cm pendulum, 16 oz weight	100	120	110	105	115	110 seconds
20-cm pendulum, 8 oz weight	10	11	9	10	10	10 seconds



# CONCLUSIONS

1. Based on my data... (what is the answer to your question?)
2. (Anything else that you learned from your data)

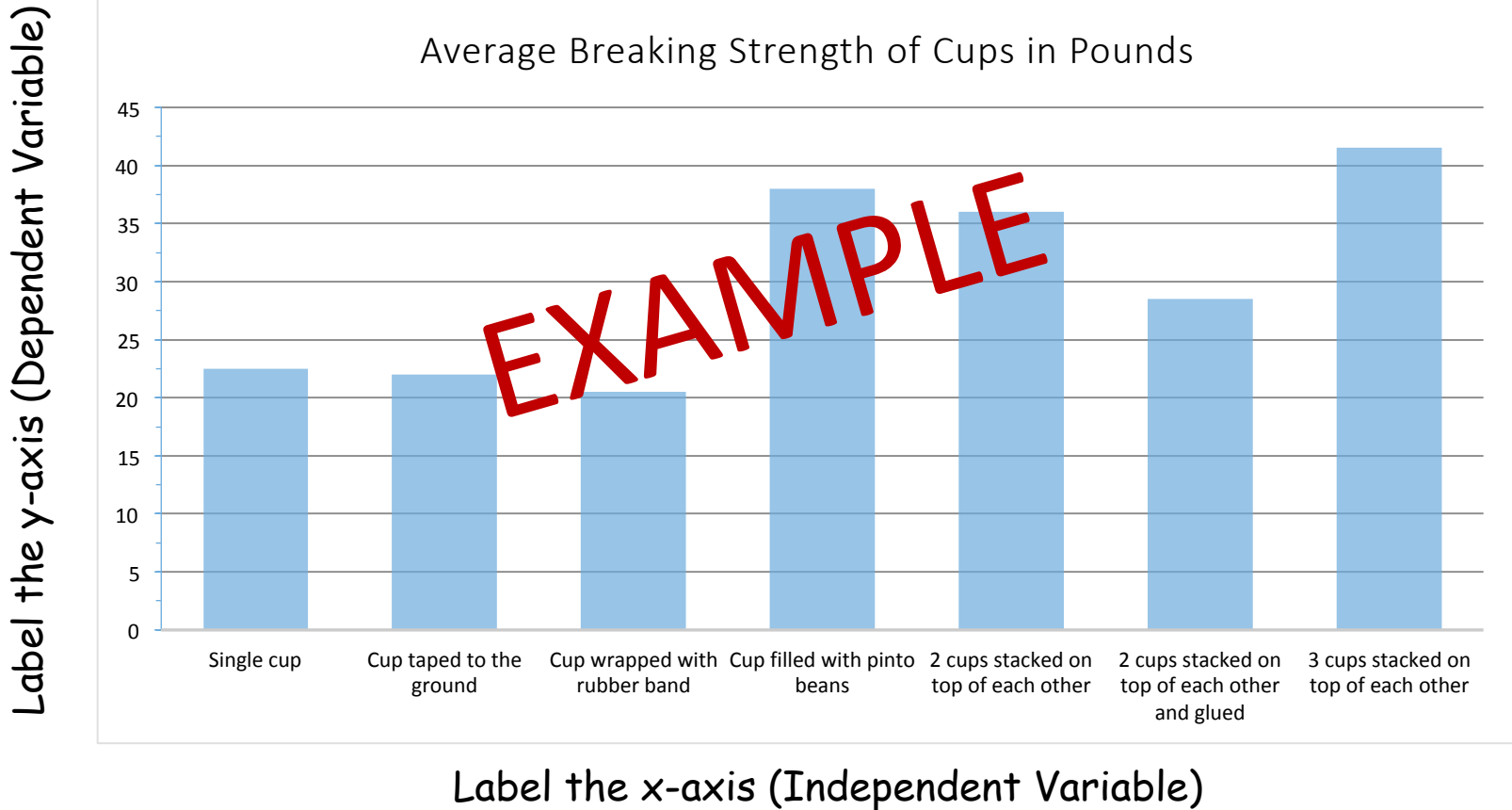
# **DIAGRAM/PICTURES**

(Draw by hand, using ppt, or add photos; write a caption here)

# OPTIONAL SLIDES

- These additional slides may be useful for your poster

# RESULTS/GRAPH



# APPLICATION / PURPOSE

- This project might be useful for...
- I chose this project because...

# MATERIALS

- (Things I used, for example: )
- Tape
- Paper
- Popcorn
- Stopwatch
- Protractor
- Ruler
- Soap
- Scale
- Friend/Assistant

# **ACKNOWLEDGEMENTS**

I would like to thank... for  
help with my project