

MARCH STEM CHALLENGE

Leprechaun Traps



CHALLENGE: It's time to try your luck! Trap a leprechaun, and he will grant you three wishes in exchange for his freedom. Design a multi-step, chain reaction trap that will lure the leprechaun, and then capture him without harming him.

CONSTRAINTS:

- 🌈 Trap must use a chain reaction of at least three steps, but the more complicated, the better!
- 🌈 Trap must include leprechaun bait (i.e. "gold" coin)
- 🌈 The chamber/step that traps the leprechaun must be at least 6in X 6in so the little man is not harmed
- 🌈 Try to use common household/classroom materials, but any materials are allowed

DESIGN:

- 🌈 Brainstorm, then draw a labeled schematic (blueprint or outline) of your design *before* you start building
- 🌈 Decide what materials you need and how much of each item. *Write it down.*

BUILD, TEST, ANALYZE:

- 🌈 Did it work how you expected?
- 🌈 What changes could you make to improve your design?
- 🌈 Make the changes and test again!

Tips for Teachers:

- ★ This is an Irish twist on the classic Rube Goldberg machines. You can use this activity to apply lessons in forces and motion, simple machines, and engineering.
 - <http://www.rube-goldberg.com/>
 - <https://tinkerlab.com/engineering-kids-rube-goldberg-machine/>
- ★ Choose materials and size constraints at your convenience
- ★ Have students work in small teams to improve communication and collaboration skills
- ★ When testing and analyzing, students may find their choice of materials and machine design was not the most effective. Allowing for redesign enhances the learning process!

March Student Challenge Worksheet



Design Challenge: It's time to try your luck! Trap a leprechaun, and he will grant you three wishes in exchange for his freedom. Design a multi-step, chain reaction trap that will lure the leprechaun, and then capture him without harming him.

Draw and label schematic of your design

Build: Build your design based on your plan.

Test: Record the results of your snowperson testing

	Trial			
	1	2	3	4
Did every step work to trap the leprechaun?				
Changes to be made				

Analyze:

What worked the best? What could you do differently with more time?