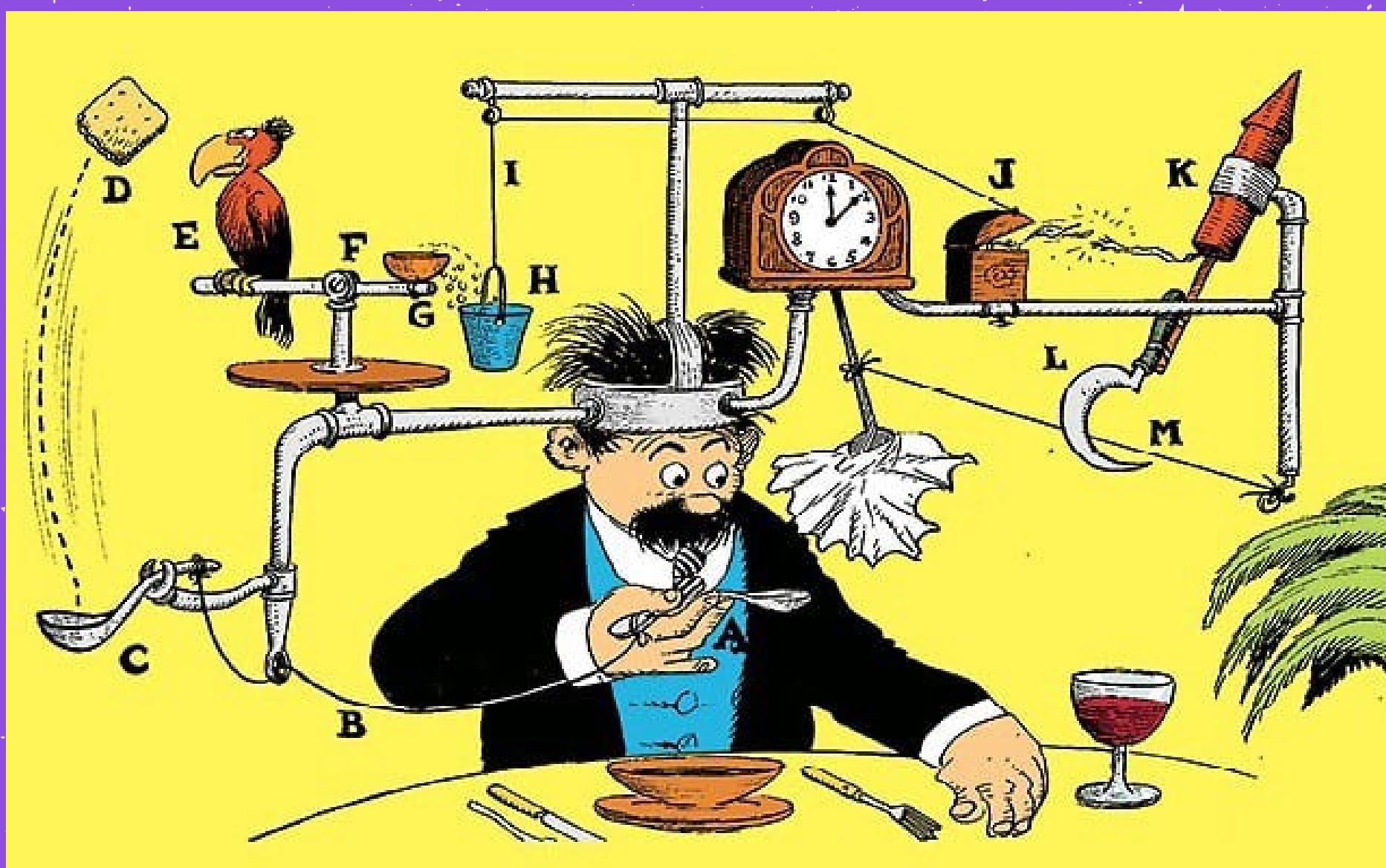
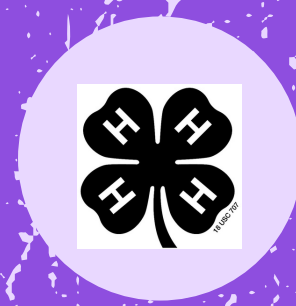


RUBE GOLDBERG CHALLENGE REGISTER TODAY



The 2022 Challenge:

WIN
PRIZES!

We invite youth in grades 3-12 to build a Rube Goldberg machine and show off your creativity, ingenuity and engineering skills! One winner will be chosen in each category: grades 3-5, grades 6-8 and grades 9-12. The winners will each receive a \$50 gift card. Entries will be due no later than February 19, 2022.

See back side for more details.



FEBRUARY 2022

In this challenge, you will:

1. Get familiar with the six simple machines and basic energy transfer.
2. Learn about the engineering design process and backwards design.
3. Create and film your very own Rube Goldberg machine .

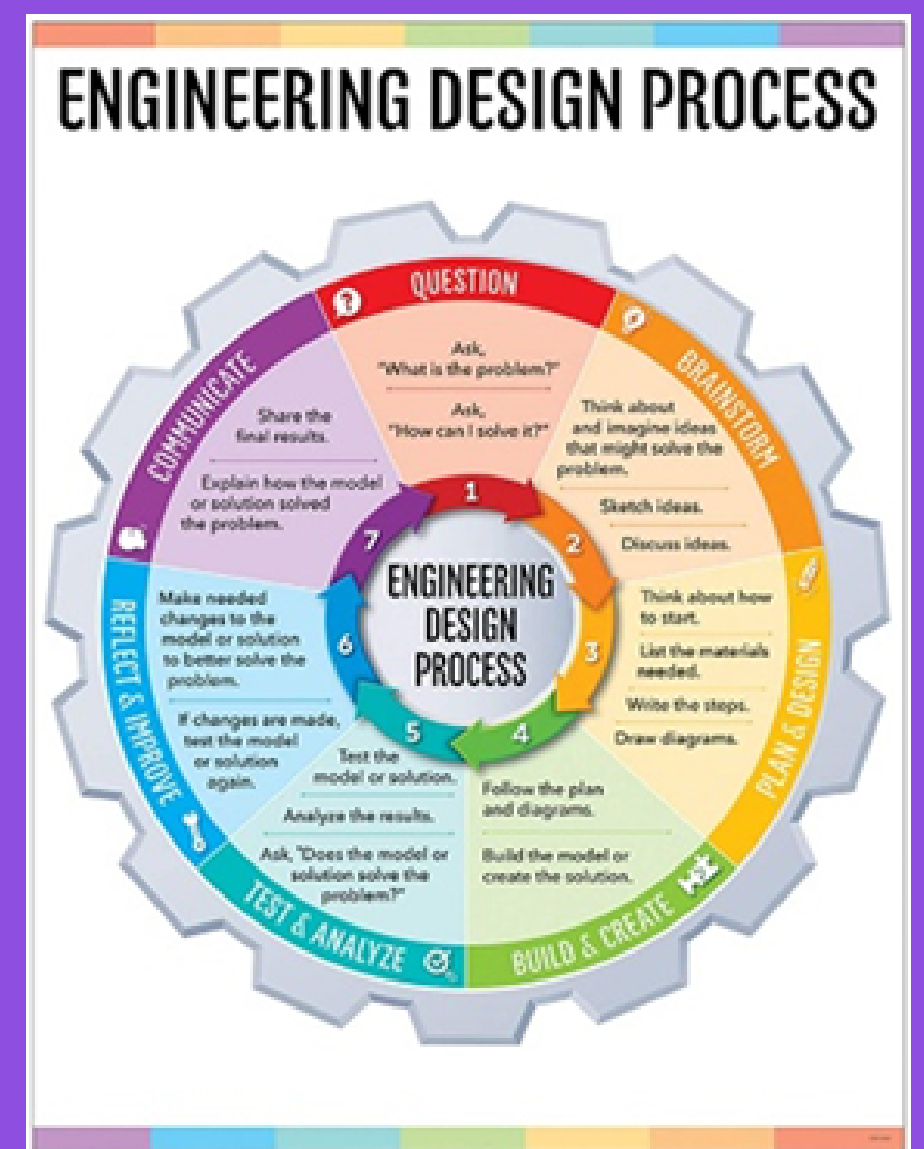
CHALLENGE REQUIREMENTS:

You can work alone or in a group of no more than 4 youth total and your machine must meet the following requirements:

1. Machine should use everyday objects from around your house.
2. Machine should complete a task devised by you. Use your imagination to come up with any task you'd like, such as delivering a piece of recycling to the recycle bin, putting toothpaste on a toothbrush or watering a plant.
3. Machine should have a minimum of 10 steps.
4. Machine should use a minimum of 3 different types of simple machines from the following list:
 - Incline plane, Wedge, Screw, Lever, Wheel & Axle, Pulley
5. Machine should have some repeatability (i.e. with re-setting in between attempts, machine should be able to accomplish the same task without human intervention at least 2 times, not necessary consecutively)
6. Machine should be safe for operator, observers, pets and property.
7. Humans should only be involved in the movement of the machine to get it started. Once they start the movement, they should not have to intervene to get the task to complete.
8. Once your machine is complete, record a video using a phone or camera of the machine working successfully and upload it to the Rube Goldberg Challenge Flipgrid.

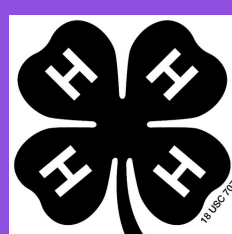
Using Backwards Design and the Engineering Design Process:

- To get started, think backwards. What is the task you want to perform? A simple task. Some ideas: turn off a light, open a door, pop a balloon. The options are endless.
- Once you've got your idea, make a plan for how to get there. Get creative, sketch out your design, watch some videos for inspiration.
- Next get your materials together. It can be literally anything. Some ideas: dominoes, fans, ping pong balls, blocks, magnets, duct tape, marbles, miniature toy cars, toilet paper towel tubes, string....the list could go on.
- Finally, get started! Remember, it won't work perfectly at first. Trial and Error will be important. We can't wait to see your short videos!



Participants must register to get access to the Flipgrid contest site:
www.uvm.edu/extension/youth/announcements

To request a disability-related accommodation to participate in this program, please contact Lauren Traister, 4-H Teen & Leadership Program Coordinator, at lauren.traister@uvm.edu or 802-888-4972 by February 1, 2022 so we may assist you.



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