



Join ACM's S.T.E.A.M. Team!

Take the Rube Goldberg Machine Challenge!

Plan – Design – Make – Test – Evaluate

This Week's Challenge:

Can you design and build your own Rube Goldberg Machine?

Using materials around your home (ask permission first): plan, design and create a complicated machine that will perform a simple task that consists of *at least* 10 steps or more.

What's a Rube Goldberg Machine, you ask?

Rube Goldberg designed machines that made simple tasks much more complicated. Now you can create one too! **To see one in action, click [here](#) (from PBS Learning Media)**

Plan & Design:

1. Will you work alone, or collaborate with others to create your machine?
2. What simple task will your machine perform?
3. What materials will you choose? Look around your house, who knew it was full of so many machine parts? Parts such as dominoes, string, sand, rocks, cups, clamps, balloons, tools, action figures, balls, marbles, cans, just to name a few. Can you find others?
4. What design will you use?
5. Will you draw your design before building?
6. What will inspire your design?

Create: Remember, your machine should have at least at least 10 steps or more.

*For a less complicated machine, try fewer steps at first, and then try to add more, if you'd like.

Test:

Tip: For more complicated contraptions, we recommend each step of the machine be tested individually, before running the entire test.

1. Test each step as you build
2. Did you get the result (action) you expected? If not, redesign and try again. Then add the next step.
3. When each step successfully completes its individual task, run the entire machine.

GOOD LUCK!

Evaluate:

1. Did your machine complete the end task? If not, WHY?
 2. What factors affect your results?
 3. Do you need to make any changes? If so, redesign and try again.
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**Want to make the design more challenging?*

- How many more steps can you add?
- Test and evaluate the new machine.

**How long did it take to build your machine?*

**How long did it take for your machine to complete the task?*

**Is there a new simple task you want to tackle? Try making other Rube Goldberg Machines!*

Don't forget to share your photos!!



Next time you're at the museum, try our Discovery Ramps and Tubes Exhibit!

Did you know that ACM can come to your location? Check out our Mobile Museum Discovery Experiences

<https://akronkids.org/visit-us/mobile-museum-outreach>

