

Grade 8 Mechanical Systems

Rube Goldberg Machine

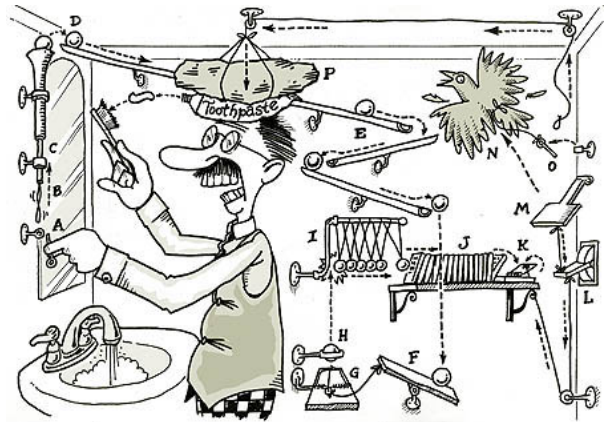
(adapted from Alberta Science Foundation: Wonderville Challenge)

You tube it:

Ok Go! – This too shall pass official music video
Honda Cog Commercial

Still need ideas:

Check out [wikihow.com](http://www.wikihow.com) – How to build a Homemade Rube Goldberg



Project Objectives:

Use simple machines to create a Rube Goldberg machine.
(A comically involved, complicated invention, laboriously contrived to perform a simple operation.)

The challenge: **To place a marble in a cup.**

Details:

- The group may consist of 3 or 4 members.
- The machine must complete the task as described in the challenge.
- The machine must be no larger than 6 ft x 6 ft x 6ft.
- The machine must have a minimum of 3 simple machines.
- No animals may be used in the machine.
- The machine must not imply profane, indecent or lewd expressions.
- Any loose or flying objects must remain within the set boundaries of the machine. This includes, but is not limited to, drops of water, slivers of balloon, and other "small" objects.
- No flames may be used on the machine.
- No hazardous materials or explosives can be used on the machine.
- The machine must be safe to the satisfaction of the teacher. The teacher must approve any questionable items prior to competition.
- Any destructive action against another machine is grounds for disqualification.

Once you have designed and built the machine you will analyze it based on principles and outcomes covered in your Grade 8 Mechanical Systems Unit.

Brainstorming:

Think about the Rube Goldberg machines you've seen so far. As a group, list the team's favorite parts or sections and indicate the simple machine involved.

1. _____
Simple machine: _____
2. _____
Simple machine: _____
3. _____
Simple machine: _____
4. _____
Simple machine: _____
5. _____
Simple machine: _____

What supplies would you need to accommodate your list above? Could your team member acquire these supplies? Are there modifications you could make if not?

1. _____

2. _____

3. _____

4. _____

5. _____

Make a list with each team member and what supplies they are going to bring:

****A box/container is required to store all of your supplies...please ensure that it is labeled****

Team Member's Name	Materials

At the end of the project you will be asked to analyze your machine based on the following:

- a. What simple machines did your team use?
- b. Describe the function of each simple machine.
- c. Were there any systems incorporated into your machine?
- d. What materials did your team use and why did your team use them?
- e. What provided the initial input force to start your machine?
- f. Which parts of the machine worked well?
- g. What factors impacted the efficiency of your machine?
- h. What would you change if you could make the machine again?

Once these questions have been answered, sketch your machine with at least three of the team's favorite features.

Preliminary Sketch - Teacher Approval: _____