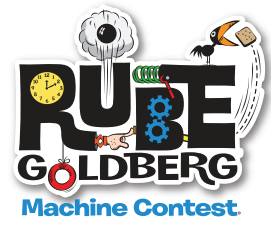


# 2019 DESIGN AND BUILD FOR ONLINE CONTEST

## 5. CONTEST TIPS



**Machine Introduction and Walk-Through:** This is your team's chance to shine and be creative! We want to hear the story your machine tells, and understand how the steps represent the theme and key elements of your narrative. The Machine Introduction should not be a step-by-step explanation of how the steps work. This is where your personality, humor, and team spirit engages the audience and gets them excited to see your machine.

**Materials:** RGMs should be "green" machines, made of as many recycled items as possible. Everyday, household objects are best and you can use just about anything! Not just toys, but a lamp, chair, fork, your grandpa's suspenders – you name it! Try using items differently than for their original purposes – an overturned bike's wheels can generate momentum, or a chair on top of a table can give you the power of gravity. Creativity is key - look in the basement, garage or junk drawer, rummage around for old keys, check out a yard sale for weird stuff no one else wants!

**Dominoes and marble runs:** Rube Goldberg never used dominoes in any of his machines! Marble runs and falling dominos are fun to look at – but they're not very creative. We encourage you to be resourceful and find alternatives in creating your machine's energy transfers.

**IMPORTANT:** Identical transfers of energy in succession will be counted as 1 step.

For example, a thousand dominos falling onto each other will be counted as one step.

**Humor:** Rube Goldberg was both an engineer and a cartoonist. In theory all of his wacky inventions would work, but his main goal was to make you laugh! So...RGMs should work but they also need to capture attention. The more theatrical and funny your machine is, the better it will score! The most successful teams have diverse members from engineers to artists, mathematicians to comedians, all working together.

**Plan enough time to build your machine:** Making something look easy is hard – and it takes a lot of time. We recommend at least three months to build, test and ready your machine for competition. Run your machine often-make sure the steps are all working as they should. The most successful machines are not built the week before the competition!

**Travel:** Design and build your machine modularly so transportation is easy and efficient. Travel is tough on machines! Make your machine in small, sturdy sections which can be transported easily and safely – and quickly and simply set up. Duct tape and cardboard machines usually fall apart on their way to competitions. Bring extra materials to the competition, just in case! Double-check the dimensions of doorways, elevators, hallways and stairwells at the competition site – and whatever vehicle you're using for transport - and make sure your machine fits!

If you are stuck, check out the many videos and pictures on our website at [rubegoldberg.com/contest/](http://rubegoldberg.com/contest/)