

Rube Goldberg Machine Contest

Rules and Regulations

CHALLENGE

- The challenge changes on an annual basis and will be posted on the official Rube Goldberg Machine Contest web site (www.rubegoldberg.com).

MACHINE SPECIFICATIONS

- The machine must complete the task as described in the challenge.
- The machine must be no larger than 6 ft. x 6 ft. x 6 ft.
- The machine must have a minimum of twenty (20) steps. There is no maximum number of steps.
- The machine must run for no more than two (2) minutes per run.
- Teams will have three (3) minutes before the first run to explain their machine.
- The machine will have a maximum twenty (20) minute reset time.
- Only two (2) team members may interact with the machine once the contest has begun. This includes resetting the machine.
- No corporate logos or names may be displayed on the machines.
- No live 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. Steam and other gasses are exempt from this rule.
- The machine may utilize one (1) air compressor hose and one (1) power cord. No other cords may be run to or from the machine; however there is no limit to the number of hoses and cords utilized within the space of the machine.
- No flames may be used on or within the machine. Electrical arching may be used upon approval of the contest Chairman.
- No hazardous materials or explosives can be used on or within the machine.
- The machine must be safe to the satisfaction of the RGMC officials. The contest Chairman must approve any questionable items prior to competition.
- Any destructive action against another machine is grounds for disqualification.

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TEAM RESTRICTIONS

HIGH SCHOOL

- Each team member must be enrolled as a full-time high school student to participate in the high school competitions.
- Each team may have a maximum of 12 members.
- Each team must have a Teacher Advisor present at the competition.
- Entries are accepted on a first-come, first serve basis. The host site will determine the maximum number of teams.

COLLEGE

- Each team member must be enrolled as a full-time undergraduate or graduate student at an accredited university to participate in the college competitions.
- There is no limit on the number of members a team may have, however, the number of people allowed on stage once the contest has begun may be limited because of space restrictions. This limit will not be lower than four (4), unless otherwise specified.
- College teams may compete without an advisor.
- Entries are accepted on a first-come, first serve basis. The host site will determine the maximum number of teams.

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CONTEST OPERATIONAL DETAILS

- All machines entering the National Contest must have won a local contest that uses these official rules.
- Teams will be allowed into the contest venue to set up three (3) hours before the contest begins.
- Each team must submit ten (10) concise, typed copies of a step-by-step description of their machine no later than one (1) hour before the contest begins to the host competition's chair. Diagrams and pictures may be included in this description along with the typed information.
- **All machines must be set up and the stage cleared no later than forty (40) minutes before the contest begins.**
- A team captains meeting will be held thirty (30) minutes before the contest begins.
- Teams will compete with all teams having a designated order. The teams will compete in that order for the first run. After all teams have completed their first run, teams will begin competing in the second run in this same order.
- If, for any reason, a team so chooses, they may void one (1) run of their machine. Any team member on stage can announce their void, but must do so **BEFORE** the machine completes the task. Requests presented after the machine has finished will not be granted. If a team does choose to use their void, they will compete again in the next round of runs.
- If a team has not used their void by the third round, the team may or may not choose to run their machine a third time.
- While the judges are calculating the results and the audience's ballots are counted, the audience will be allowed on stage to view the machines more closely. Teams are encouraged to run their machines and be available to answer any questions during this time.
- Each team will remove their machine and clean up their area after the awards have been handed out and not before.
- Media will be allowed viewing of one extra run after the third and final judged run of the competition.
- Contest participation implies consent to use contest photographs in all forms of publicity.

ADDITIONAL INFORMATION

- A step in the machine should be considered a transfer in energy from one action to another action. Identical transfers of energy in secession should be considered one step.
 - For example, a set of dominos falling into each other should be considered one step. While technically each single domino falling is a step, stating one hundred steps because of the dominos is repetitive and not in the spirit of Rube Goldberg.

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ADDITIONAL INFORMATION *(continued)*

- Programmable Logic Controllers or any other electronic controller may be used on the machines. The use of these devices must be in line with a step. Using these devices as a fail-safe for the machine is illegal and grounds for disqualification.
- Let's say a ball is supposed to fall onto a switch and turn on a motor which is run by the controller.
 - If the ball misses the switch, but the controller still starts the motor, the controller is not transferring energy from one step to the next step. It is acting as a failsafe so the machine can finish and not in line with the definition of a step.
 - If the ball hits the switch and the controller starts the motor as it should, the device is merely transferring the energy from one step to another, so this is in line with the definition of a step.
- If a controller is used, each instance of its operation should be clearly stated in the step-by-step description submitted before the contest.
 - Each instance should be considered one step, but please supply detailed information of how the step is being accomplished.