

# Rube Goldberg



## **Definition**

A Rube Goldberg assembly, contraption, invention, device, or apparatus is a deliberately over-engineered or overdone machine that performs a very simple task in a very complex fashion, usually in a chain reaction. The category is named for American cartoonist and inventor Rube Goldberg (1883-1970).

## **Sequential Progression**

This type of entry requires a sequential progression of cause-and-effect steps.

- Starts with a single, simple initialization action
- Continues through multiple steps which may branch and then merge again
- Finally performs a clearly defined and (usually) simple task

## **Simple Machines And Forces**

Entries in this category will make use of several types of simple machines and physical forces during the sequence of operation.

- Simple machines include lever, wheel and axle, pulley, incline plane, screw, and wedge.
- Physical forces include inertia, gravity, friction, stored energy, combustion, etc. (note that no flames are allowed on site, combustion should only be used diagrammatically).

## **Display (Diagram), Documentation and Construction**

- The entry should have a diagram (illustration) of the sequence from initial step to conclusion.
- The entry may also have a complete construction or, partial mock-up of the sequence.
- Should be documented with a written sequential procession from beginning to final step.
- Illustrations should clearly define the sequence of operation, including direction of force.
- If the entire sequence is built, it is recommended that a video of a complete, successful run be brought to the event for display to the judges and the public.
- The entry size is limited to one end (1/2) of a 72" x 30" table. A limited number of larger (approx. 4' x 7') floor spaces will be available (by reservation only). See the Entry Rules for details.

## **Entry, Review, And Judging**

An entry in this category will be reviewed and judged on the following:

- Entry rules and general requirements judging points
- Sequential progression clearly labeled with indications of simple machines and physical forces
- Diagram of operation is complete and understandable
- If constructed, and/or videoed, sequence fully runs with little to no outside intervention
- If 'mock-up' portion of sequence is displayed, it should be an important, understandable piece of the whole sequence

Additional items which will affect the review and judging conclusions

- Thematic construction, grouping of materials, task and initiation
- Complexity of device, including multiple paths
- Duration of progression – use of timing of operation as a consideration