



MS Rube Goldberg

Event Coordinator:

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Description:

Rube Goldberg was a cartoonist who was famous for his depiction of extremely complicated inventions to do simple tasks that employed intricate mechanical devices and outlandish, humorous components. The objective of this activity is to design a mechanical device that accomplishes an easy task while demonstrating the principles of the six simple machines in a fun and inventive way. Remember, Rube would never do it the straightforward, easy way.

The device must be self-powered (utilizing potential energy and stored energy such as a rubber band, gravity, spring, battery or mouse trap). As an example, there shall be no part of the device that involves cranking by hand or pouring of some counterweight material into the device. Counterweights can be used but must be part of the original set up. No sources of electrical power, other than batteries are to be used. Devices must be capable of repeated demonstrations without long set-up times between trials.

Devices must contain at least one of ALL six simple machines!

1. Lever
2. Pulley
3. Wedge
4. Wheel and Axle
5. Screw
6. Inclined planes

Judging Criteria:

- Time - How close to 12 seconds
- Ties will be broken by: a. Complexity of the design b. Craftsmanship

Scoring:

- Average of two runs of the device. Time is then subtracted from 12.00 seconds.

Rules:

1. Maximum of 5 entries per school. Up to 3 people per team.
 2. Device must fit within the 1' by 1' base, nothing can hang out
 3. Can only be touched once to start
 4. May have as many devices as desired
 5. Each machine must be color coded as follows
 6. Each feature can count as only one machine
 7. Each simple machine must activate and provide motion
- Lever - Red



- Pulley - Yellow
- Wedge - Green
- Wheel and Axle - Blue
- Screw - Black
- Inclined planes -White

Approved Materials:

- Wood
- Rubberbands
- Glue
- Nails & screws
- Manila folders, cardboard and paper
- Springs and mousetraps
- Marbles
- Balls- any material
- Wood base 1' x 1'
- String, twine or rope
- Pulleys of any type
- Toy cars or trucks
- Battery no greater than 9v
- Electric motor

Unapproved Materials:

- Fire or sparks
- Rattrap
- Water or other fluids
- Mechanical or electric timer
- No ac electric
- Tape