

MISSION POSSIBLE

Description:

Participants will design, build, and test a Rube Goldberg-like Device, which incorporates up to at least 5 unique Action Transfers, tasks listed below.

Approximate Time: Unlimited

Materials:

Assorted household materials

Procedure:

1. Participants will complete all of the following tasks with their device:
 1. Make a loud sound
 2. Create a domino-effect without using dominoes
 3. Make a round object roll
 4. Have a change in elevation (extra challenge to make an object go up instead of down)
 5. Create a pendulum action
2. The device will be started by some action of the participant such as switching a switch, pushing a button, dropping an object, etc. Once the device is started, it should be able to run on its own with no additional help from the participant.
3. The device has no size restrictions. It can be as large (running through an entire home) as needed or as small (in an "imaginary" box) as needed.
4. There are no time restrictions on the device.
5. If creating the device to use in a competition against someone else, points will be awarded for each UNIQUE ACTION TRANSFER, which do the following:
 1. Create a unique action.
 2. Cause a subsequent action that contributes to the completion of the task.



Scoring:

The scoring is based on the number of Unique Action Transfers and Forms of Energy used in the task completion that are successfully accomplished by the device. The term unique means that a particular Action Transfer can count only the first time that it is used. Identical Action Transfers of the same type are allowed but not scored. For example: a rolling ball could flip a switch is an Action Transfer and a series of cascading objects (domino effect) that cause the next action would represent ONE Action Transfer. The rolling ball and the domino effect could be used again, but not scored. Points will be awarded as follows:

- 10 points awarded for each successful unique action transfer
- 20 points awarded for each form of energy used (maximum of 5)
- 50 points awarded for successful completion of the device without additional help
- **Subtract 10 points for each time the device stops and must be restarted.

High score wins.

