8TH NATIONAL

SCIENCE BEE

2019

Module Guidelines

Rube Goldberg Machine

Introduction

For those of you who don't know, RGM - more commonly known as the Rube Goldberg Machine - is an outcome of simple everyday materials extraordinarily linked together to produce a highly complex contraption which follows the general concept of the domino effect.

One step triggers the next in a chain reaction until the final task is complete. The critical thinking involved would help you evaluate the gravity and practicality of the many machines in the world around you. So basically, RGM is a machine intentionally designed to perform a simple task in an indirect and overcomplicated fashion.

Combination of innovation with science coupled with lots of fun which will take you for the craziest ride of your life. It is the module that allows you to show case the geekiness in you and express your talent through innovative designing.

Procedure

- Participants are required to bring their own material to set up the machine.
- Machine is to be brought in fully disassembled form.
- Every team will be given 60 minutes to assemble their machine, once time is over no team can assemble the machine.
- Each step must consist of a small device (for example a small system of pulleys, candle or alarm clock etc.) which should be changing one form of energy into another. (kinetic energy into potential energy or vice versa.)

- Machine must have minimum of 10 steps.
- Each team must submit one (1) concise, typed copy of a step-by-step description of their machine.

Rules and Regulations

- No material is to be borrowed by Science Bee management team or other teams.
- One team can only choose one topic and only one project is to be submitted.
- Every machine is to complete it`s task in maximum 7 minutes.
- There will be three trials for machine`s functioning. If machine fails to perform desired task in 3 trials team will lose marks.
- No changes can be made into projects during trails.

Points awarded are based upon:

1. Number of steps
2. Turning in a list of the machine's steps
3. Creativity of steps
4. Number of times you give the machine help -this deducts points.
5. Machine's Design Creativity
6. Following the rules
7. Setting up and removing the machine according to the established times.

Suggestions

In order to make this module more interesting participants can use following steps in their RGM.

- Using an alarm clock

- Using weight balancing

- Extinguishing a candle

- Popping a balloon

- Cutting a rope

- Fans

- Miniature Toy Cars

- Magnets

Team must test their machines before the event to avoid any inconvenience.