

Engineering

Rube Goldberg Machine



CHALLENGE

Hello STEM students! We need your help to design and build a quality control machine that transfers a package through a series of checkpoints and through the delivery station as it rings a bell. The focus is to use at least three simple machines to transfer the object carefully through the machine.

Criteria for Vehicle

- Must be created by students **only** during STEM sessions and brought to competition by the STEM coach
- Must create a drawn model of machine, labeling the simple machines used (will be used by judges at competition)
- Must use golf ball as package
- Must use recycled materials [WM List of Acceptable Recycled Materials](#) **NO GLASS**
- Must use at least three different simple machines
- Can use rubber bands and string (not supplied)
- Can use plastic tubing, fleece material, and pulley wheel (provided)
- Must ring bell (which hangs from a frame, both provided)

Accepted Materials

- Recycled materials
- Rubber bands and string
- Plastic tubing (provided by STEM coordinator)
- Pulley wheel (provided by STEM coordinator)
- Fleece material (provided by STEM coordinator)

Constraints for Challenge

- Must be designed/built by students
- One human action is permitted
- Machines must fit in a 44" X 55" area
- Team members must be able to touch the top of the machine while standing on the ground
- Only one restart is permitted if needed, but will result in a deduction of 5 points