

# Balloon Burst

## *Creative Design Challenge*

### Situation

One balloon is suspended from the ceiling hanging six inches from the ground. A two-foot radius “dead zone” is marked from the center of the point the balloon is hanging over.

Design and build a device that will pop the balloon using only the materials listed. The device will be activated using a one-inch steel pinball. No part of the device may touch the floor inside the marked “dead zone” at any time.



### Resources

Time	5 class periods
People	Groups of up to three people
Energy	Only the kinetic energy of the steel ball may be used to activate the device
Information	Simple machines and mechanisms
Money	None
Tools	Scissors, x-acto saws, band-saw, drill press, sander, hot-glue gun
Materials	One 36” dowel rod, 5 drinking straws, 20 craft sticks, 36” of string, 3 paper clips, 5 rubber bands
Space	No limitation

### Other Criteria

- No part of the device may touch the balloon or string before the device is activated.
- The device must be reusable and work consistently.

### Required Documentation

*A design log containing the following must be handed in at the end of the activity:*

1. Four alternate design sketches.
2. Chosen design drawing (three views: front, top, and side) including dimensions and materials.
3. All sketches made during the redesign step of the design process.