

# Boo Blasters

## Materials:

- Large plastic cup (like a red solo cup)
- Balloons
- Tape
- Tissue paper (Kleenex) or light weight
- String

## Activity overview:

Aim your vortex generator at your ghosts and pull back on the balloon and see if the resulting “puff” makes your ghosts move.

## The Science:

Also known as an air vortex cannon or air bazooka, the vortex generator works by using the volume of air in its plastic container, and the shape of the containers' edges to create a toroidal (or doughnut-shaped) effect.

The process begins when the elastic launcher is pulled back, increasing the volume of air inside the container. When the launcher is released, the volume of the air rapidly decreases. The air slows down in the center of the vortex generator, and speeds up along the edges where it hits the telescoped angles of the plastic shell, thus creating a doughnut-shaped air vortex.

The air vortex travels some distance and retains its energy sufficiently to cause a disturbance when it strikes a person or object.



## How to build your own:

### Ghosts

1. Crumble up a sheet of tissue into a ball.
2. Take a second sheet of tissue and wrap it around the ball and let the excess hang below the ball.
3. Tie off around the ball with string.
4. Decorate the ball shape to look like the face of a ghost.
5. Hang the ghosts from an area where they are free to move.



### Vortex Cannon

1. Cut a hole in the bottom of your cup that removes all but  $\frac{1}{4}$  inch perimeter around the bottom.
2. Cut a balloon off at the neck. Stretch the balloon around the top of the cup (not the end that you cut) and secure it with tape. Make sure it is tight and when you pull it, there is a snap when it goes back into place.
3. Want to move more air? Get a bigger container. Here's how to make a [Garbage Can-sized Cannon](#).

