

The Zip Line

YOUR CHALLENGE: Design and build something that can carry a Ping-Pong ball from the top of a zip line string to the bottom in excess of 10 seconds

The materials available for use:

- cardboard (from a cereal box or back of a notepad)
- paper clips
- Ping-Pong ball
- 4 plastic straws
- scissors
- 2 small paper cups (3-oz. [89 ml])
- smooth line
- tape (duct or masking)
- weights (10 pennies)

Goals:

- In this challenge our students:
 - followed the design process to build a Ping-Pong ball carrier that slides down a zip line string
- had to figure out how to keep something balanced
- had to identify ways to reduce friction

The week 30 students participated in the engineering challenge. All of the teams designed a carrier that made it to the bottom of the zip line quickly. (in less than three seconds) Three teams had designs that had a controlled descent down the zip line.

Only one “team” was successful. Charles Rosser who worked alone designed a carrier that had balance, reduced the friction on the attachment to the line and carried the ping pong ball successfully to the bottom in excess of 10 seconds. Charles is pictured on the right.

Other challenge pictures below show the diversity of design and the spirit of competitive benchmarking.



ENGINEERING CHALLENGE ZIP LINE WRITE UP

