

Activity Zipline Adventure

Introduction:

You have found yourself part of Harpers Ferry Canopy Tours. These 2-3 hour guided rides glide you right beside the Potomac River. The 8 ziplines vary from 200 – 800 feet long. Your challenge is to create a device/vehicle to safely land your pets at the bottom of one of our largest drops. Yes, we said pets. Many travelers to WV bring along with them their feline and canine counterparts and want them to be part of the experience.

Materials

- 1 Sheet of 11"x8.5" Cardstock
- 2 Tongue Depressors
- 2 Paper Clips
- 2 Rubber Bands
- 1 Bendy Straw
- 1 Toilet Paper Roll
- 12 inch of string
- 6 inch of masking tape
- Small figure (such as lego man or similar object)
- Scissors (cannot be in design)

Procedure

Brainstorm (5 minutes). Assign a recorder for your group. As a team, brainstorm as many ideas for your device/vehicle as possible as the recorder documents your ideas. You may handle and inspect the materials, but you may not alter or connect any of the materials in any way during this phase. Select one of your sketched ideas to pursue.

Idea 1	Idea 2	Idea 3
<i>Image of Annotated Sketch</i>	<i>Image of Annotated Sketch</i>	<i>Image of Annotated Sketch</i>

Description:	Description:	Description:
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Build (10 minutes). Build your device. Make changes to your original ideas as necessary.

Primary Build
<i>Image of Primary Build</i>

Test (1 minute). Each team will have one minute to test their device on the fishing line cable.

Test Run Image	Distance	Evaluation
<i>Video of Run</i>	<i>Distance in Feet</i>	<i>Reflect on Design</i>

Redesign (5 minutes). Revise your device based on the results of your testing.

Redesign
<i>Image and Description of Improvements</i>

Present. Each team will take a turn attempting to send their passenger filled vehicle across the room on the fishing line cable. The distance traveled will be recorded.

Final Run	Distance	Reflection
<i>Video of Run</i>	<i>Distance in Feet</i>	<i>Describe Positives and Points of Improvement</i>

Scoring

Your team may receive points for the following.

Creativity: Up to 10 points for creativity in the design and use of materials

Teamwork: Up to 10 points for how well your team works together

Performance: 1 point for each foot that the device moves along the fishing line cable

Conclusion

1. Why do you think brainstorming is helpful when solving a problem?
2. How did testing improve your design?

3. With respect to designing the solution of a problem, what are some important characteristics of a successful team?