

Activity Engineers to the Rescue

Introduction

There has been a flood that has left Blennerhasset Island Visitors stranded at the mansion. The visitors are unable to wade the waters because they are contaminated. You must figure out a way to transport these visitors from the mansion to dry land without entering the contaminated water. If any part of you or your team enter the contaminated area, then that part will be eliminated from use (i.e. if your hand crossed then you can no longer use that hand to remove the items).

Materials

- 3 Tongue Depressors
- 24 inches of string
- 5 rubber bands
- 1 fork
- 1 spoon
- 12 inches of tape
- 12 pipe cleaners
- 1 hula hoop
- 1 solo cup
- Scissors (cannot be in design)

Procedure

Brainstorm (5 minutes). Assign a recorder for your group. As a team, brainstorm as many ideas for your method of transport 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
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<i>Image of Annotated Sketch</i>	<i>Image of Annotated Sketch</i>	<i>Image of Annotated Sketch</i>
Description:	Description:	Description:

Build (10 minutes). Build your transport system. 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 for efficiency.

Test	Number Removed	Evaluation
<i>Picture of Trial</i>	<i>Number Removed</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 safely save as many “people” possible. The number removed will be recorded.

Final Test	Number Removed	Reflection
<i>Picture of Trail</i>	<i>Number Removed</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 gram of weight held prior to capsizing.

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?