

Activity 1.1 Instant Challenge: Cable Car

Introduction

There are many ways to solve a problem. Sometimes it is as simple as applying a piece of duct tape. Other times it takes months or years for a product to progress from an idea into full-scale production. Often engineers and designers use a specific set of steps (sometimes called a design process) to find the best solution to a problem. In this activity your team will quickly design the solution to a problem using a design process that progresses from brainstorming to presenting a final design.

Equipment

- Paper
- Pencil
- Scissors

Materials

- 1 sheet of paper
- 3 popsicle sticks
- 2 paper clips
- 2 rubber bands
- 1 straw
- 1 Plastic cup
- 1 balloon
- 12 inches of string
- 12 inches of masking tape
- Small figure (transporter Lego man)

Procedure

In a team of three or four, using only the materials provided, design and build a device or vehicle to move a small figure (or other object) as far as possible across the room on the fishing line cable. A team member may initiate the motion of the vehicle or device but may not provide forward momentum (you can not throw or push the Cable Car, you can only release it).

Brainstorm (10 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. **Every individual must present their own sketch to their group!**

Sketch



