

Pop can races

Introduction

Charge separation causes objects to interact in different ways. When an object is charged by another object, the electrons move from one object to another through friction.



Objective

To roll a pop can using static electricity through the race track. You are given a variety of materials that may help you. How can you move the can and win the race?

Materials

- Empty pop can
- Inflated balloon(s)
- Wool, fur, your sweater, your hair
- Styrofoam plate
- Plastic bags or plastic wrap
- glass rod

Instructions

Pre-Race

1. In your team, discuss ways to move the pop can down the “race track” **WITHOUT TOUCHING** the can. You can use any of the materials in the list. **REMEMBER, You cannot touch your pop can with any material at any time during the race.** Likewise, you cannot interfere with another team’s can. If these two rules are violated, your team is disqualified.
2. Test your racing plans and adjust as required. Write down any observations and provide some scientific thought into your notes (e.g., Why does the can roll in a certain direction?). Also, record any changes you make to your original plan and write down your reasons for the change(s). Record all notes/observations

Team member names:

RACE TIME!

You will have two head to head competitions. The 4 teams with the lowest total time for the two completed races will compete for the title of POP CAN WARRIOR!!

	Time
RACE 1	
RACE 2	
Total time for first two races	

Final round- if you make it: Recorded time _____

Summary Questions

1. Evaluate your team's race strategies. Is there anything you would change to improve your plan next time?
2. What did you discover or learn about electricity from the Pop Can Race?
3. In order to charge your can what material worked best? Which, if any materials did not work at all? (2)