# Soda Can Race

**How fast can you roll a soda can with a balloon- without touching it.**

## WHAT TO DO

**Rub an inflated balloon in your hair then hold it very close to an aluminum soda can (without touching it) so that the can begins to roll.**

## WHAT'S HAPPENING?

**When you rub two different objects together one of them may"steal" some electrons from the other so that we say one object becomes negatively charged while the other is left positively charged. This is sometimes called "static" electricity. These electrical charges really create invisible electric force fields in space, and the electric force field of a charged object can repel or push away any other charged objects having the same sign, and attract or pull on any charged objects having the opposite sign. That's why your hair is attracted to the balloon after rubbing them together.**

**So is your balloon positively or negatively charged? That can be very difficult to predict, but either way a charged balloon will *always* attract an aluminum can. That's because aluminum is a good conductor of electricity, which just means that its electrons can easily move around in the metal. Suppose your balloon has a positive charge. If you hold it near the can negative electrons from the aluminum in the can are attracted and move to the side near the balloon, making that side of the can more negative, and the entire can is attracted to the balloon. But if your balloon instead has a negative charge then the electrons in the can are repelled and move to the far side of the can, which leaves the near side more positively charged, so that again the can is attracted to the negatively charged balloon. Either way the side of the can nearest to the balloon always has the opposite charge and is attracted, so your can always rolls towards the balloon.**