Fascinate-U
CHILDREN'S MUSEUM

We all love a good rocket and today we will make our own rocket. These pop rockets will use a chemical reaction to demonstrate Newton's Third Law of Motion

Pop Rockets

Age Range: 5-12 years old
Learning Time: 10 minutes

Canister examples

Supplies:

Film Canister or mini M&M's container
Alka Seltzer tablet
Water

Optional: Craft Supplies such as construction paper, markers, stickers

Before We Begin:

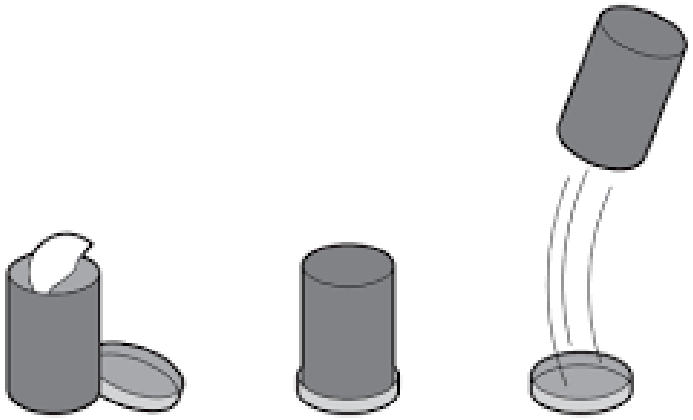
Before we set off our rockets you can use craft supplies to decorate your canister and create a rocket that is truly your own. Next, we need to make our predictions on what we think will happen to our rockets.

My hypothesis

Here is an example of how you could decorate your rocket. Get creative and see what works best for you!

Launching Our Rocket:

This rocket will fly up very high and very quickly so it's best to take this experiment outside. Fill the canister with 1/4-1/3 full of water and then get the alka seltzer tablet and lid ready. Break the tablet in half and drop it into the canister. Quickly snap the lid on tightly and flip the rocket over and place on the ground. Step back and watch what happens.



What Is Happening:

The alka-seltzer contains citric acid and sodium bicarbonate which when you drop the tablet in water, will react to produce carbon dioxide gas. The gas pushes against the lid of the canister as it create pressure until there is so much pressure that the lid pops off causing our rocket to fly. This rocket launch is a great example of Newton's Law of Motion because as the gas explodes downwards, it pushes the rocket in the opposite direction, causing it to go up! Every action has an equal and opposite reaction.

Observations:

The best part of this experiment is that you can repeat it over and over! How far did your rocket fly? Do you think changing the amount of water would change the outcome? What would happen if we used a full tablet instead of half? Let us know which version made your rocket fly the highest.