



## Jet's Rocket

Jet Propulsion is a new kid on the block and he just happens to be aliens from the planet Bortron 7. He explores the solar system and the effects it has on the science of our planet, while learning about friendship and teamwork along the way. He is impulsive and he uses his alien powers to make things happen. Jet loves to travel through space! Help Jet demonstrate the power of the rocket by making one with items found here on Earth.

### What you'll need:

- Rocket Template
- Scissors
- Tape
- Water
- Paper towels
- Bucket or pitcher
- Alka Seltzer
- Index cards (for fins)
- Pencils
- Record pages
- Goggles



### The Activity

#### **YOU MUST RETRIEVE FILM CANISTERS AS THEY WILL BE USED OVER AND OVER AGAIN.**

- Discuss with children Newton's third law of motion, there must be some action to result in a reaction.
- Instruct children to cut out the square, cone shape and fins (fins out of index cards).
- Children should take out the top of the film canister before putting the body on. **This must be kept in a safe place.**
- Have students wrap and tape the body tube of paper around the film canister **WITHOUT** covering the open end. **(Human nature makes people want to set the canister on the table upright and put the paper around it. This will not work. The open end MUST be at the bottom of the rocket.)**
- Instruct students to tape fins to rocket.
- Demonstrate the construction of the nose cone and have children complete theirs then attach it to the closed end of their film canister.
- Have students clean their work area.
- **IT IS EXTREMELY IMPORTANT TO DEMONSTRATE HOW TO CORRECTLY PUT THE LID ON THE FILM CANISTER.**
- Demonstrate this for the children and parents.
- Have parents assist children and tell them they should hear a "snap" sound. If they do not hear a "snap" sound, then the lid is not on and it will not launch. Have parents and students practice a few times.

- Demonstrate how the child will launch their rocket.
  - Put on eye protection.
  - Fill the film canister about 1/3 full of water (you may choose to have a plastic cup marked with the correct amount of water.
  - Place the half-sized seltzer tablet into the canister and quickly snap the lid shut.
  - **QUICKLY** place the canister with “snap” side down on the launch pad. (The top must be put on quickly in order to produce the desired effect)
  - Have children count how many seconds it takes for the rocket to launch and how many seconds the rocket stays in the air before hitting the ground.
  - Have students record their times on Jet’s record pages!
- Close by discussing Newton’s Law #3 again. Action/Reaction – The top is forced off the canister due to the pressure produced by the fizzy gas. That fizzy gas is actually carbon dioxide and is a result of the chemical reaction that took place when the fizzy tablet was added to the water. The action of the high pressure escaping out of the canister causes the reaction of the canister being propelled into the air.
- COLLECT FILM CANISTERS AS YOU DISCUSS THIS.

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**Jet's Rocket**

**Seconds to take off** \_\_\_\_\_

**Seconds to hit the ground** \_\_\_\_\_

**Explore the Outdoors 2016**



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