Film Canister Rocket

What You Need: • empty film canister with lid
• construction paper • tape • scissors • baking soda
• vinegar • some toilet paper • spoon

Try It Out!

Science Scoop

When you mix baking soda and vinegar, a **chemical reaction** happens. In a chemical reaction, the molecules you mix **break up** into atoms, and these atoms **recombine** to form new molecules. In this activity, the atoms in the baking soda molecules and the atoms in the vinegar molecules recombine to make **carbon dioxide gas molecules**. (Carbon dioxide gas, CO_2, is the same gas you **exhale**.) As the chemical reaction continues, **more** carbon dioxide gas is produced. This makes the **pressure** inside the film canister greater. Eventually the pressure is so great that the top **pops off** of the film canister, and the rocket is **launched**!

1 **Roll** a piece of paper around the film canister once so that it makes a long tube.

2 Make sure that the **cover** of the film canister **sticks out** of one end of the tube. **Tape** the paper in place.

3 **Make a nose** cone by cutting a circle out of paper.

4 **Cut** a line from the edge of the circle to the middle of the circle, and **twist** the paper into a cone shape.

5 **Tape** the cone together. Then tape it on the **open end** of the paper tube.

6 Pour some **vinegar** into the film canister.

7 Put some **baking soda** in the center of two squares of toilet paper. **Fold** the toilet paper to make a "**fuel packet**."

8 **Place** the fuel packet in the canister and **put** the cover on quickly.

9 **Set** the rocket down so that the nose cone points up, and stand back. **Blast-off!**

CAUTION:
Be careful when launching your rocket. Stand back and don't point it at anyone.

Sent in by Megan S. and Lee M. of College Station, AR

ZOOMon™

Think about one thing you can change about the rocket. What happens if you use different amounts of **baking soda**? How about if you launch a rocket without a **nose cone**? What if you don't use **toilet paper**? Choose **one thing** to change (that's the variable). Then **predict** what you think will happen and **test** it. Send your results to ZOOM.

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