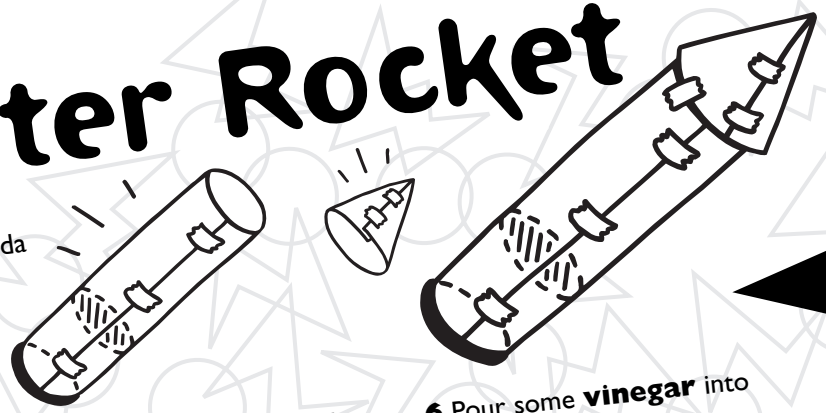
ZOOMsci™

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!

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

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**!

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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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