



# ALKA-ROCKETS

## MATERIALS:

- EMPTY FILM CANISTER
- EFFERESCENT ANTACID TABLET, BROKEN INTO 3-4 PIECES
- WATER
- SAFETY GLASSES

## PROCEDURE:

1. Conduct this experiment outside.
2. Put on the safety glasses.
3. Pour approximately  $\frac{1}{2}$ " of water in the film canister.
4. Add one piece of the effervescent antacid tablet.
5. Fit the lid on the canister, making sure the seal is tight.
6. Shake the canister vigorously.
7. Turn the canister upside-down and place it on a flat surface.
8. Stand back!

## WHAT THIS MEANS:

The "rocket" in this activity is propelled according to the principle stated in Isaac Newton's third law of motion: "For every action, there is an opposite and equal reaction."

Gas pressure builds inside the film canister due to the mixing of the antacid tablet and water, which releases carbon dioxide. This action continues until the pressure builds high enough to blow the canister apart from its lid. The reaction is the launch of the rocket.



## GLOSSARY:

**Sir Isaac Newton:** An English physicist and mathematician who is widely recognized as one of the most influential scientists of all time and as a key figure in the scientific revolution.

**Carbon Dioxide:** A colorless, odorless, incombustible gas present in the atmosphere and formed when we breathe (it's the air we exhale). It is also used to make carbonated soda (the bubbles).

**Antacid:** A substance that neutralizes acidity in the stomach made up mostly of sodium bicarbonate (commonly known as baking soda) and citric acid found in oranges, lemons and limes.

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