

EXPLODING CANISTER

Trapped Gas and Explosive Eruptions

Volcanic eruptions are driven by gas dissolved in molten rock (magma) underground trying to escape upwards. But what happens if the gas gets trapped and can't get out?

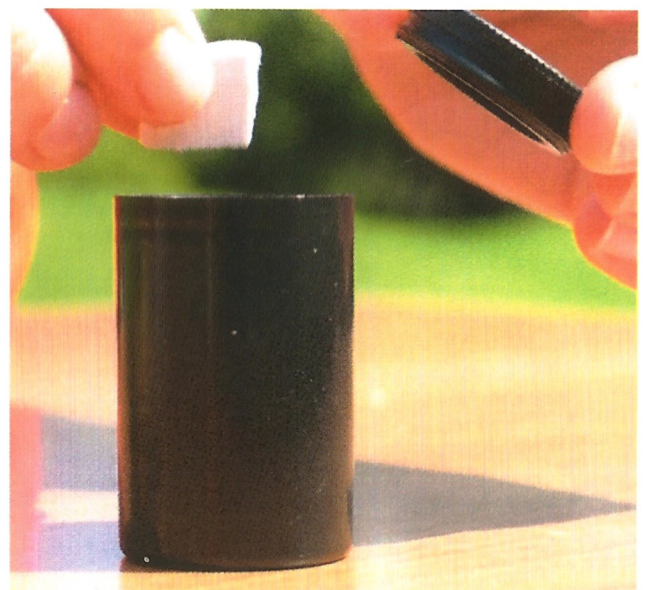
In this experiment you can trap more and more gas in a sealed container, in the same way gas can get trapped in a volcano, and see what happens...

What you'll need:

- An old film canister
- Fizzy dissolving tablets (such as vitamin/antacid tablets)

Instructions

Find somewhere to do your experiment you don't mind getting wet. Fill your canister half full with water. Then, as quickly as possible, drop in a quarter of a fizzy tablet, put the canister lid firmly back on and step backwards to watch what happens!



What's happening?

When you add the dissolving tablet it reacts with the water and fizzes, producing gas bubbles. Since the lid is on, the gas can't escape, so pressure builds up and up as more gas is formed. When the pressure in the canister is high enough the lid is forced to pop off!



In volcanoes this can happen too. When gas can't escape pressure builds up until there is a violent explosive eruption! Gas often gets trapped when the magma is really thick (viscous) instead of runny, and can block the way out forming a magma plug (like the lid on top of the canister).

Image: USGS

FACT

When molten rock is underground it is called **MAGMA**, once it is erupted on the surface it is called **LAVA**

KEY POINTS

- Volcanoes erupt due to gases being released
- Volcanoes with thick viscous magma trap gas
- If the gas gets trapped, pressure builds up, and this causes an explosive eruption!

INFO FOR INTERESTED ADULTS

What is a volcanic plug?



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