

Popping Tubs

Title:	Popping tubs
Overview:	Challenge participants to get a mixture of citric acid and bicarbonate of soda to blow the lid off a film canister after <i>exactly</i> one minute.
Length:	1 session
Equipment:	Per group: measuring cylinders, spatulas, film canister, balances, citric acid crystals, bicarbonate of soda, water, stop clocks.
Activity:	<ol style="list-style-type: none">1. Mix a spatula of baking soda and citric acid crystals together in the film canister.2. Add a few drops of water, quickly snap the lid into place and stand clear.3. The lid should blow off after a short time, but be patient!4. Experiment with quantities, mixing, etc until you can get the lid to come off after exactly one minute.
Risk assessment suggestions:	<p>Check CLEAPSS for the hazards associated with the chemicals you are using.</p> <p>Establish clear rules with participants regarding safe working with charged canisters. Never look over the top of a canister once it's filled and the lid is on. Consider setting up a supervised "launch zone".</p>
Additional resources provided:	None
Activity notes:	You could use vinegar instead of the citric acid crystals and water. It does make it smellier and a harder to control, but it might be easier to obtain.
Possible extensions:	Investigate other uses of compressed gases, e.g. spray paint cans (graffiti), jet engines, hovercraft, etc.
With thanks:	King James's School ASSEC, Knaresborough, N. Yorks.