

BATH BOMBS

Focus: Chemistry

This activity aims to help students explore the chemistry behind bath bombs. When dissolved in water, the reaction between the acid product citric acid and the alkaline product sodium bicarbonate releases carbon dioxide gas and produces a salt called sodium citrate. The other components that are added, such as colouring or fragrance, are for aesthetic purposes only. Similar reactions take place with other everyday items such as Alka-Seltzer tablets or in carbonated drinks.



For students to explore how acids and bases react



Equipment:

- 10g sodium bicarbonate
- 5g citric acid
- baby oil
- glass stirrer
- dropper
- cling film
- beakers
- mould – e.g cookie cutter / muffin tray
- gloves / safety glasses

Instructions:

1. Students should wear safety goggles/gloves for this experiment, as citric acid can be irritating.
2. Put 10g sodium bicarbonate and 5g of citric acid into a beaker and mix well using a glass stirrer. (You could try making several bath bombs, to explore the effect of changing the ratio of these ingredients).
3. If desired, add a single drop of food colouring and/or a single drop of scented essential oil.
4. Add drops of baby oil, one at a time, mixing the ingredients until they start to hold together.
5. Press the mixture into your mould (or just roll into a ball) then wrap in cling film and leave to set overnight.
6. Store in a dry environment until bath-time then pop it in the water & watch it fizz!

Discuss:

1. Why do you need to add the baby oil slowly?
2. How might changing the ratio of ingredients affect the fizziness of the bath bombs?

Useful Links:

Alka-Seltzer Student Science Experiments

http://www.alkaseltzer.com/as/student_experiment.html

The Human Touch of Chemistry website – the science of soda water

<http://www.humantouchofchemistry.com/the-science-behind-soda-water.htm>



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