



## Shower Fizzies

Completion time: 2 Lessons

### Materials and Resources:

- Modelling clay, a long pin or nail, thick cardboard, mixing bowl
- 170g sodium bicarbonate, 60 ml citric acid
- Essential oils: 2 ml lavender oil and 1 ml ylang ylang oil
- Or, 2 ml litsea oil and 1 ml red mandarin oil
- Witch hazel mist spray, mixing bowl, protective gloves
- Formech vacuum forming machine
- Any suitable plastic material (1mm PVC recommended)
- <https://formech.com/case-studies/introduction-working-formechs-compac-mini-vacuum-forming-machine>

### Skills at a glance:

#### Mathematics

Measurement

#### Language

Reading, listening

#### Thinking Skills

Adhering to a given brief, independent thought, choosing decorative elements based on a theme

#### Science

Heating plastics and effects, plastic/polymer material knowledge, effects of sodium bicarbonate, citric acid and water combined

### Project Outline:

This project is quick, easy, and requires little tooling or lengthy design process. Instead students will enjoy a swift project which sees them producing their very own shower fizzies. Using clay as their mould material, students will produce a plastic mould to shape shower fizzies, making them either a relaxing or invigorating blend of essential oils. These are not to be used in the bath, rather placed on floor of the shower and allowed to fizz during the bathing process, and for the user to enjoy their scents and effects.

### Method:

Students can begin by cutting a rectangular or square piece of thick cardboard, which fits easily within the forming area of the Formech vacuum forming machine. This will act as a surface upon which to place their clay moulds to be vacuum formed.

Using modelling clay, students can now begin to make moulds no bigger than a bar of soap to be vacuum formed. Using their hands or simple tools, they can shape the clay material into their chosen shape. With these shower fizzies intended for use in the bathroom, perhaps they might follow an ocean theme, producing moulds in the shapes of fish, or starfish.

Having completed six clay moulds, these can now be placed on the prepared piece of cardboard at least 2cm apart, and allowed to dry completely.

Once dry and before vacuum forming, the cardboard will need a series of venting holes pierced through it, around the base of each individual mould. With the cardboard on a work bench, these holes can be pierced using a simple pin or long nail.

The cardboard and moulds can now be placed on the table of the Formech vacuum forming machine, and vacuum formed using any available plastic material, although PVC material of approximately 1mm thickness is recommended. Students will have their very own plastic mould in which to cast their shower fizzies.

Students may now produce their shower fizzies mixture, by placing 170g of sodium bicarbonate and 60ml of citric acid in a large mixing bowl, and combine together using their hands. Wearing gloves is advised.

This mixture may become lumpy, in which case students can use their fingers to break up lumps producing a smooth consistency paste. Alternatively, the sodium bicarbonate can be sifted into the mixing bowl.

## Homework Tasks:

Students might be asked to research their own essential oil blends which produce desired calming effects, promote a good night's sleep, or awaken and refresh. The internet is filled with scent combinations for every purpose, and so some research could guide students in making some great design choices.

## Optional Extras:

This project sees students create shower fizzies using ocean life as a theme for their mould designs. Students can also use other themes within their designs, perhaps an upcoming holiday, reflecting this within the shape of their clay moulds. A football shaped fizzy for a football fanatic, or a cupcake shaped fizzy for that friend who just loves cake.

Students might also complete this project in line with a business enterprise course, looking at producing shower fizzies for sale, examining branding, packaging, pricing, profitability etc.

## Method: (Continued)

The essential oils can now be added and mixed thoroughly into the prepared paste. Combinations for a soothing blend might be 2 ml of lavender oil with 1 ml of ylang ylang oil. For an invigorating blend they might try 2 ml of litsea oil with 1 ml of red mandarin oil.

Squeezing the mixture inside a fist and opening the hand will give a good indication of how well the mixture will hold together. If the mixture is a little crumbly and does not hold its shape, give the entire mixture a spritz with 2 pumps of witch hazel spray and mix in thoroughly. Repeat this process until the mixture holds together nicely from inside a clenched fist.

Note: do not over saturate the mixture with witch hazel, as this may cause the mixture to effervesce prematurely, ruining the shower fizzy batch.

The completed mixture can now be pushed into the vacuum formed moulds, using gloved fingers to push the mixture to the bottom of the moulds and to form a smooth top.

The shower fizzies can now be left to set for a few hours, before being pushed out onto a clean surface. Once out of the moulds they can be allowed to dry completely overnight.

The shower fizzies are now ready to be used, either to wake up in the morning ready for a big test, or to relax in the evening after a long day at school.

## Student Accomplishments:

- The production of bespoke and individual shower fizzies
- Understanding and examining the reaction of sodium bicarbonate, citric acid, and water combined
- Making design choices in line with a prescribed brief
- Using clay as a principal material
- Practical hands on experience using a vacuum forming machine, and understanding its wider application

## Teachers notes:

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