

Shampoo Bar

Completion time: 2 Lessons

Materials and Resources:

- Small apples
- Knife
- 200g melt and pour shampoo bar base (clear or white)
- Microwave proof jug
- Microwave
- Spoon
- Dropper
- Saran wrap
- 40 drops of essential oil or oils
- Formech vacuum forming machine
- Any suitable plastic material (1mm thickness PETG or PVC recommended)
- <http://formech.com/case-studies/vacuum-forming-artisan-chocolatier/>

Skills at a glance:

Mathematics

Timing

Language

Reading

Listening

Thinking Skills

Adhering to a given brief

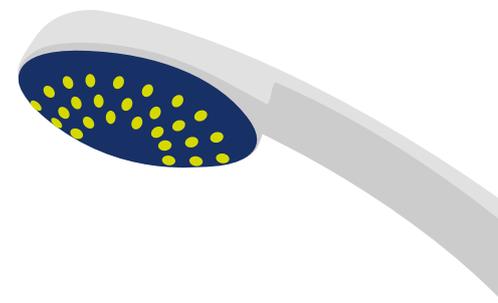
Independent thought

Choosing elements based on a theme

Science

Heating plastics and effects

Plastic/polymer material knowledge



Project Outline:

Shampoo bars have quickly become a best selling product in supermarkets, and here students can make their own, using their very own unique combination of essential oils to give it an individual fragrance, and hair and scalp benefits. Using a simple apple as the mold to be vacuum formed over, this provides a speedy and engaging lesson, with a beautiful waste reducing product to enjoy at home.

Method:

Students can begin by taking two small apples, cutting them down their centres, creating four identical apple halves.

Placing the apple moulds in the Formech vacuum forming machine at least 2cm apart, they can be vacuum formed using any available plastic material, although 1mm PETG or PVC is recommended.

The apple moulds can now be pushed out of the formed plastic, leaving students with a moulded plastic sheet within which melted shampoo bar base will be poured and shaped.

Moving on to the shampoo bar making element of the project, students must cut 200g of melt and pour shampoo base into ice cube sized chunks, place in a microwave proof jug, and cover with cling film. This will make 4 x 50g shampoo bars.

This can be placed in a microwave and heated in 30 second intervals, checking it each cycle to observe its progress. The solid material will turn into liquid form. Take care not to boil or scorch the liquid.

When working with melted shampoo material, please consider all necessary safety precautions for students, including eye and skin protection.

Students can now add an essential oil of their choosing, or a combination of complimentary oils. 40 drops of oil is recommended per 200g of shampoo bar melted base. Try 10 drops of peppermint with 30 drops of rosemary, perhaps. Or why not try some fruit essential oils combination?

If the mixture develops a skin on top, or starts to become too thick to pour, return to the microwave for just a few seconds to melt slightly.

This mixture can now be carefully poured into the shampoo bar mould created earlier, and allowed to cool completely. Shampoo bars will be solid and ready to be turned out within a couple of hours, although will need a few days of further drying to become perfectly solid, and ready to be enjoyed.

Be sure to encourage students to keep and reuse their shampoo bar moulds, time and time again.



Homework Tasks:

There are a host of essential oils that provide a range of benefits for the hair and scalp. Students can be tasked with researching and refining a recipe, for how they will use their allotted 40 drops of essential oils per 200g of shampoo bar melt and pour base. Perhaps this will be tailored to their own hair type, or pursue a certain scent.

Optional Extras:

Why not complete this project with plastic waste reduction education in mind? Shampoo bars remove the need for plastic packaging, which is certainly something to celebrate. Students might research and produce a small information card about how this product is helping the environment, statistics about single use plastic waste, and other ways we can reduce our reliance on single use plastic items. The shampoo bar can be packaged in some crate paper, and given as a gift to family or friends.

Student Accomplishments:

- The production of bespoke and individual scented soap bars
- Demonstrate and learn how the use of plastic molds, can in turn reduce the use of other single use plastic packaging
- Making design choices in line with a prescribed brief
- Using existing objects as a principal material
- Practical hands on experience using a vacuum forming machine, and understanding its wider application

Teachers notes:

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