

Cookie Cutter

Completion time: 2 Lessons

Materials and Resources:

- Sheet MDF or wood, 2cm thickness
- Machine or hand saw, file, sandpaper, or disc sander, drill and 1.5mm drill bit
- Pencil and ruler
- Formech vacuum forming machine
- Food safe plastic material, 1.5mm PVC or similar
- <https://formech.com/case-studies/vacuum-forming-artisan-chocolatier>

Skills at a glance:

Mathematics

Measurement

Language

Reading, listening

Thinking skills

Adhering to a given brief, and independent thought

Science

Heating plastics and effects, plastic/polymer material knowledge

Project Outline:

This project is very quick and easy, and will produce a final product in a very short space of time. Students will produce a bespoke custom cutting tool of their own design, which can be used in the kitchen to make uniform and perfectly identical cookies. Perfect for Food Technology, or for any students being introduced to vacuum forming. MDF or wood will be used as the principal mould material, although other suitable materials may be explored utilising a similar method.

Method:

Students must first choose the shape which will make up their cookie cutter. For this project we will use a love heart as our example, although any other simple shape can be explored.

Using a sheet of MDF or wood approximately 2cm thick, students can draw a love heart shape directly onto the material using pencil. The size of this love heart will dictate the size of the cookies produced.

Students can now cut this shape out using appropriate hand or machine sawing methods. Edges can be neatened using a file, disc sander, or sandpaper.

Using similar filing and sanding methods, draft angles will need to be applied to the edges of the shape to ensure a successful vacuum form.

Students will now need to consider adding a rib to the top of the mould, which when pinched between the thumb and fingers, will allow the cookie cutter to be picked up and used with ease. This can be a small thin rectangular block of MDF or wood material. With draft angles applied to its sides it can be glued in place on top of the love heart shaped mould, and have 1.5mm venting holes drilled around the point where it meets the main body of the mould.

The completed mould can now be vacuum formed using any food safe plastic material, although 1.5mm PVC is recommended.

The formed cookie cutters can now have excess material trimmed off.

Students now have their completed love heart shaped cookie cutter to utilise in class or at home. Having made their cookie dough and rolled it out flat, they can use their cutter to make as many identical cookies as they like, to impress their friends and family with professional production, or as part of a school bake sale.

Homework Tasks:

Extending the theme of using this project plan as part of a business or enterprise project, and imagining that students will be producing numerous cookie cutter tools for general sale, students might be tasked with working out a range of costings. Considering the cost of all the materials used to produce the mould, and the plastic material used to make the cutters themselves, what calculations can they make to ensure that they are selling the cookie cutters for a fair but also profitable price?

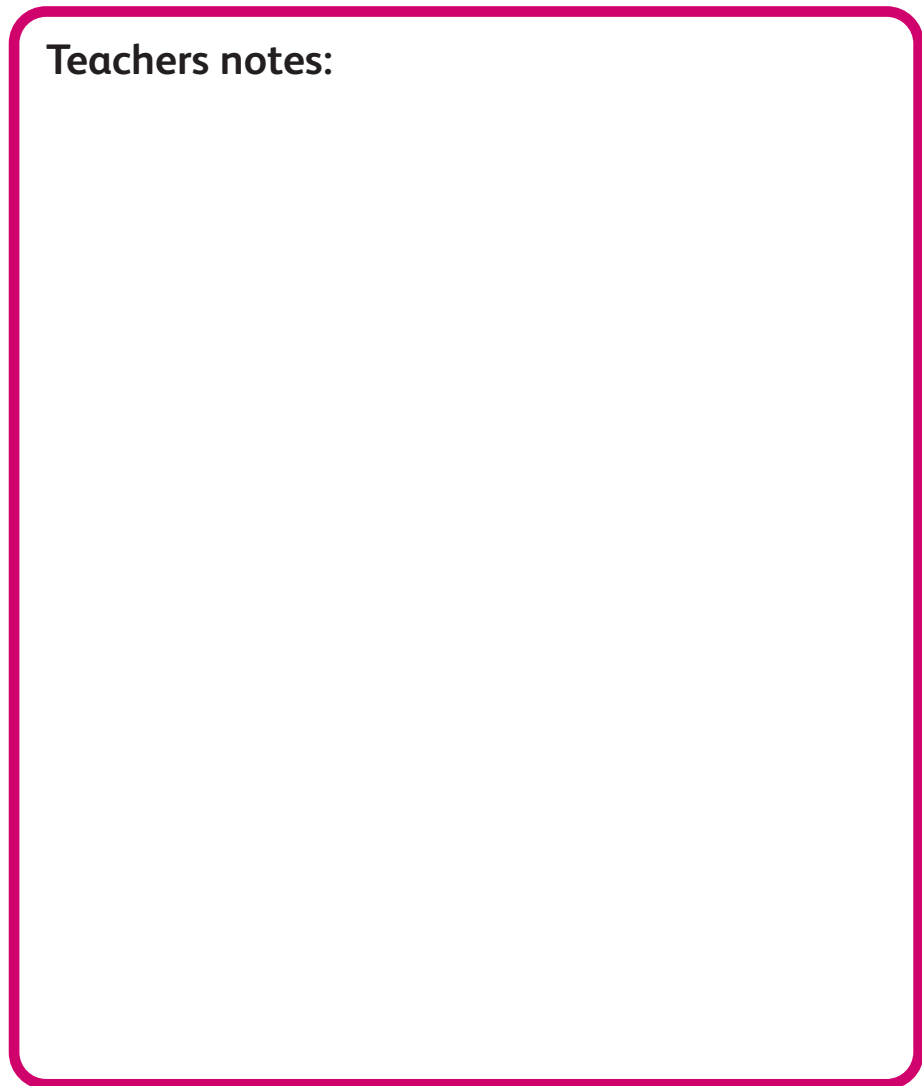
Optional Extras:

This project outlines the method for a small and simple cookie cutter tool, although there is no reason why students can not go bigger and explore different themes. Students in a Food Technology class might choose to produce a much larger novelty animal shaped cookie for example, which can be decorated using piped icing with details to represent the animals face, whiskers, ears etc. They might explore lettering, or holiday themed cookies. Cookies produced might be for sale, or indeed the cookie cutters themselves marketed and put on sale at a school fair, or as a part of a school enterprise or business project.

Student Accomplishments:

- The production of a bespoke cookie cutter
- Using wood or MDF as a principal material
- Using various hand and machine sawing methods
- Opportunity to extend upon a simple brief
- Practical hands on experience using a vacuum forming machine, and understanding its wider application
- Knowledge of food safe appropriate plastics

Teachers notes:



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