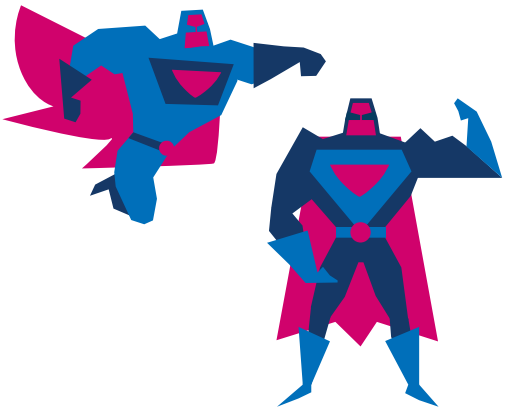
Formech
Perfectly formed



Professional Product Packaging

Completion time: 3-4 Lessons

Materials and Resources:

- Sheet MDF, approx. 1cm thickness
- Disc sander, drill and 1.5mm drill bit, and wood sawing tool
- Action figure, or other toy, various craft materials
- Pencil and ruler, sharp knife, scissors, clay or putty, double sided tape
- Computer and printer
- Formech vacuum forming machine, suitable clear plastic material (HIPS or PVC recommended)
- https://formech.com/case-studies/formech-fun-fuse-toy-designers-london

Skills at a glance:

Mathematics

Measurement

Language

Discussion, reading, listening

Thinking skills

Design, expression, applied knowledge, artistic freedom, independent thought, and questioning and reasoning

Science

Heating plastics and effects, plastic/ polymer material knowledge, and the reaction of certain materials when exposed to heat

Project Outline:

This project has Business Classes in mind, or students who are completing classes with enterprise, marketing, or sales at their hearts. Students will take a simple children's toy, and design and create professional and attractive packaging which would look at home on any toy store shelf. Using vacuum forming to create clear plastic packaging, and printed thin card to make up the backing material, the toys will be repackaged as if being resold. The chosen toys themselves will make up the principal mould to be vacuum formed, with just a few simple additional materials needed to get them ready for the forming process. This project will be for a child's action figure toy, although any toy can be used and the plan adapted accordingly.

Method:

Students will first need an MDF baseboard upon which to secure their chosen action figure to prepare it for vacuum forming. Using sheet material which is 1cm thickness, students can measure and cut this to size, and apply a number of venting holes around its surface. Assuming the action figure measures 8 inches in height, and 3 inches in width, the baseboard should be 10" x 8". This will allow ample space for both the action figure and some eye-catching graphics on the piece of card positioned behind it. Sizes should be adjusted according to the size of the chosen toy. Draft angles will need to be applied to each edge of the backboard using a disc sander.

Using double-sided tape, stick the action figure down on the baseboard securely, placing it to the left of the board, allowing lots of free space to the right for graphics to be displayed.

To prevent the action figure being damaged during the vacuum forming process, it will need a thin layer of protective material to act as a barrier between it and the heated plastic material. Modeling clay or putty is recommended. Students can roll out their clay or putty into a large thin sheet, around just 2mm thick. Imagining the shape of the action figure, they must roughly cut out the toy's shape, being generous as to its size to allow the material to be draped over the entire toy. They can now cover the action figure entirely. Additional venting holes can be drilled around the point where the clay material meets the MDF baseboard, at 2cm intervals.

The protected action figure, mounted on its baseboard is now ready to be vacuum formed using suitable clear plastic material. 1mm PVC is recommended. The toy can now be removed, and wiped clean along with the newly formed plastic. The action figure should now fit perfectly inside the formed plastic sheet, with little room for it to move around.

Using scissors, the formed plastic can have excess material trimmed off. It is very important not to trim off the plastic material that will have formed over the four sides of the baseboard, as these will be folded over later to secure the packaging.

Homework Tasks:

Students might conduct all manner of market research independently at home, using the internet to visit toy manufacturer and toy store websites. Finding products that are similar to their own chosen toy, this will provide a solid understanding and inspiration for when students move on to designing the card insert which will advertise their product.

Students might also look at how packaging varies dependent upon the intended age or gender for which a toy or product is designed. Noting the variation in fonts, styles, colours, and graphics, this too will help students as they move through the design process for their specific toy.

Optional Extras:

This project can tie in nicely with other complimentary projects students might be engaging with from around the school. For example, should a student be producing an item in any other class which is intended to be a gift or to be packaged, processes within this project plan can be adapted and utilised. This project directly reflects elements of Business Studies classes, in that it is preparing a product for market both in terms of presentation and basic graphics. Students might pay special attention to the mandatory government safety information displayed on all toy packaging, and incorporate this into their design, developing their wider understanding of the processes and procedures manufacturers must go through to bring a product to market.

Method: (Continued)

Students can now turn their attention to creating the branded card which will be displayed behind the packaged action figure. Measuring the size of card required to fit behind the action figure and noting the orientation of the toy and space available, students can now create this either by hand, or on a computer.

The toy can now be placed into the formed plastic, and with the card in place the four edges of plastic which formed over the sides of the baseboard can be gently scored and folded over to seal the packaging. Students will now have their completed packaging, ready to be displayed as if for sale.

Student Accomplishments:

- The production of professional packaging and production techniques associated
- Demonstrating capabilities with wood saws, sanders, and other small hand tools
- Utilise and demonstrate a variety of different skills and tools within the workshop
- Using a range of mould materials, including MDF and every day objects
- Artistic expression and independent design choices
- Practical hands on experience using a vacuum forming machine, and understanding its wider application
- Interpret a design brief accurately and creatively

Teachers notes:

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