



Famous Faces

Completion time: 3 Lessons

Materials and Resources:

- Building insulation sheet foam, any thickness
- Clay, craft glue, and acrylic paint
- Sheet MDF, 1cm thickness
- A range of small hand tools, machine and/or hand saw, pillar drill and 1.5mm drill bit
- Photographs of famous faces
- Formech vacuum forming machine
- Suitable vacuum forming plastic material (1.5mm ABS or HIPS is recommended)
- <https://formech.com/case-studies/formech-the-english-national-opera-2>

Skills at a glance:

Mathematics

Measurement

Language

Reading, listening, speaking

Thinking skills

Expression, design, interpreting a given brief, material and tool selection, independent thought, problem solving

Science

Heating plastics and effects, plastic/polymer material knowledge

Project Outline:

This project is perfect for History and English students with some creative flare, or for Art, and Performing Arts students too. It will see students select a famous face from history, literature, stage or popular culture, and realise their face in a 3D clay mould which can be vacuum formed to create either a display or a mask. This can tie in with significant celebration days in the year, with class projects focussing on a famous individual, or with stage productions. Imagine Abraham Lincoln's, or Martin Luther King's face staring back at you. Using clay, moulded over a foam base, students can use photographs to guide them as they use their hands and tools to shape material bringing an individual to life.

Method:

Students can begin by making a small rough face shape out of sheet foam material, which fits easily within the forming area of the available Formech vacuum forming machine. This can be achieved by layering and gluing sheet foam material, and shaping it by a variety of cutting methods.

This can now be glued to an MDF baseboard, which fits inside the Formech vacuum forming machine.

With the foam base now completed, and using photographs of their chosen famous face, students can now mould their likeness in clay, starting with an even layer which covers the foam material entirely.

Students can add and remove material as desired to produce facial features, using their hands as their principal tools. If the surface of the clay material begins to dry out, applying just small amount of water to the hands will prevent this.

Small hand tools might be used to add finer detail, like forehead furrows, lines around the nose and mouth, and deep wrinkles. When students are happy that the face is complete, they can now move on to the hair, replicating its shape with large pieces of clay, rather than trying to emulate single strands.

The clay mould can now be allowed to dry completely.

Dried clay is a relatively porous material, and venting holes might only need drilling where there is an especially deep recess, like around the eyes or the mouth. These 1.5mm holes should go through both the mould material and the MDF baseboard.

It is also advisable to apply venting holes around the MDF baseboard at 3cm intervals, where the clay and the MDF material meet.

The completed mould can now be vacuum formed using any suitable plastic material, although 1.5mm HIPS or ABS is recommended.

Homework Tasks:

Using this project in conjunction with a school stage production or historical re-enactments provides students with an opportunity to do research and prepare a report on the famous face they have chosen. Perhaps learning a famous speech, or lines from a script to either perform or present to the class in character.

Vacuum forming is a popular and much used process in the production of masks for both stage and screen. Students might conduct some simple research and make observations of other famous masked characters, for which vacuum forming was likely used to produce the costume.

Optional Extras:

If a student does an exceptional job, then there is scope to extend the lesson further to demonstrate how a vacuum formed piece can then be used to cast a resin mould. Using a vacuum formed famous face, the inside can be sprayed or painted with a silicon release agent and allowed to dry. An epoxy resin can be prepared, and poured into the vacuum formed mould. Once having had ample time to set, the resin mould can be pushed out onto a flat surface. Venting holes can be drilled where necessary, and the class now has a very strong resin mould which can be vacuum formed repeatedly as required. This is a fantastic way to make numerous identical masks, using just one fragile handmade clay mould.

Method: (Continued)

Once vacuum formed, students can carefully remove the clay mould and trim off any excess material. The newly formed famous face can be painted with acrylic paints to add even more lifelike detail.

The completed famous face is now ready to be worn as part of a school production, or displayed as part of a class project.

Student Accomplishments:

- The production of a mask or display which accurately resembles their chosen famous face
- Utilising and demonstrating a variety of different skills and tools within the workshop
- Using both foam and clay together as complimentary mould materials
- Practical hands on experience using a vacuum forming machine, and understanding its wider application
- Developing artistic skills with clay, applying them to the facial structure
- Gaining knowledge as to costume production techniques within professional industries

Teachers notes:

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