

# Ceramics

Clay is one of the easiest materials to model with and most children have played with it at some time, even to simply form 'snakes' by rolling the material between their hands.

There are many different ways of transforming clay into functional everyday vessels, sculpture and decorative objects. The clay can be hardened by leaving to dry in the sun or by firing in a kiln to a high temperature and then finished by glazing and decorating. Some of the processes are explained below:

**Carving:** Clay is a very soft material which makes it easy to carve. There is a wide range of tools and techniques that can be employed for modelling sculptures and vessels or for applying surface details and decoration. They include knives, wire-ended tools, spatulas, saws, awls, wire-wool and even household utensils. Most makers assemble a collection of tools they can put to use, depending personal preferences and on the task in hand: gouging, scratching, incising, slashing, smoothing, cutting etc. For best results, the clay should be leather hard. The maker will learn from trial and error, which tools are suitable and how much pressure is needed to produce the required effect when carving.

<http://ceramicartsdaily.org/free-gifts/ceramic-carving-tool-techniques-bringing-the-ceramic-surface-to-life/>

**Firing process** – when the pot is completely dry it is ready to be bisque fired in a kiln. This initial firing removes all water from the clay so that the piece can be glazed without returning to mud and breaking. After glazing, the vessel is given a second firing which makes it watertight and gives the glaze a glassy finish. There are many methods of firing including:

- **Raku** – the pot is removed from the kiln while it is red hot and then plunged into cold water or sawdust in order to create a crackle effect on the glaze.
- **Stoneware** is fired to higher temperatures than earthenware, maturing the clay and glaze at the same time. The glaze interacts with the clay to form an integral glaze/clay layer.
- **Earthenware:** pottery made from clay, often mixed with silica, quartz, feldspar etc. It needs to be glazed in order to make it watertight.
- **Wood firing:** Wood fired ceramics are at the very root of civilization, as open firing (on the ground without a kiln) evolved to covering the simple bonfires with fired brick structures. The Japanese anagama kiln is an ancient type of wood fired pottery kiln where a continuous supply of fuel is needed for firing, as wood thrown into the hot kiln is consumed very rapidly.
- **Gas firing** allows the potter to control the ratio of oxygen to gas. Depriving the kiln of oxygen creates an atmosphere known as reduction where carbon monoxide can be produced. It is the burning of chemically combined oxygen in the clay and glazed minerals that give the ceramics fired by natural flame their unique characteristics.
- **Electric kilns** were developed in the late C19th, they now include computer controlled electric kilns. Capable of firing to preset temperatures and complex schedules they have enabled the individual artist potter to work alone.



Lowri Davies

**Glazing:** a liquid solution of finely ground minerals is used to cover pottery. The ware is dipped into glaze or it can be sprayed or painted on. During firing it fuses to the clay to create a non-porous surface. See: [http://www.howtomakepottery.com/glazing\\_and\\_firing.html](http://www.howtomakepottery.com/glazing_and_firing.html)

**Hand-building:** these are the most common methods of making pottery by hand:

- **Coiling** – has been used to make clay vessels for thousands of years. The technique allows the potter to build and shape walls by rolling long ‘snakes’ of clay and placing one coil on top of another until the desired height and form is attained. Coiled vessels often take a ‘pinch pot’ as a base to build from.
- **Pinching** – making a ‘pinch pot’ is one of the simplest and oldest techniques. Beginning with a ball of clay, thumbs are pushed into the centre, and then the walls of a pot are created by pinching the sides between fingers and thumbs and continually turning the ball in your hand. The pot is then pushed on a flat surface to create a base.

**Slab-building** involves rolling out a lump of clay on a flat surface with a rolling pin between two strips of wood of equal thickness, to ensure that the slab is rolled out evenly. When the clay has dried and leather-hard, the slab is cut with a sharp knife into the required shapes to be assembled by pressing dampened edges together. See: <http://www.lakesidepottery.com/HTML%20Text/Methods%20of%20Handbuilding.htm>  
<https://www.youtube.com/watch?v=u-dldKI-exl>

**Mould Pressing** is the forming of objects by pressing the soft clay firmly into a mould with the fingers. Moulds are usually made from plaster and they are particularly useful for making repeats of forms. They can be easily made by hand or purchased from ceramic suppliers. For information and instructions for making press moulds. See: <https://www.youtube.com/watch?v=um0GLs-ahkw>  
<http://annakeiller.com/tag/press-moulding>

**Paper clay** (fiberclay in USA) is any clay body to which processed fibres (paper being the most common) have been added. Earthenware, terracotta, stoneware, porcelain and bone china

clay bodies can be made into paper clay. The firing process for paper clay is similar to firing of conventional clay. Replacing some of the clay with fiber, will reduce the thermal mass of clay, in turn reducing further the energy required to fire the work, and the final object will weigh less than conventional clay.

**Slip casting:** a method of creating ceramics from a plaster mould. The casting slip (liquid clay) is poured into the mould and the clay dries out into its shape as the water is absorbed by the plaster.

**Slip trailing** is the application of lines of slip to a clay surface using a fine-pointed dispenser (similar to a cake-decorating nozzle). The resulting raised decoration adds physical and visual texture to ceramics. See: <https://www.youtube.com/watch?v=Nk4zNN05c68>

**Throwing:** the term comes from the Old English word 'thrawn' which means 'to turn.' A lump of clay is placed onto the middle of a rotating wheel and the potter pushes the material up into a cone and then down into its centre with thumbs to form a vessel. The finished work is removed from the wheel with a wire cutter. It takes practice to learn how to control clay and wheel speed in order to produce a perfect pot. <http://lakesidepottery.com/Pages/Pottery-tips/Throwing-a-pot-Lakeside-Pottery-Tutorial.htm>

## Tasks

**Play** with clay! Press objects into a rolled out slab to create textures, imprints and patterns (eg shells, textiles, coins, wallpaper etc). You could cut round the most interesting bits to make decorative coasters.

**Watch** a potter at work! You could visit a studio or workshop and talk about different processes or watch a video. (<http://www.wimp.com/claypottery/>)

**Find out** about different glazes.

**Make** a pot from coils of clay – if you do not have a kiln, use an air-dry clay such as 'Fimo' or 'Das'.

### Further Resources

Connell, Jo, *The Potter's Guide to Ceramic Surfaces*, Apple Press 2002

Turner, Anderson, *Surface Decoration Techniques*, Amer Ceramic Society, 2014  
Mattison, Steven, *The Complete Potter: The Complete Reference to Tools, Materials and Techniques for all Potters and Ceramicists*, Apple Press, 2003

Cooper, Emmanuel, *Ten Thousand Years of Pottery*, The British Museum Press, 2002

Cooper, Emmanuel, *Contemporary Ceramics*, Thames & Hudson, 2009

Leach, Bernard, *A Potter's Book*, Faber and Faber, 2011

[www.vam.ac.uk/page/c/ceramics/](http://www.vam.ac.uk/page/c/ceramics/)

[www.ruthincraftcentre.org.uk/archive-exhibitions/](http://www.ruthincraftcentre.org.uk/archive-exhibitions/)



Catrin Howell workshops at Ruthin Craft Centre

## Work in Focus: Susan O'Byrne

*Lamb, 2012*



Susan O'Byrne, *Lamb*, 2012

*'The way I make my works is related to the way I made things as a child in papier mâché.'*

Susan O'Byrne developed her unique approach to modelling as a means of problem solving. As an art student in Edinburgh, she loved to combine drawing and collage. When she began to work in ceramics, she devised a way of translating these disciplines into three dimensions: *'I started drawing with wire and collaged pieces of clay.'*

However, metal expands in the kiln as clay shrinks and so 'it became a challenge to get everything to hold together.' Her solution was a very personal making process, starting with a micro-wire armature on to which layers of printed and patterned pieces of porcelain clay are applied to form a skin:

*'The natural twists and kinks of the wire frame and the shrinkage of the clay around it during firing are allowed to dictate the posture of the finished animal. The element of chance in these processes is central to my work.'*

The sheets of patterned paper clay which are applied to the frame are prepared beforehand by using the following process:

- Making a stencil of the pattern that is to be used.
- Painting through the stencil with thick paper clay slip onto a flat, damp surface.
- Peeling the stencil away, leaving the pattern embossed on the surface.
- Painting a layer of thin, paper clay slip in a different colour over the pattern. (this becomes the background for the design)
- Peeling the whole sheet off and then collaging it in bits onto the wire frame.

Susan also makes animal sculptures on a smaller scale, starting with a papier mâché maquette and creating a mould in order to cast the works. She explains that the tapestry-like surface of *Lamb* reflects her interest in mediaeval bestiaries: *'I always think of animals as parts of collections and in my collection, as in history, the lamb represents something lighter in contrast to the darker nature of, say, the goat.'*

## Tasks

**Draw** an animal using only lines and then make a copy of this in wire. Fill in the spaces with collaged pieces of patterned paper or fabric.

**Make** a model animal in paper clay or papier mâché and decorate it with collage or paint. Try to capture the character or nature of the individual animals. Make a bestiary!

**Watch** video of Susan O'Byrne at work <https://www.youtube.com/watch?v=NTmskLM0JDw> and then write a report with clear instructions. Use this report to compose a story about a sculptor who brings clay animals to life!

**Design** stencils and cut them out of card. Use them to create sheets of patterned paper.

### Further Resources

Elizabeth Moignard and Philip Hughes,  
*Susan O'Byrne: Five Sisters and a  
Family Tree*, Ruthin Craft Centre 2015

<http://www.susanobyrne.com/en/about.html>  
[www.ruthincraftcentre.org.uk/  
archive-exhibitions/](http://www.ruthincraftcentre.org.uk/archive-exhibitions/)



Susan O'Byrne, *Red-headed Finch*, 2015  
photo: Bruno Gallagher