

**Nature in Art's**

# **Sculpture Handbook for Teachers**



Written & compiled by Jackie Garner & Jackie Vercoe

Supported by SWMLAC and the DfES

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# Introduction

This book is designed to give teachers basic information about sculptures. It is aimed at non art specialist teachers, and suggests ideas for 3D work in school as well as containing practical information about sculpture techniques and materials. Photographic examples are taken from Nature in Art's collection or from locally displayed sculptures so that teachers have opportunity to see the original sculpture itself.

With all practical sculpture work reasonable care must be taken to ensure the safety of children and adults.

## What is Sculpture?

Traditionally sculpture is the art of forming representations by chiselling, carving, casting or modelling. Today sculpture includes any work in three dimensions. Children may consider sculpture as a model or a statue.

“With the advent of conceptual art in the 1970s the word also began to be used for a wide variety of avant garde works of art; some consisting of written statements and others using the dimension of time as well as space. When British artist Richard Long made a planned walk across country and recorded what he had done on a map, this was also labelled as sculpture. Thus it is a label for almost any form of art activity other than painting.” Dictionary of Art Terms.

Traditional sculptures can be divided in to two groups:

i. Those made from materials that have been joined together

Example: recycled metal sculptures



ii. Those made from a single block that has been carved in to a particular shape.

Example: wood sculpture



# Elements of Sculpture

## **Mass:**

Is one of the main elements of sculpture. The sculptor can choose to make their sculpture light and airy or heavy and bulky in appearance. Materials will therefore need to be selected and finished according to the desired outcome. Choosing stone or glass for example, would give very different results. Usually masses within a sculpture need to be different, unless repetition is part of the desired effect.

## **Space:**

Sculptures can be made from more than one form. If two forms are placed next to each other and then slowly moved apart, the space between them changes in dimension and character. When the forms are close the space may seem restricted, when far apart it becomes less tense but still relates to both forms. If they are moved even further apart they appear separate and the space changes from being part of the sculpture to being a space that surrounds each individual piece.

## **Plane:**

A plane has length and width, with minimal thickness compared to the other elements of the sculpture. A plane can be straight or curved. From one viewpoint a plane will be seen as a line.

## **Line:**

can be straight, curved or flowing. A line can be made from string, wires or rods. Vertical lines appear strong and imply support. Horizontal lines are supported and seem gentler. Diagonal lines are dynamic. A convex line creates tension; a concave line appears to have forces acting upon it.

## **Movement:**

can be implied by the position of a figure e.g. a person running. Some sculptures have kinetic movement, where all or part of the work moves. Sculptures should not be placed on a turntable unless that movement is part of the desired affect, as the viewer should be able to view the work at their own pace.

## **Texture:**

can be used to reflect or diminish light, to emphasize or modify weight or to create shadow. Construction techniques often imply the finish. Textures added as a decoration may lack value, whereas meaningful textures arise from the construction process.

## **Colour:**

Sculpture often retains the natural colour of the material, especially in stone or wood. Bronzes have a patina added to colour or age the work and to reduce reflections. A single colour may help to show different textures or shadows.

## **Relief**

Sculptures may be made “in the round” where the work can be viewed from any angle, or they can be made in relief. Work in relief is made to be viewed from the front, and the design projects from the surface.

## **Scale:**

must be considered as the sculpture progresses. A sculpture developed from a maquette may need adjustments on a larger scale. Consider the effect of a large object made small or vice versa. Also bear in mind the space where the sculpture will be sited, as this will affect the sculpture’s impact on the viewer. In an urban site surrounded by tall buildings a small sculpture may seem lost, whereas the same sculpture placed amongst small objects will have more impact. To see the totality of a large piece there must be sufficient space for it to be viewed from a distance.

## **Purpose:**

A sculptor may also need to consider the purpose of the piece of work.

- Will the piece be handled? The design, materials or finish may need to be modified.
- How should it be fixed in place?
- Is it for private use, or will it be on public display where other safety issues arise.
- What is the intended lifespan of the piece? Some sculptures (especially those made from natural materials) are designed to decay in to the environment.

## **Site**

Public sculptures are often made for a particular venue. In such cases the work may be inspired by the local scenery, materials or history. In addition the sculptor needs to consider external aspects that will affect the construction and appearance of the piece.

- Will it be displayed indoors or out? Weatherproofing may be necessary.
- How will the surroundings affect the work?
- Will there be a relationship to other sculptures e.g. at a sculpture trail?
- Is the work intended to contrast or harmonize with the surroundings?

## **Cost/ Value**

Teachers may wish to explore the issues of value and expense with their class.

Try selecting contrasting sculptures and look at:

- The cost of the materials
- The (sentimental) value to the owner
- Does age enhance the value? Why?
- The selling price by the artist
- The selling price by the gallery (usually the artist’s price + 50% or more)
- The value to someone who loved/ hated it
- The value if it were made by someone famous
- The value if it is an original piece or a copy/ fake
- The value if it is one of an edition of 10, 50, 500....

## Where to See Sculptures in Gloucestershire

Original sculptures may be difficult to resource in the classroom, but can be seen in plenty of places once you start to look. Sculpture parks are ideal, but if they are too distant try looking in your local town centre for community art projects or historic buildings that may show carvings. Church buildings may be a good source, from stone carvings on the outside to carved pews on the inside. Families may have small sculptures at home, that could be borrowed for a classroom display.

The following all give access to sculptures in Gloucestershire.

1. Nature in Art, Twigworth, Gloucester\*
2. The Sculpture Trail, Forest of Dean
3. Gloucester Cathedral
4. Sophie Ryder hare sculpture, The Promenade, Cheltenham
5. Ram Sculpture, High Street, Stroud
6. Stone sculpture at the cross, Gloucester
7. Chen Kim Loke art gallery, Slimbridge WWT\*
8. Cheltenham Art Gallery & Museum
9. John Moore Museum, Tewkesbury\*
10. Severn Totem Pole, Slimbridge WWT\*
11. Quenington (biannual)

- entrance fee

## **Sculpting with Ceramic**

Perhaps when we think of sculpture, work in clay springs to mind, and certainly it is a feasible material for use in the classroom. It is a good modelling material as fine detail can be achieved. The basic shape should be blocked out and then pellets of clay added for detailed. Wet clay must not be allowed to dry out but should be occasionally dampened with a plant spray. If the model is to be left then it should be covered with a damp cloth followed by a plastic bag to make an airtight cover. Finished work in clay is usually fired, then a glaze is added and the work is fired again. Air drying clay is readily available if the school does not have facilities for firing work. Different glazes give different colours and effects. Clay also allows various finishing techniques; the finger marks may be left visible, the surface may be smoothed or tools can be used to give a textured surface.

A crazed surface implies that the work may be a raku piece. Raku is a method of firing pots which involves a rapid firing to a red heat, at which point the pot is taken out of the kiln and quickly buried in sawdust. This brings about a “reducing” atmosphere which causes carbonisation of the clay. The rapid cooling produces a decorative crackling of the glaze.

## **Sculpting with Glass**

Obviously glass cannot be used as a school sculpture medium. However, it may be a medium for a classroom display in the form of paperweights and ornaments that can be borrowed from home. Glass can be engraved, cast, coloured or painted. Sheet glass is not dissimilar from acetates or laminating pouches, both of which are readily available and can be easily cut or bent to shape.

Glass can also be used by adults in the form of fibreglass, which may be purchased in the form of fabric-like sheets. These are cut to size and shape, laid over a former and then painted with resin. The resin quickly sets to give a strong and lightweight finish which can be sanded and painted. Fibreglass is weather proof if placed outdoors. It is easily available from car accessory shops. The manufacturer's instructions on safe use, storage and disposal must be heeded.



## Sculpting with Metal

**Metal is an important material for sculptures, though it is less suitable for the school situation. Do consider the idea behind the work, as that may be appropriate for the classroom. For example, stainless steel sheets may be replaced by card covered with kitchen foil, or sheet steel can be replaced by stiff cardboard.**

Different sorts of metal can be used for sculpture. Metal such as bronze can be cast, or shapes can be joined by welding. Various types of wire and wire netting are easy to shape and readily available. Recycled pieces such as chains, horseshoes, garden tools can be arranged in to a shape or form. Metal can be coloured by heating or by applying chemicals with heat, such as in patination. Cast metals can show great detail, even down to reproducing a finger print from an original clay model.



of whether the material used is metal or paper.

“Black Heron Canopy Feeding” by Michael Brewer and “Swan” by David Cook each use the same method of representing feathers, irrespective

## **Wire Sculpture**

Wire comes in many shapes and sizes, some of which is suitable for use in the classroom. Steel wire is ideal, as is copper wire or plastic coated garden wire. Florists wire tends to bend in angles rather than curves, so select supplies according to the likely usage. A selection of different colours and sizes of wire may add interest to the finished work. Wire mesh is also easily available from educational supplies catalogues. Chicken wire can be bent to shape over an armature. It is available with varying sized holes; larger holes make it easier to bend, and give fewer cut edges. For larger sculptures square section aluminium wire is very useful, but is not suitable for younger children as it is difficult to bend.

It is recommended that teachers cut wire to size before the children use it. You may also wish to provide safety glasses when children are handling wire.

# **Sculpting with Paper**

**Paper can be used for sculpture in a number of ways: paper sculpture, moulded paper, and papier mache.**

## **Paper Sculpture**

Notable sculptors: David Cook, Angela Freestone

Paper can be used as a sculpture material, either for relief or in the round. Any paper can be used; ordinary cartridge paper works especially well. The main techniques for paper sculpture are cutting, folding, scoring, rolling and gluing. Like any craft activity, paper sculpture repays care, as gluey fingerprints detract from the finished work! There are many books available showing examples of techniques as well as templates for students' own work. Designs may look complicated but are often made from very simple techniques such as fans, fringes, rolls and paper chains.

A relief paper sculpture always has the back pieces made first, so that the next piece covers the glued areas and joints. It is a good idea to back the sculpture on to card of a contrasting colour so that the sculpture shows up. Most sculptures are made in white so that the shadows cast by raised areas can be easily seen.

## **Scoring.**

Scoring gives a piece of paper greater strength. Traditionally a paper sculpture template show dotted lines, or dot, dash, dot, dash lines. Dotted lines show where the paper should be scored. Dot, dash lines mean "score on the other side of the paper." Always fold paper away from the score line. Children may find scoring easier before they cut out the pieces of the sculpture.

## **Rolling.**

Paper that needs to be rolled can either be bent around a pencil or similar shaped object, or it can be curled with a scissors as you would curling ribbon. Beware of paper cuts if using the second method.



Detail of lion by Angela Freestone

## Moulded Paper

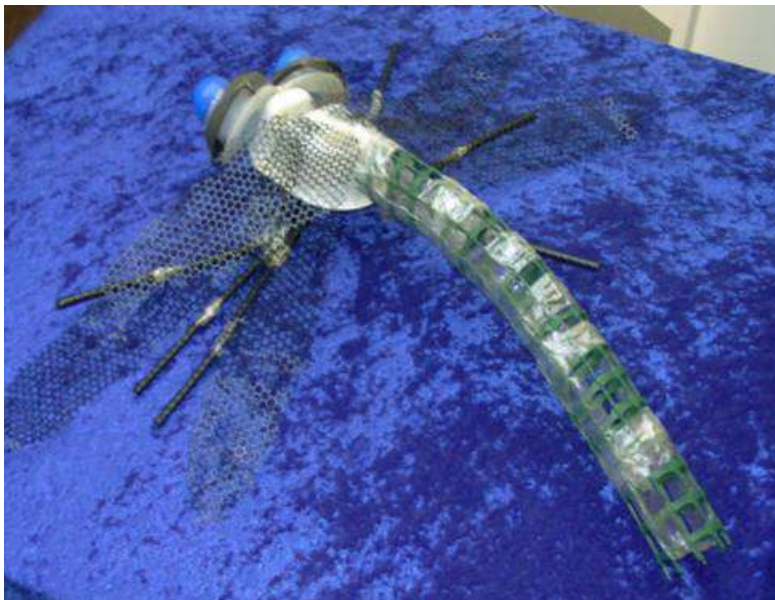
## Sculpting with Scrap

Scrap sculpture (or junk modelling) is a popular method of introducing children to work in three dimensions. Teachers need to extend children's expectations and experience of the possibilities, as the children may feel they have "done" scrap at playschool. Try to give children the opportunity to look at sculptures that use recycled materials before making their own versions. Children can collect scrap materials from home, but for a wider variety of shapes and materials there are a number of scrapstores/ resource centres around the country (see Useful Addresses). These offer a good source of waste materials from businesses at low cost. Schools will need to become members before they can buy scrap. Teachers should also be aware that size is important! It doesn't have to be yoghurt pots: try dustbins!

Before the actual making sessions consider spending time looking at how to join shapes together, using tape/ glue/ glue guns. Teachers may like to try different methods before the lesson. Making a sculpture can reinforce existing learning about structures, such as reproducing the different parts of an insect.

### **Sculptors:**

Alan Jack, Wylenty Pytel, Nathan Jarvis



Dragonfly made from scrap - yoghurt pot, sequin waste, assorted plastic off cuts.

## Sculpting with Stone

**Obviously stone sculptures are beyond the scope of most primary schools. An exception may be to use soapstone as this is soft enough to use with simple carving or lino cutting tools. Older pupils should be able to manage a small relief carving.**

**Soapstone (or Steatite)** is the softest known mineral stone (1 on MOH's scale of hardness). Soapstone is found in low or medium-grade metamorphosed - basic or -ultra basic rocks. It is found all over the world: Africa, Alaska, Canada, Scotland and South America. We come in to contact with this mineral at a very early age, in the form of talcum powder. Talc is also used as an insulator in the electrical industry, and it is used for making pottery, paint and paper.

Normal carving tools can be used, and soapstone can also be sawn and sanded. Since the stone is soft (and has a grain like wood) it can break or split easily, so fine detail is not recommended. To colour the stone, a gentle heat should be applied which allows (encaustic) waxes to penetrate. The sculpture can then be polished.

Significant amounts of dust are created when working with soapstone, so be sure to work in a well ventilated area and to sweep up regularly to avoid slipping.

Notable sculptors: Laurence Broderick, traditional Inuit, traditional African.  
**suppliers of soapstone**

Specialist Crafts Ltd  
PO Box 247  
Leicester LE1 9QS  
Tel 0845 458 4792  
Fax 0845 458 4793  
[www.speccrafts.co.uk](http://www.speccrafts.co.uk)  
[post@speccrafts.co.uk](mailto:post@speccrafts.co.uk)  
[www.homecrafts.co.uk](http://www.homecrafts.co.uk) (private orders)  
Gerstaecker UK Ltd  
Great Art  
Normandy House  
1 Nether Street  
Alton  
Hampshire  
GU34 1EA  
Tel 0845 601 5772  
Fax 01420 59 3333  
[www.greatart.co.uk](http://www.greatart.co.uk)  
[welcome@greatart.co.uk](mailto:welcome@greatart.co.uk)

Double Headed Spirit Bird



made from soapstone

## Sculpting with Willow

**Willow can be used in the cut form known as withies, or can be a living sculpture where the plant continues to grow and develop. Living willow sculptures must be continually tended if the shape is to remain.**

**Withy sculptures:** are lightweight, making them suitable for making large 3D sculptures and hangings.

**Materials:** Withies, masking tape, tissue paper, scissors, pva glue & brushes, container for diluting.

### Preparation

Soak the withies in cold water (see times below) to make them supple, then wrap them in a damp cloth and leave to “mellow” for several hours. Otherwise they will snap when you use them.

Buff and white rods can be left wrapped for 1 or 2 days but must then be dried and resoaked before further use. If they remain wrapped or kept in a warm room they will go greasy, mouldy and squash when used. Brown rods can be kept wrapped for up to a week.

Length	Buff/white willow	Brown
3ft	½ - 1 hour	2 days
4ft	1 - 1½	3
5ft	1½ - 2	4
6ft	2 - 3	5

### Making

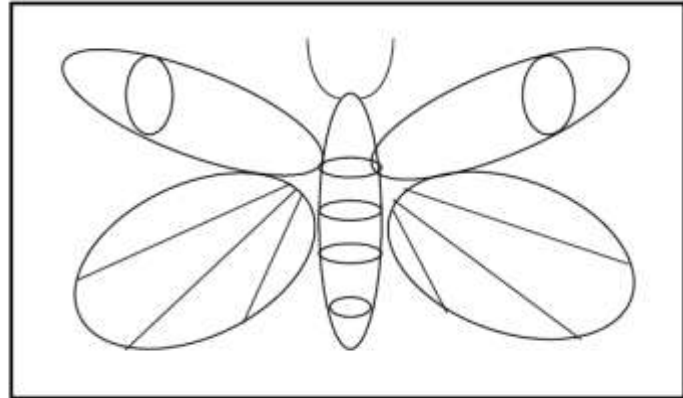
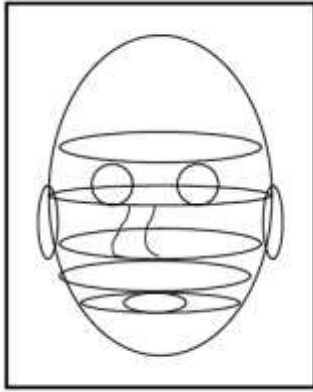
Cover surfaces with newspaper; working with willow is messy!

Bend the willow in to simple shapes (oval, square...) and tape together with masking tape to make a skeleton like frame. Children may find it easier to work in pairs so one can hold while the other tapes ends together. Make larger or smaller shapes and tape to your frame for added strength.

**Either** tear off pieces of tissue (keeping the size of the pieces workable, approx 12”), cover in thinned down pva glue and stretch across your framework **or** apply glue to the frame and afterwards paint a thin solution of pva glue over the stuck tissue paper. When the tissue paper dries it becomes taut on the frame. Overlap the tissue so that there are no gaps.

The glue will take a while to dry so you can use a hairdryer to speed the process up.

Children could also plan their sculptures using straws before making a final version with willow.



## **Sculpting with Wood**

**Another material for sculpture that is less suited to the classroom, but important nevertheless. Carvings may be seen in churches, on furniture, as ornaments and in public venues. Wood carvings occur in ancient Egypt (tomb statues), Rome (boats, chariots and furniture) and in ancient Greek art.**

Wood sculptures are often made from single piece of timber.

Wood is often left with just a coat of polish so that the natural colour can be seen. Sculptors often choose their timber according to the colour or pattern of the grain, so that the choice of material has a bearing on the final piece of work. Wood can also be coloured by staining or painting, which is then protected with a layer of varnish or polish. The finish of a piece can also be varied from the smoothest surface to a very rough texture according to the desired effect. Lime wood is a popular timber as it is soft, has little grain and allows a detailed finish.

The wood sculptor's tools are chisels, gouges, mallets, saws, and rasps. For very large sculptures a chainsaw may be an appropriate tool to begin with.

Notable sculptors: Derek George, Chris Manley, Philip Nelson. Peter Walwin

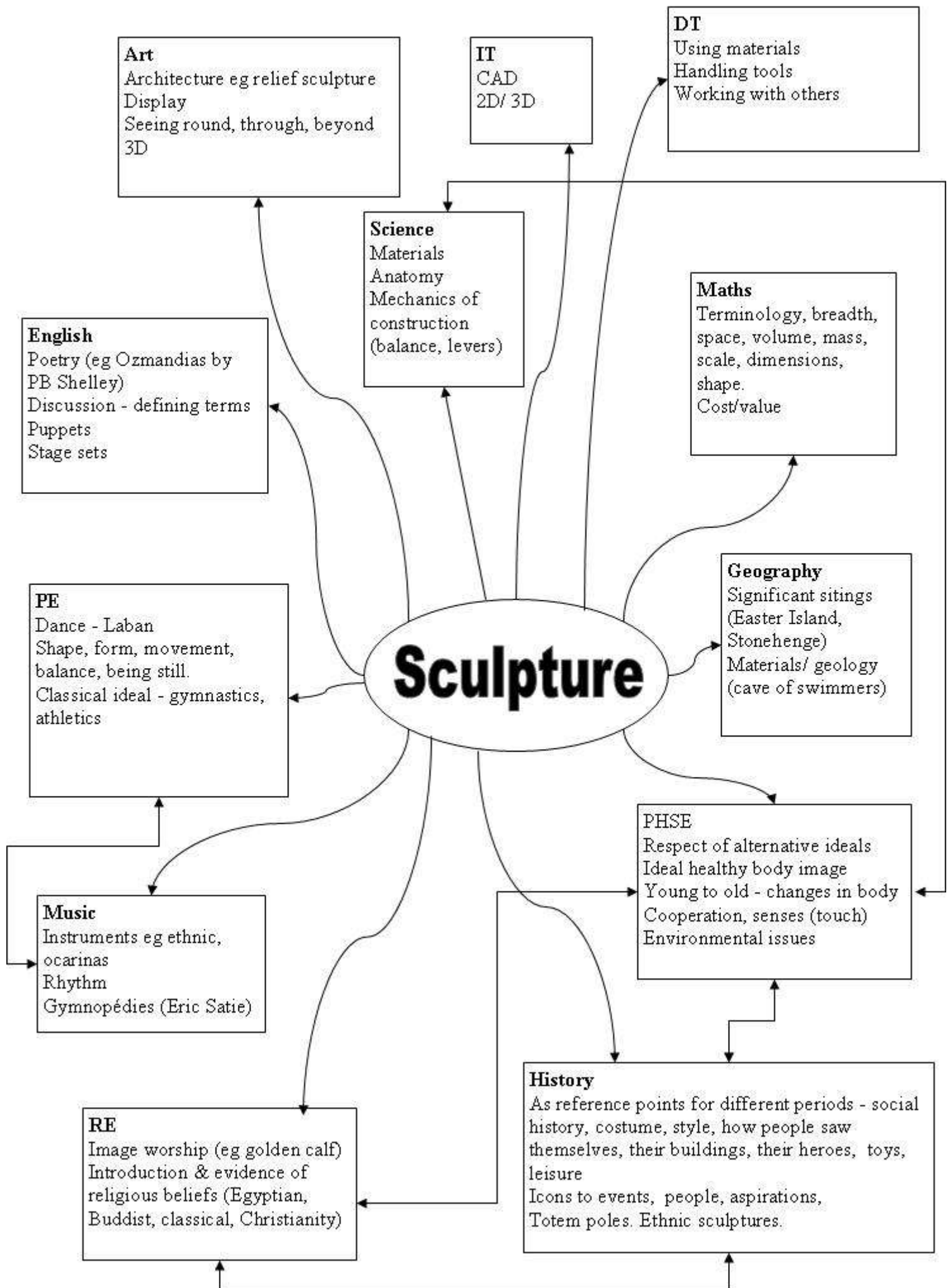




<b>Sculpture</b>	<b>Sculptor</b>	<b>Material</b>	<b>Alternative</b>
<b>Ceramics</b>			

Goose	Susanna birley	Clay, Raku	New clay, plasticene, Playdoh
<b>Glass</b>			
Hanging	Erica Isaak	Glass & wire, metal	Lamination with card/ paper/leaves.... Treasury tags/ wire rings
<b>Metal</b>			
Interlocking leaves	Nadin Senft	Polished/ matt steel	Mirror card Foil faced card
<b>Scrap</b>			
Scrap sculptures	Alan Jack	Recycled metal	More than yoghurt pots!
<b>Stone</b>			
Seed pod	Leah Marshall	Limestone	Soapstone Soap Wax
<b>Wood</b>			
Cheetah	Chris Manley	Laminated plywood	Cardboard / foamboard contours

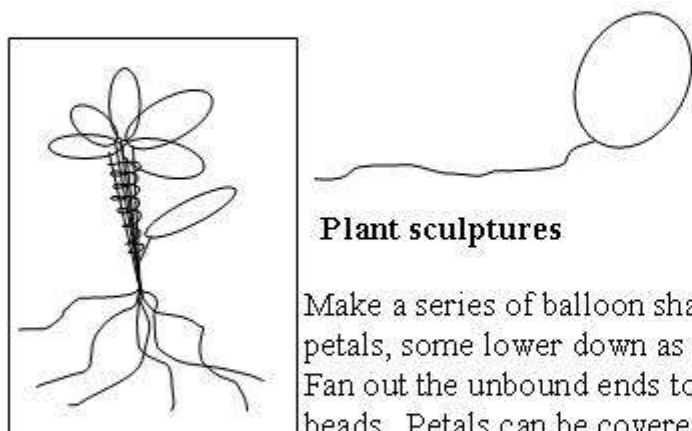
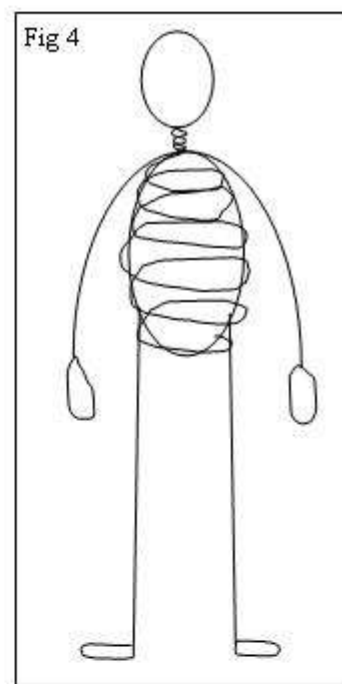
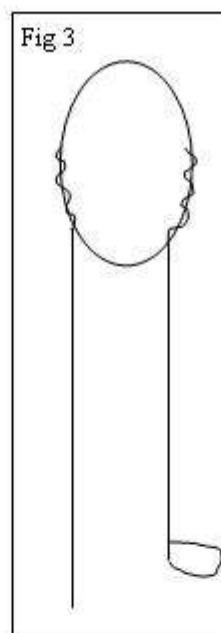
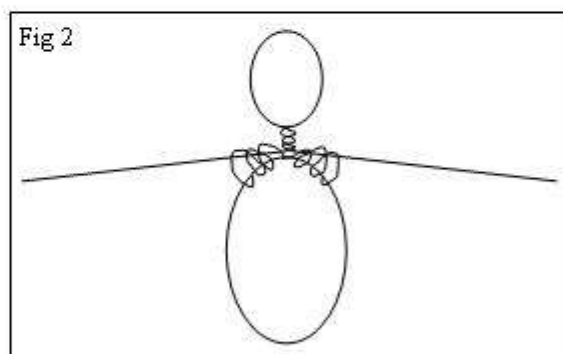
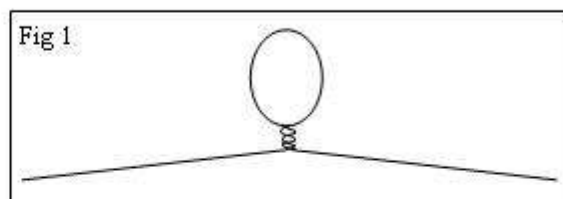
# Possible Cross Curricular Links



## Practical Work - Step by step guide to making a wire figure.

1mm thick wire is best as it is strong enough to hold any shape, but easy to bend. Younger children may find plastic coated garden wire easier to work with. Do not use thicker wire (even 1.25mm) as it is too stiff to work with. Children should not handle long lengths of wire; it should be pre-cut by an adult.

1. Take a piece of wire approx 45cms long. Twist wire to form a loop for the head, neck and arms (Fig 1). Don't worry if one arm is longer than the other. Use the excess to make loops to represent hands. Further excess can be bend around the arms to give added strength.
2. Take another piece of wire approx 30cms long. Make large loop by pushing one end of the wire over and under the other. Use the excess to join the first piece of wire to the second, forming shoulders (Fig 2).
3. Take two pieces of straight wire (each 30cms long) and wind them down the sides of the body to form legs. The excess can be bent in to foot shapes (Fig 3).
4. Fasten another piece of wire (45cms) at the shoulders. Bend this around the body in a spiral. This will give a thickness to the body (Fig 4).
5. Continue to add wire, weaving it through the basic structure. You may wish to emphasize knee and elbow joints.
6. Bend the figure in to a pose of your choice.
7. The figure can be left as a wire sculpture or can be covered with paper & glue/ plasticene/wool/ art-roc/ aluminium foil/ more wire/ clay/ fibreglass.



### Plant sculptures

Make a series of balloon shapes from thin wire. Arrange some of them to form petals, some lower down as leaves. Bind halfway down the stem with more wire. Fan out the unbound ends to form roots. Stamens can be made with more wire and beads. Petals can be covered with either tissue paper or coloured foil.

### Suppliers

1.00mm or 0.9mm galvanised steel wire is easily available from local garden shops or hardware shops and is soft enough for use by children. Very young children may find the green, plastic coated garden tying wire easier to use. Pipe cleaners are also easily available but are considerably more expensive. Steel wire is available from Consortium and educational supplies catalogues.

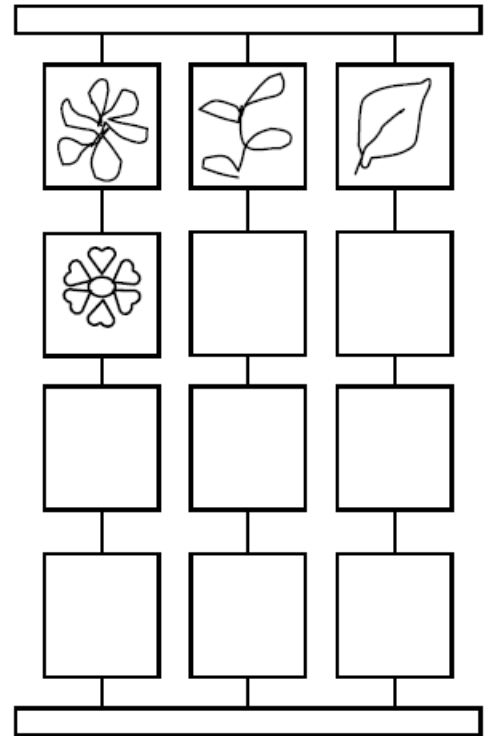
# Practical Work

## Hangings

The idea for this project came from a glass and metal hanging by sculptor Erykka Isaak. Each square contained a motif made from metal or wire which was then encased in glass.

The idea can be translated to the classroom by using thin card or paper instead of metal and laminating pouches instead of glass. Each child can make a square which can be joined as group work.

Decide on a subject (birds, plants, weather...). Each child designs a flat square relating to that subject. Squares are laminated and joined together with wire/ string/ treasury tags. Make sure the shape fits within the laminating pouch. If hanging the work outdoors, make sure that heavy duty laminating pouches and galvanised garden rings are used, and that the work is displayed in a sheltered area.



This idea could also be used for a paved area as part of the school grounds. Concrete slabs could be made with a range of textures (footprints, pebbles, gravel....) or mosaics. These can be set in to a grassy or brickwork area. Intersperse with low growing scented plants such as thyme for a sensory experience.



## Making an Armature

An armature can be described as an interior framework, or as a simple “skeleton” on to which the “flesh” is added. The armature will need to be strong enough to support the modelling material and should give the basic shape of the pose. Wire or square section aluminium is commonly used as it is strong but easy to bend. Depending on the design, a back iron may be needed if the sculpture is to stand upright. If the sculpture is to be fired the armature should be removed first, so the design must take account of this.

If plaster is to be used directly on to a steel armature, a metal primer should be used to prevent rust discolouring the finished work.

An alternative to an armature would be to use wire netting to give the basic shape of the sculpture. Netting with large holes is easier to bend than that with small holes. Care must be taken when working with wire netting as there will be many cut edges.

## Sculpting with Plaster

First make an armature (see above). Next tape pads of newspaper around the armature. You are then ready to add a layer of either plaster and scrim or plaster bandage. Plaster bandage is easy to use but is expensive in large quantities. Alternatively mix plaster of Paris separately and dip in strips of scrim or hessian. Keep strips short for ease of handling. Several layers will give strength to the sculpture, depending on the size. A final layer of pure plaster may be necessary for a smoother finish. A dollop of pva glue mixed with the plaster will give added strength. If you need to continue working at a later date, dampen the existing plaster before beginning a new layer. Otherwise the underneath layer will absorb water from the new mix which will cause cracking and flaking.

### **To mix plaster of Paris:**

Use a plastic container such as an ice-cream tub. Fill halfway with cold water. Add the plaster (in powder form) until it stops sinking. Always add plaster to water, never water to plaster. Stir the plaster until a smooth paste is achieved. A dollop of pva glue can be added to the paste to make the plaster stronger. Use quickly before the plaster starts to set. Mix small batches rather than large quantities.

NB:

- Never pour unused plaster down a sink! Wait for it to set and then dispose of in

a dustbin.

- Use a barrier cream on hands before handling plaster as it is very drying to the skin.

## Using Art-Roc or Mod-Roc

Art-Roc and Mod-Roc are types of plaster impregnated gauze, which are ideal for making sculptures. A cheaper, but messier alternative would be to use plaster and scrim.

**You will need:** Art-Roc, scissors, barrier cream or Vaseline, dust mask, newspaper, apron, water, wire plastic bag.

### Preparation

Use a barrier cream or Vaseline on your hands before using any plaster based products.

Protect surfaces and clothes. Lay out all your materials before you start to work.

Make up the basic shape of your sculpture with wire or damp newspaper.

Cut a quantity of pieces of art-roc (enough to complete your sculpture) with scissors before you start to model.

Put the remainder of the roll in a plastic bag so it does not get splashed whilst you work.

### Modelling

Dip a piece of art roc in water, gently shake off the surplus water and apply to model.

Continue to cover the model in a single layer, slightly overlapping the pieces.

Cover with a second layer, then a third. 3 or 4 layers gives reasonable strength, but 5 or 6 layers are better.

Work quickly. Art-Roc sets in a few minutes; full strength is reached overnight.

If you need to continue working at a later date, dampen the existing plaster before beginning a new layer. Otherwise the underneath layer will absorb water from the new mix which will cause cracking and flaking.

### Finishing

Palette knives or modelling tools can be used to make different textures.

Sandpaper can be used on a dry sculpture to get a smooth finish.

Art Roc can be coloured with water based paints, but the plaster can absorb the water and make the colours pale. Acrylic, emulsion or oil paints give a better

finish.

## Useful Addresses

Henry Moore Institute  
74 The Headrow  
Leeds  
LS1 3AH  
0113 2467467  
[www.henry.moore.fdn.co.uk](http://www.henry.moore.fdn.co.uk)

Yorkshire Sculpture Park  
West Bretton  
Wakefield  
West Yorkshire  
WF4 4LG  
01924 830302

Chiltern Sculpture Trust  
25a Cave Street  
Oxford  
OX4 1BA  
01865 723684

## Useful websites

<a href="http://www.nature-in-art.org.uk">www.nature-in-art.org.uk</a>	(Nature in Art)
<a href="http://www.gloster.demon.co.uk">www.gloster.demon.co.uk</a>	(Alan Jack, scrap metal sculptor)
<a href="http://www.celia-smith.co.uk">www.celia-smith.co.uk</a>	(Celia Smith, wire sculptor)
<a href="http://www.forestofdean-sculpture.org.uk">www.forestofdean-sculpture.org.uk</a>	(Sculpture Trail)
<a href="http://www.wwt.org">www.wwt.org</a>	(Wildfowl & Wetlands Trust)
<a href="http://www.sculpture.org.uk">www.sculpture.org.uk</a>	(21 <sup>st</sup> Century British Sculpture)



**Further sculpture resources available from the Nature in Art shop:**

Postcards

Ring of Bright Water by Kent Ullberg	stainless steel otter sculpture
Wood Ducks by John Sharp	wood sculpture
Cormorant by Geoffrey Dashwood	bronze sculpture
Decoy Carvings by Philip Nelson	painted wood sculptures

Books

The Alchemy of Sculpture by Tony Birks

Various books on sculpture are held in the Nature in Art reference library.  
Viewing by appointment only.

**Further reading**

African Sculpture by Ladislav Segy ISBN 486203964  
Dover, New York, USA

Animals in Bronze by Christopher Payne ISBN 0907462456  
Antique Collectors' Book Club

Artist's Manual, The Consultant Editors Professor Ten Holt & Stan Smith  
ISBN 0356067998

Macdonald Educational Ltd

Contemporary Stone Carving from Zimbabwe ISBN 1871480043

Yorkshire Sculpture Park

Eskimo Art by Coltie Burland ISBN 0600330854

Hamlyn, London

Fun with Paper Sculpture by Clive Stevens ISBN 0 85532 862 2  
Search Press

Henry Moore: Animals by W J Stachen ISBN 0906053420  
Aurum Press

Illustrated Dictionary of Glass by Harold Newman ISBN 0500274517

Thames & Hudson

Magic of Paper Sculpture, The by David Swinton ISBN 0-304-34887-2  
Cassell, London

Modern British Blacksmiths by Amina Chatwin ISBN 09525101502  
Coach House Publishing, Cheltenham

The Sculpted Forest -Sculptures in the Forest of Dean - by Rupert Martin ISBN  
0948265043

## Glossary

<b>Armature</b>	Internal framework of sculpture.
<b>Bas Relief (low)</b>	Figures only partly emerge from background.
<b>Bas Relief (high)</b>	Figures stand out from the background and are attached only at a few points.
<b>Carve</b>	Make by cutting.
<b>Cast</b>	Reproduction of an object by pouring a liquid material such as bronze or plaster in to a mould and allowing it to set.
<b>Fibreglass</b>	Glass in fibrous form woven as fabric.
<b>“in the round”</b>	A sculpture whose surface and planes can be seen from every angle.
<b>Life Size(d)</b>	Of same size as person or object represented.
<b>Maquette</b>	Preliminary model or sketch.
<b>Papier Maché</b>	Moulded paper pulp used to make models etc.
<b>Patina</b>	The coloured surface of a bronze sculpture.
<b>Raku</b>	Clay firing technique where sculptures are fired at a high temperature then removed to cool when red hot, resulting in a crackled glaze.
<b>Relief</b>	Method of sculpture in which the design projects from the surface. The design can only be seen from the front of the sculpture.
<b>Sculptor</b>	Person who makes sculptures.
<b>Sculpture</b>	Art of forming representations by chiselling, carving, casting or modelling. Any 3-D artwork (see page 3).
<b>Texture</b>	Quality of surface when felt or looked at.
<b>Three dimensional</b>	Having length, depth and breadth.

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### **Sculptors**

Susanna Birley

Robert Cox

Mike Fairbairn

Eryka Isaak

Amanda Lawrence

Chris Manley

Katharine O'Kell

Nadin Senft

Peter Walwin