CERAMIC

The art form "ceramics", also called "pottery", is simply defined as the shaping and then firing of a clay body, at a high temperature to create a permanently hard object. To do so, one needs to select the right ceramic clay and tools with which to shape their piece.

Pottery clays (also known as ceramic clays or moist clays) are all made with a water base and need to be fired in a kiln to vitrification to become permanent. The primary types of clay bodies are earthenware and stoneware which typically turn red, brown, white or a variation of these when fired.

A ceramic is an inorganic non-metallic solid made up of ether metal or non-metal compounds that have been shaped and then hardened by heating to high temperatures. The art of making objects such as pottery of clay.

Ceramic products are hard, porous and brittle. As a result, they are used to make pottery bricks, tiles and glass. Ceramic are generally made by taking mixtures of clay, earthen elements powders and water and shaping them into desired form. Once the ceramic has been shape, it is fired in a high temperature oven known as a kiln. Often ceramics are covered in decorative waterproof, paint- like substances known as glass.

Ceramic forming **techniques** are ways of forming **ceramics**, which are used to make everyday tableware from teapots, to engineering **ceramics** such as computer parts. **Pottery techniques** include the potter's wheel, slip casting, and many others.

This production operation is well known for providing tools with dimensional stability, surface quality, density and uniformity. For instance, on the slip casting process the cast part is of high concentration of raw materials with little additive, this improves uniformity. But also, the plaster mould draws water from the poured slip to compact and form the casting at the mould surface.

PROPERTIES OF CERAMIC

High melting points(so they are heat resistant)

Great hardness and strength

Considerable durability(they are long lasting and hard- wearing)

Low electrical and thermal conductivity(they are good insulators)

Chemical inertness(they are non-reactive with other chemicals)

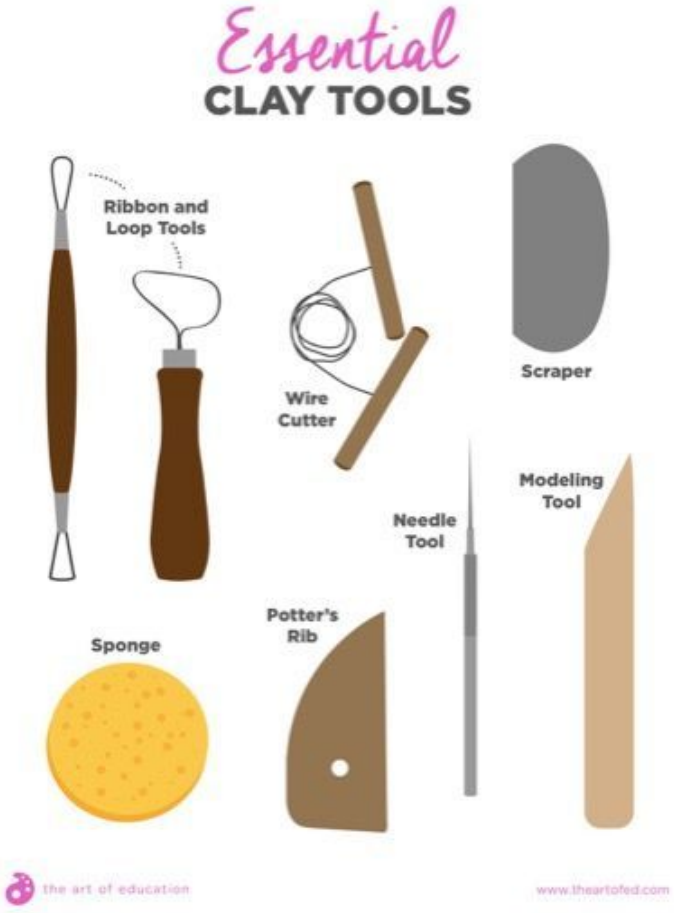
Dimensional stability

Surface quality

Density and uniformity.

Tools

The art of ceramics has a long and winding history. But the way in which we build our clay pieces has evolved over the centuries, with modern tools helping shape our finished products.



Ceramic Glaze Detail Brush Set helps capture all the minute details before you take your work to the kiln.

The **Banding Wheel** is designed to provide extra-smooth, even rotation for all of your decorating, sculpting, carving and hand-building needs. The banding wheel is designed for artists at all levels, making it life-long investment as you go from student to master.

Potter's Ribs are an essential part of your toolset while forming your clay at the wheel. They help with opening, shaping, curving, smoothing and trimming wet clay. They assist in bringing your the ceramic project to life.

Sponges are flat-shaped, natural sponges with a fine and absorbent texture—perfect for keeping the ever-changing clay works moisturized and smooth.

Ceramic Decorating Tool Techniques

1. Creating Custom Stencils for Pottery
2. Clay Stamps for Applying Texture
3. Design Low-Relief Carvings in Wet Clay(insizing)
4. Use a Sponge Paint Brush
5. Decorating with Underglaze Washes- Underglaze washes add depth and character to a pot's surface by highlighting surface texture or pattern.
6. Ceramic Glaze Detail Brush

Do a research on ceramic decorating tool techniques and Write short notes for example the fifth techniques

SCULPTURE

Sculpture is an artistic form in which hard or plastic materials are worked into three dimensional art object. The art that is made to occupy space.

Three dimensional means that an object has height, width, and depth. This is one way in which

sculpture is different from the other kinds of art you have looked at so far.

A massive variety of media may be used, including clay, wax, stone, metal, fabric, glass, wood, plaster, rubber, and random "found" objects. An artist who works in sculpture is called a sculptor.

Sculpture is not a fixed term that applies to a permanently circumscribed category of objects or sets of activities. It is, rather, the name of an art that grows and changes and is continually extending the range of its activities and evolving new kinds of objects.

Note: **sculpture** was considered primarily an art of solid form, or mass. it is true that the negative **elements** of **sculpture**—the voids and hollows within and between its solid forms—have always been to some extent an basic part of its **design**, but their role was a secondary one.

To sculpt means to form a three-dimensional design that has length, width and height and that occupies a special space. This form can stand freely, can be built in low relief or high relief or it can exist in the round. It can be constructed into a whole from parts, modeled with materials or carved from firm materials and casted or otherwise shaped and combined.

The Types of Sculpture

1. **Relief sculpture** is sculpture in which images are set against a flat background. A coin is a good example of relief sculpture: the inscription, the date, and the figure is sometimes a portrait of a statesman—are slightly raised above a flat surface.

   When the image is only slightly raised, as with the coin, the sculpture is called low relief or **bas-relief**.

   The ancient Egyptians sometimes carved figures into a flat surface. This type of carving is known as **sunken relief**.

   Statues that are almost three-dimensional but still are attached to backgrounds are regarded as **high relief**.

2. **Sculpture in the round** is freestanding, attached to no background. Most statues and portrait busts are carved in the round.

Elements of sculptural design

When we analyse any drawing, painting, **sculpture** or **design**, we examine these component parts to see how they combine to create the overall effect of the artwork.

1. The **mass** of sculpture is thus the solid, material, space-occupying bulk that is contained within its surfaces.

2. Space enters into the design of sculpture in three main ways:

- The material components of the sculpture extend into or move through space.
- They may enclose or enfold space, thus creating hollows and voids within the sculpture.
- They may relate one to another across space. space is the air around the solid **sculpture**, and reacts (Time)

Note: The two most important elements of sculpture , **mass** and **space** are, of course, separable only in thought. All sculpture is made of a material substance that has mass and exists in three-dimensional space.

3. Color- This element has three main properties:

1. Hue- simply the name of a color (red, green, orange)
2. Value- how light or dark a color appears
3. Intensity- how bright or dull a color appears

4. Value- Everything we see is illuminated (lit by a light source) and without illumination we see nothing. Value is defined as the range from dark to light or black to white.(Light and shade)

Supporting elements of sculpture

5. Volume is the representation of mass in an art work or a **sculpture**. The three dimensional form of an object or shape is said to have **volume**. Artists simulate **volume** in their paintings to give their paintings a three dimensional effect.

Line an element of art defined by a point moving in space. Line may be two or three dimensional, descriptive, a principle of **design** that indicates movement, created by the careful placement of repeated **elements** in a work.

Form- This is the 3D quality of a shape. Cubes, spheres, and pyramids are examples of forms. Forms can contain both geometric and organic qualities.

6. Plane or surface

In a **sculpture**, positive shapes are solid areas of the sculpture that are after removing portions of the **sculpture**. **Shape**- When a line curves around and crosses over itself it becomes a shape

Shapes are geometric- (mathematical and easily reproduced such as squares, circles, ovals etc) or organic- (free-formed shapes that usually reflect nature and have no definite name).

7. Texture- This is the surface quality or “feel” of an object. Whether it’s rough, smooth, or soft these words refer to the texture of something.

There are two types of texture:

1. Actual Texture- this is the texture that you can physically feel

2. Implied Texture- this is created by artists and visually show texture in a work of art.

Principles of sculptural design

Principles of sculptural design that govern the organization of the elements of sculpture into expressive compositions differ from style to style.

In fact, distinctions made among the major styles of sculpture are largely based on recognition of differences in the principles of design that underlie them.

The principles of sculptural design govern the approaches of sculptors to such fundamental matters as **orientation** (movement), **proportion** (parts), **scale**(size), **articulation**(communication), and **balance**(stability).

For conceiving and describing the orientation of the forms of sculpture in relation to each other, to a viewer, and to their surroundings is required. This is provided by a system of axes and planes of suggestion.

1. Axiality-An axis is an imaginary centre line through a symmetrical or near symmetrical volume or group of volumes that suggests the gravitational pivot of the mass. Thus, all the main components of the human body have axes of their own, while an upright figure has a single vertical axis running through its entire length. Volumes may rotate or tilt on their axes.

2. Planes of reference are imaginary planes to which the movements, positions, and directions of volumes, axes, and surfaces may be referred. The principal planes of reference are the frontal, the horizontal, and the two profile planes.

The principles that govern the characteristic poses and spatial compositions of upright figures in different styles of sculpture are formulated with reference to axes and the four cardinal planes: for example, the principle of **axiality** and the principle of **frontality**, which governs the design of Archaic sculpture; the characteristic contrapposto (pose in which parts of the body, such as upper and lower, tilt or even twist in opposite directions)

3. Proportional relations exist among linear dimensions, areas, and volumes and masses. All three types of proportion coexist and interact in sculpture, contributing to its expressiveness and beauty.

Attitudes toward proportion differ considerably among sculptors. Some sculptors, both abstract and figurative, use mathematical systems of proportion; for example, the refinement and idealization of natural proportions.

Sometimes it is necessary to adapt the proportions of sculpture to suit its position in relation to a viewer. A figure sited high on a building, for example, is usually made larger in its upper parts

in order to counteract the effects of foreshortening. This should be allowed for when a sculpture intended for such a position is exhibited on eye level in a museum.

5. The **balance**, or **equilibrium**, of freestanding sculpture has three aspects.

> First, the sculpture must have actual physical stability. This can be achieved by natural balance that is, by making the sculpture stable enough in itself to stand firmly.
>
> The second aspect of balance is compositional. The interaction of forces and the distribution of weight within a composition may produce a state of either dynamic or static equilibrium.

4. The **scale** of sculpture must sometimes be considered in relation to the scale of its surroundings. When it is one element in a larger complex, such as the facade of a building, it must be in scale with the rest.

Another important consideration that sculptors must take into account when designing outdoor sculpture is the tendency of sculpture in the open air, particularly when viewed against the sky to appear less massive than it does in a studio. Because one tends to relate the scale of sculpture to one's own human physical dimensions, the emotional impact of a massive figure and a small figurine are quite different.

NB: The third aspect of balance applies only to sculpture that represents a living figure.

A live human figure balances on two feet by making constant movements and muscular adjustments. Such an effect can be conveyed in sculpture by subtle displacements of form and suggestions of tension and relaxation.

Note: principles govern the organization of the elements of sculpture into expressive Containment, Proximity, Continuity, Repetition, Economy, Closure emphasis and variety in sculptural compositions.

Sculpting Techniques

Sculptors use four techniques in their work. These are carving, casting, modeling and assembling. Some of these techniques are **additive***, produced by adding to or combining materials*. Other techniques are **subtractive**, *produced by removing or taking away from the original material*.

1. Assembling, Joining, or **constructing**, was not widely practiced until the 20th century. In this method the artist *uses pieces of wood, metal, plastic as well as found objects and joins them together into a construction*. The airy, abstract kind of forms that are popular in modern times lend themselves to the joining system. Glue, screws, and nails are a few of materials used to join the objects together.

2. Carving can be thought of as the opposite of modeling because it involves removing rather than adding material. With knife or chisel, the sculptor carves from a block of wood or stone until the form is made. Tools used are chisels, mallet, V and U gouges, filer and knife.

There are two types of carving method:

1. **Chip carving** – is a style of carving in which knives or chisel are used to remove small chips of the material from a flat surface in a single piece. Chip carving is a relatively easy form of carving they often use to decorate furniture. Chip carving is much faster than other forms of carving and allows a new carver to practice.

Chip carving

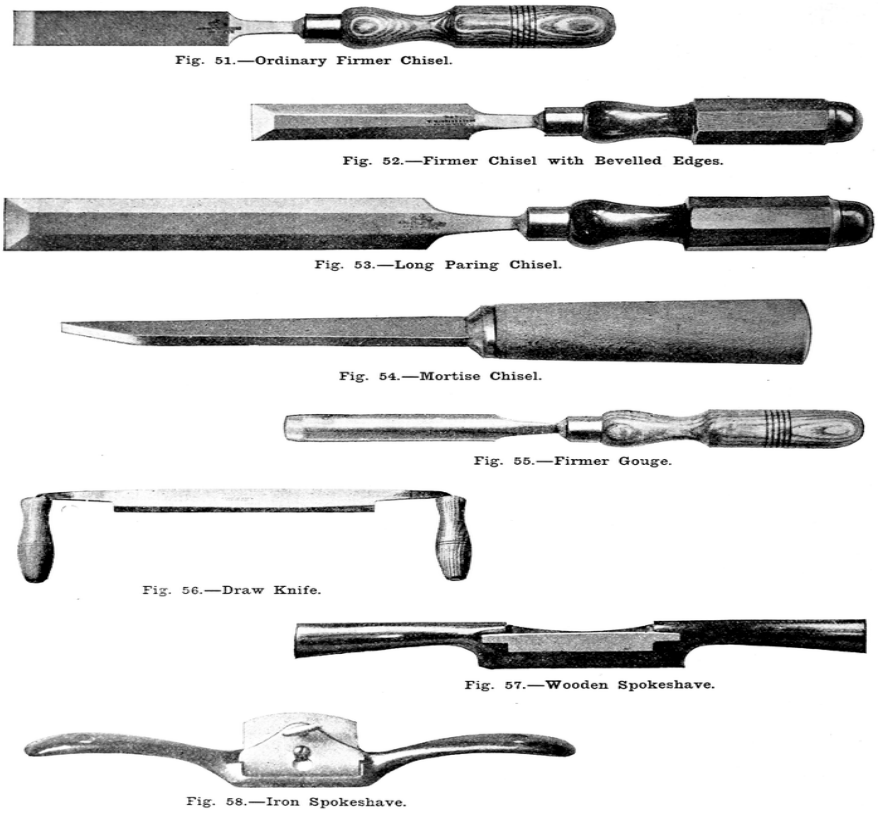


Fig. 51.—Ordinary Firmer Chisel.

Fig. 52.—Firmer Chisel with Bevelled Edges.

Fig. 53.—Long Paring Chisel.

Fig. 54.—Mortise Chisel.

Fig. 55.—Firmer Gouge.

Fig. 56.—Draw Knife.

Fig. 57.—Wooden Spokeshave.

Fig. 58.—Iron Spokeshave.

2. **Relief carving** is a type of wood carving in which figures are carving in a flat panel of wood.

Chisel Tools

Chisel tools are used for cutting or carving hard materials such as metal, stone or wood.

A chisel tool has a shaped cutting edge a blade on its end with a handle that is characteristically made of wood or metal. In order to cut into a material wood or metal, chisel tool is forced into the

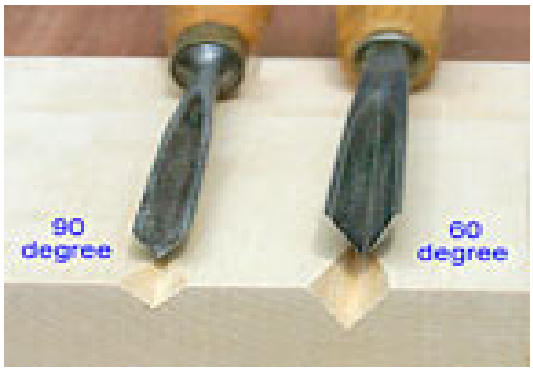
material by hand, struck with a mallet.

These chisels have a flat edge. They are not usually used for sculpture, because the edge of a flat chisel tends to dig into the wood, twisting and plunging the tool deeper on one side than the carver may have desired. They can give a crude, unschooled look that may be desirable on some types of sculpture, like Outsider Art.

1. U-Gouges

Gouges are the work horses of wood carving. U-gouges are designated by the width of the cutting edge (in inches or millimeters), the *sweep,* or the amount of curvature of the cutting edge (an arbitrarily assigned number), and the shape of the shaft (straight, bent, spoon, or back bent).

2. V-gouges are designated by the width between the top edge tips and the angle of the vee bottom edge.



3. Bent and Spoon Gouges

These specialty gouges are used to get into inaccessible spots on a carving that a straight gouge can't reach.

Bent Gouge: the entire length of the shaft is curved.

Spoon Gouge: the final 1 1/2" of the shaft is deeply bent in a spoon shape.

Back-bent gouge: a spoon gouge with the curve reversed so the cutting edge is convex instead of concave.

4.
skewed chisel's cutting edge is angled back from the leading edge at a 45 degree angle.

5. Mallet.

This tool is specifically designed for driving gouges and also works wonderfully for finessing a bench chisel where the name of the game is precision. As with any tool, the size of the **mallet** is paired to the amount of material being removed or the space available.

3. **Casting** is a sculpting method in which melted material is poured into a mold. When the material cools it hardens and the mold is taken off. Often the material used is a metal such as bronze in a liquid form.

Step 1

The process of making a large-scale bronze statue begins with the commission of a statue. This involves consultations, research, and preliminary sketches in clay. Once the clay sketch, called a Marquette, is approved an armature is made and clay is applied to it.

Step 2

The sculptor models the statue to his satisfaction before presenting to the client for approval.(Building the molds)

Step 3

Upon approval, the statue is ready to be cast. The first stage of the process is to divide the statue into smaller sections by pressing aluminum shims into the clay; this is to make for manageable size molds, foundry patterns, and castings.(Removing the molds)

Step 4

After the entire statue is cast in plaster, the mold sections are removed from the statue and the clay is then put back into the clay containers for future use.(Wax casting)

Step 5

The more critically detailed sections of the statue, i.e. head and hands, are cast in wax from the plaster molds to a thickness of 3/16", then wax channels called sprues and vents are added to the wax casting. (Cast fiberglass)

Step 6

The other molds are cast in fiberglass to the same thickness.

Step 7

Using the traditional solid investment process, the wax patterns are invested in refractory material then put into a burnout kiln where they are fired at 1000° F for two days. (Firing the mold)

Step 8

This firing melts the wax pattern out of the mold and burns off any carbon caused by the burning wax.(Pouring the bronze)

Step 9

The molds are then removed from the kiln and molten bronze is poured into the cavity left by the wax pattern. (Silicate resin)

Step 10

The fiberglass foundry patterns are used to make resin-bonded sand molds. First wooden forms,

called flasks, are built around the fiberglass patterns and the sodium silicate resin is mixed with silica sand and packed over the pattern.

Step 11

Injecting carbon dioxide gas into the sand cures the resin-bonded sand. Once the sand becomes hard, the mold is turned over and the process is repeated to the backside of the pattern. After the backside of the mold has hardened, the flask is removed.(Removing the pattern)

Step 12

The mold is separated and the foundry pattern is removed. Preparing the sand mold

Step 13

Refractory mold wash is applied and burnt off the surface of the mold, then pouring channels, called gates, risers, and vents, are cut into the hardened sand. The mold is put back together without the foundry pattern inside, thus leaving a vacancy for the molten bronze to fill.(Hot bronze pour)

Step 14

Bronze is then melted to 2050° F and poured into the sand mold.(Breaking the mold)

Step 15

The casting cools for a few minutes then is broken out of the sand mold.(Preparing the castings)

Step 16

Pouring spruces, vents, and risers are cut off of all of the castings, metal flashings on the edges are ground off and the castings are welded together. (Cleaning the surface)

Step 17

The welds are then ground down and the entire surface of the statue is worked over to disguise the seams. The statue is then cleaned by sand blasting and finally with a wire wheel before a chemical patina is applied to darken the surface.(Finalizing the image)

Step 18

A wax sealer is applied before the statue is delivered and installed.

4. Modeling *is sculpting with clay, wax, or some other soft, pliable (workable) material is built up and shaped*. The sculptor adds pieces of material and molds it to the desired shape. Modeling is

an additive technique that refers to the manipulation of a soft material. The material used most often in modeling is clay.

Sculpting is loosely defined by the building up of clay, rather than subtraction. This is a highly expressive way of working and at its most basic relies solely on the hands as tools.

The term is used to define a huge working range, from intricate and intimate processes to a whole body experience. Sculptures in clay vary greatly in scale and style: from figurines delicately modeled with the thumb and forefinger in the palm of the artist's hand.

Sculpting with clay can be fast and immediate, suited to large-scale pieces and outdoor works.

It can also be small and expressive, illusion up images of the first figures of ancient times, whose features were squeezed out of wet clay to resemble animals and human forms. Sculpting utilises the plasticity of clay.

A **metal framework** or **armature** is often used to support large, complex objects. Armature wire is commonly used, in combination with chicken wire and wooden struts. Artists develop their own methods depending on the requirements of their work.

> The armature is created using wire, metal and other materials.
>
> The armature is an underlying, unseen, supporting component to help make the initial model three-dimensional.

Marquette is a scale model or rough draft of an unfinished sculpture- An Equivalent for sketch.

> Marquette is used to visualise and test forms and ideas without incurring expense and effort of producing a full scale piece.
>
> For commissioned works, especially monumental public sculptures, Marquette may be used to show the client how the finished work will relate to its propose site. The term may also refer to a protype.

Mask making

In western culture people wear masks for fun at Halloween however in many cultures masks are important form of art. They are not just a disguise nor just fun. Instead they are used in rituals and ceremonies. Sometimes they are made in secret and worn only by leaders of special group.

In many cultures, masks are created for traditional play, dances and festivals. The masks often portray characters in myths or legends.

> You make mask for story character using papier-mâché
>
> Think of the way a mask help to disguise and transform the wearer

The mask might be like a human face but exaggerated expression of joy or sorrow

Your mask might based on the traits of animal that you admire

Materials used in mask making

Papers

paper/wood Glue or cassava glue

polythene

saw dust/ stone dust

water

found desired objects

Process of mask making

There many ways to begin a mask:

Might use a slab of oil-based clay draped over a bundle of newspaper
Build up the features and carve into the clay
Rub a light coat of petroleum jelly over the completed clay
Then cover the clay with at least five layers of papier-mâché
When the papier-mâché is dry, remove the clay and paint the mask with acrylic.
Add details with yarn, raffia or other materials
An inflated balloon can also be an armature(support for any sculpture medium)

OR The procedure of Papier-mâché mask making

Design desired and intended sketch for the mask
Prepare clay for the intended mask mold
Build the mold for the mask
Let the molded clay mask become leather hard
Cut/ tear the available papers in small workable pieces
Sock the cut papers in to water for two to three days to create papier-mâché
When the paper softens, it is crushed into paper pulp
Squeeze the excess water out of the socked pulp and mixed it with the binder(glue)
Cover careful the leather hard mask mold with the polythene or oil it to cause a separator between the clay mold and the papier-mâché. The purpose of oiling or placing the polythene, not allowing to papier-mâché stick on the mask clay mold.
Build 5-7 layers of wet papier-mâché to create a desired thickness of the mask body
Let it dry and add some layers of cut dry soft and hard paper pieces
remove the paper mask from the clay mask mold

create a desirable finish on the paper mask, aided with colour and texture

PAPIER-MACHE

Papier-mâché means chewed-up paper.
Can be used to make boxes, trays, animals, flowers etc.
Techniques are simple, materials are available and the applications are varied.
Papier-mâché is as flexible as your own imagination.

Nb. Papier-mâché: A medium of paper and paste. Can be a pulp for modeling or layered strips

PUPPETRY

Puppetry is a form of art theatre or performance that involves the manipulation of puppets.
A **puppet** is an object often resembling a human, animal or mythical figure that is animated or manipulated by a person called a puppeteer.
The term puppet is derived from the Latin pupa, which means “doll”.
The early movable parts of the puppet included the eyebrows, mouth and eyes. The parts are operated with strings and levers attached to the hollow head and arms. The puppets wore wigs to change characters and elaborate costumes

Objectives of Puppetry

Puppet making has many educational objectives:

1. Puppets encourage inventive, open and spontaneous communication.
2. Puppets enable the acting out of social situations and cultural differences.
3. The teacher has students select “careers” (what they would like to be when they grow up) and dress themselves in cloths that are appropriate to those professions. The students research a profession and then communicate the “whys and hows” of that profession with the talk.
4. Puppets encourage the expression of personal feelings including anger, love , hope and secret wishes.
5. Puppets also can be used as an instructional tool to answer questions the children might have in specific subject areas.
6. A puppet can become a friend that goes everywhere with a child.
7. Puppets help in the use of small muscle and hand-eye coordination.
8. Puppet encourage the building of self-confidence through the expression of ideas.

9. Puppets provide opportunities to practice art learning: designing, modeling, painting, sewing costumes, and building puppets and sages.
10. Puppetry art can be studied as part of cultural history.
11. The acting out of study areas- such as language, reading skills, book reports, events in history and characters from books or paintings- is fun with puppets as characters. Favorite characters from television, movies, and fairy tales can be assumed.
12. Puppets can be used as a tool for improving speech and verbal skills.(children who stutter usually do not stutter when speaking through a puppet character)
13. Puppets can be adventures who dare to do what the children wish they could.
14. Puppets are an introduction for the child to the theatrical arts and new ideas.
15. Puppets can dance and move to musical forms.
16. Puppets provide for group participation and social interaction.
17. Puppets encourage imaginative thinking and spontaneous response.

Notice that the artist project their body images in their puppets.

Supplies needed

Cardboard tubing	All kind of cloth of varied colours
paper plates	old gloves
glue	buttons
rubber cement	socks
staples	paper bags
Pin	tape
clips	

Basic puppet construction

1. Hand puppets
2. Sock puppets
3. Cloth hand puppets
4. Paper bag puppets
5. Finger puppets
6. Stick or Rod puppets

Do research on the following basic puppets and writ notice giving the description

Marionettes are worked from above, usually on stage. Many puppeteers transform the stage into a miniature theater. Marionettes can be constructed from any of the previously mentioned materials. Be sure the keep the body joints loosely hinging to permit flexible movement.

Puppet stages- any structure that will cover the puppeteers as they perform is a puppet stage. The simplest stage is a curtain stretched a cross a corner of a room or doorway that is tall enough for the puppeteer to stand behind.