

STANDARD HIGH SCHOOL ZANA

S.5 TERM ONE TASKS 2020

Instructions: Attempt all questions

GRAPHICS P615/3

1. In an area of 25cm x 40cm, in a good calligraphic hand writing, write the following text and include a border design.

ACADEMIC TIPS TO ECXCELLENCY

Punctuality

One of the personality traits of the good student is arriving to class in time.

Positive attitude

Every student must come to class with a positive attitude. Be cheerful and look very bright with a smile, don't carry your dome problems to class.

Knowledge

A good student always willing to lend a helping hand to his or her colleagues, share knowledge will help you grasp what you learnt.

2. In an area (18cm x 25cm) and 3cm (for the spine) design a book cover titled "**Fruits of hard work**" written by **OKE-CHUKU JJ** and printed by **Long Printing press Limited**. Use only three colours.

LIVING PERSON (615/2)

1. Get a personal pass port size photo and study the head and the shoulders with more emphasis in shape, tonal effect and drapery.

STILL LIFE/ NATURE

1. Make a study or studies of a potted plant with broad leaves.
2. Make a study on a banana stem.
3. On a low table place a stove. On top of top of the stove place a small sauce pan. On the right of the stove place basket with some tomatoes, oranges and cabbage. On the right side slightly in front place a kimbo tin.

In front of the setting place knife leaning against the basket and the handle touching the table.

STUDIO TECHNOLOGY (615/4)

STUDIO TECHNOLOGY

This is a theory paper that covers basically what takes place in an in the art room (Materials and processes) for examination purposes

A Studio: This ia a work place for an artist. In school a studio is often refered to as an **art room**.

Disciplines in Art and Design

- Drawing
- Pottery
- Knitting
- Graphics
- Painting
- Sculpture
- Tie and Dye
- Embroidery
- Ceramics
- Weaving
- Printing
- Multimedia

CRAFTS

What is craft?

It is an object that has been skillfully produced by hand examples includes pots, drums baskets, crafts, bags masks hats etc.

A Material: is what is used to make a work of art and becomes part of the art work.

While

A tool: is an equipment that helps in the production of art work but does not become part of the art work e.g chisel in sculpture.

Categories of crafts

- i) Functional crafts
- ii) Decorative crafts

Functional crafts are those made for use in daily life eg pots, baskets, hats, sandals, mats.

Decorative crafts –crafts made for decorative purposes eg decorative sculptures, collage, batiks, wall hangings.

CLAY

This a fine grained, firm earthly material that is plastic when wet and hardens when heated. It is widely used in making bricks, tiles, and pottery. This soil is normally found in arid and semi- arid areas of low altitude. In Uganda these are referred to as “wet land”.

Clay generally appears grey in colour and when fired colour ranges between grey white and brick red depending on its chemical composition. **Fired clay** is referred to as terracotta. Clay is recyclable once not heated, but fired clay is permanent and irreversible.

Chemicals that form composition of clay:

- Silicon
- Aluminum- it's a Permanent material when fired
- Potassium
- Iron

POSSIBILITIES/ADVANTAGES OF CLAY

- Clay is a cheap material to get.
- Clay is a flexible material which can easily be manipulated by hands and therefore can easily be used.
- It's a common material in many swamps in Uganda
- It can be recycled if not fired
- It can be permanent material if fired.
- It requires simple tools.

- It's easy to acquire impression of your choice.

LIMITATIONS OF CLAY

- Once one has gone through a long process to prepare clay for use especially for pottery.
- It's not reversible if fired
- Clay articles can easily break

Classification of clay

Clay is usually classified into two;

1. Residual (Primary) clay: This is the type of clay found near original rock source. They are the purest types.

Characteristics of Residual (Primary) clay

- It has less plasticity.
- Contains alot of sand.
- Fires at high temperatures (1500^oc).
- It is clay that has not been carried away from the original rock source.
- Largely free from impurities e.g. Stones, sticks etc.

2. Sedimentary Clay (Secondary clay): This is the type of clay that has been carried from its original source by agents of soil erosion

to the place of decomposition. This type contains alot of other substances

Characteristics of Residual (Primary) clay

- Grey in colour or dark brown depending on the environment.
- When fired, it turns brown. It also develops pores.
- When fired, it gains strength.
- They have relatively small substances such as iron, mila & organic matter.
- They are carried away
- **Properties of Clay**

There are 3 essential properties that make clay different from dirt. These include:

1. Plasticity: This is the ability of clay to hold its form while a⁵e at

the same time pliable enough to be moved by the potter's hands

2. **Porosity:** This is when clay is capable of absorbing air and water, and later dries freely without cracking.
3. **Vitrification:** This is the ability of clay objects to withstand very high temperatures during firing to make them permanent.

Types of clay

Kaolin: This type of clay is nearly pure residual clay. It has low plasticity and high resistance to heat.

Ball clay: This is a types of clay with very high plasticity and its used to blend with clay with low plasticity. Ball clay can not be used alone because of its level of plasticity.

Shale clay: This is the commonest type of clay used for making bricks, building blocks ,tiles and also earthenware like pots. Shale clay has low resistance to heat.

Stoneware clay: Stoneware is a sedimentary clayused for bricks, pots. It's fired at much higher degree than earthen ware.

Fire clay: This clay has a low plasticity, but it has a high resistance to heat and it's therefore used for making fire bricks.

Porcelain clays: Porcelain clay are prepared clays. Kaolin is the main ingredient used in mixing these clays. Porcelain clays are fired at a very high temperatures and becomes almost translucent.

WHAT MAKES CLAY DIFFERENT FROM OTHER SOILS?

Clay differs from other soils due to its properties.

1)**Plasticity**-The ability of clay to retain its shape when molded in its wet state.

How to test for plasticity

- i) Loop a pencil size roll of clay around your finger if the coil cracks it is not plastic.
- ii) If after throwing it does not sag and joins without cracking.

iii) The finer the particle size of clay the more plastic the clay will be and the more it will absorb water.

2) **Porosity:** The state at which moisture escapes in the course of drying or at the early stages of firing.
The ability of clay to absorb water and other liquids

How to make a porosity test

i) Weigh an unglazed fired clay sample, soak in water over night , wipe the sample clean of water then weigh it the second time. the percentage gain in weight will be the porosity of the clay body.

3) **Shrinkage:** Ability of clay to release air when drying.
Shrinkage occurs as clay dries in air and when being fired.
The more plastic clay will always shrink more.

Test for shrinkage

Roll out a plastic clay slab, measure and cut it.

When the slab is totally dry, take a second measurement.

Make a final measurement after drying again, the difference in size is the shrinkage.

4) **Vitrification:** The ability of clay to be converted into a glassy state during firing to make it strong and harder.

Clay preparation

For fine clay products, one has to undergo through a careful preparation process. Clay preparation consists of mixing materials, removal of stones, crushing of large particles. There are different ways of preparing clay.

Plastic method.

This method is used extensively in brick industry and pottery. If clay is dry, water is added and kneaded. The process is simple and cheap and requires no equipment. The mixed dry clay can be used directly for forming products by coiling preserving or pressing.

Disadvantages:

- iv. Mixing different types of clay is time consuming and results to unevenly mixed clay
- v. Hard and dry lumps of clay need a lot of time to soak up the water to become plastic.

Wet method

In this method, clay is dissolved in water to form slurry or slip. A very homogeneous mixture can be prepared and this is more suitable for casting and slip can be used to join parts of clay together. The following steps can be followed in the preparation of clay using this method

- One starts with mining the clay from the swamp and putting it in the clay bin. Such clay is usually with impurities such as stones, plant roots etc.
- The second step includes sorting out impurities out of the clay when it is still moist.
- Add grog to the clay. **Grog** is powder got from crashed clay fired products and sieved into fine particles.
- Mix the clay, knead and wedge it to the level when it becomes plastic. You can test the plasticity by making a coil and wrapping it around your finger, if it does not develop cracks then it is plastic.
- It should be stored before being used. This clay can be covered with plastic materials.

Dry method

Clay is dried, pounded and crushed into powder form. This can only be used for dry processing such as making of tiles. The following steps can be followed in the preparation using this method:

- One starts with mining the clay from the swamp and putting it on the clay bin. Such clay is usually with impurities such as stones, plant roots etc.
- The second step includes sorting out impurities out of the clay when it is still moist.
- Spread out the clay to dry, depending on the moisture

- Sieve the clay to further more get rid of larger particles and impurities remaining such as plant roots and stones.
- Sock powder in water for some time. Add grog to clay
Grog is fired clay crushed into powder form and sieved into powder particles
- Mix the clay, knead and wedge it to the level when it becomes plastic. You can test the plasticity by making a coil and wrapping it around your finger, if it does not develop cracks then it is plastic.
- It should be stored before being used. This clay can be covered with plastic materials.

Steps taken in clay preparation:

- i. Collecting clay from swamps and store in a cool dry place.
- ii. Sorting out the impurities out of clay (slaking).
- iii. Spread out clay to dry.
- iv. When clay is dry is crushed into powder form.
- v. Sieve powder clay to get rid of large particles.
- vi. Sock powder in water for some time.
- vii. Add grog to clay.
- viii. Mix the clay knead and wedge to the level when it becomes plastic.
- ix. When clay is ready to be used store clay covered in a plastic sheeting.

CERAMICS/ POTTERY

Ceramics refers to the art of making and decorating of pottery which permanently changes when heated at high temperatures and always glazed.

Pottery: These are products made out of clay and fired out of low low temperatures.

These include:

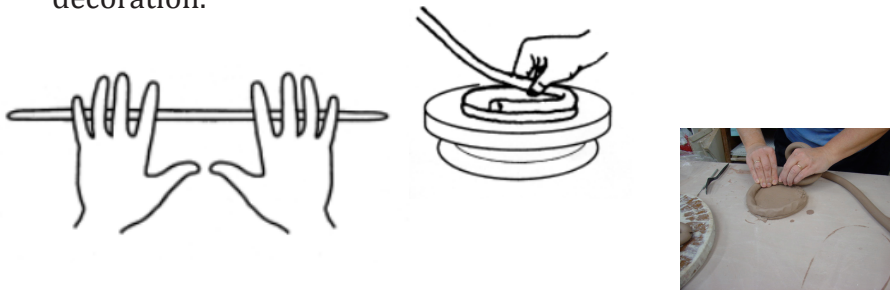
- Jars
- Dishes
- Plates
- Cups
- Pots
- Vessels
- Bowels

Pottery can be made using :

1.The coil method: This is a method in which you make the coils and keep joining them until the required form is got. Make sure your clay is flexible and plastic enough. You should also make sure that you work on a smooth surface.

Steps

- Make uniform slab for the base.
- Roll clay in your hand on a flat surface into coils
- Add the coils to the of base of the pot and press the inner size of the coils to merge them on the base of the pot.
- Add more coils and seal all the gaps from the inner side of the pot with your finger
- When complete smoothen the outer surface with a tool add a decoration.



2.The pinch method: This is a method in which a potter uses a thumb and the fore fingers to form a pot or clay container. Pinch method is the basic clay assembling method which can be used for starters.

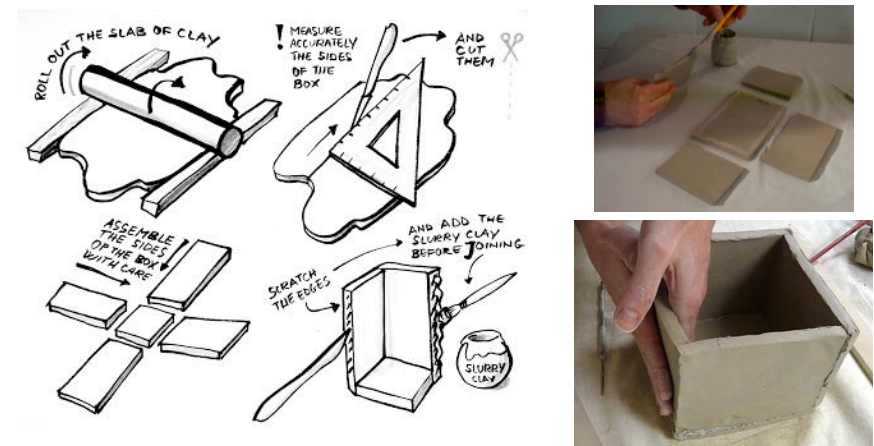
Steps:

- Begin with small ball clay. Knead and wedge (with no cracks). Insert thumb in the middle of the clay ball.
- Careful pinch up the walls the pot as you keep the pots around
- Work on the brim of your pot, flatten the bottom of the pot to give support.



3.Slab method: In this method slabs are used to make pottery. Angular and cylindrical shapes suit this method better than any other method. Assuming you have already prepared clay, make slip (liquid) which is used to bind the slabs together.

- Sketch the shape you want.
- Prepare a flat surface to work from, cover with polythen material and make a slab using a roller.
- Cut the slab in different sizes you want using table knife, ruler.
- Let the slab harden by disposing for some time. Add slip to edges of the slab to join.
- Assemble the slabs to the desired shape, then lay a coil in the inner joints to seal off the gaps.
- Smoothen out the edges with a wet paper, towel or peace of cloth then decorate the side of the article
- When complete, dry thoroughly and then fire. When drying cover it evenly with news paper. This will allow the moisture escape slowly and evenly to avoid cracking and wrapping. When the article is dried at this stage is referred to as green ware.



4. Slip Casting: Prepare a mold having the same shape as that of required object. Pour liquid clay (slip) in the shaped object(mold). Leave the substance to dry and thereafter

carefully separate the mold to obtain the formed object.

5. Throwing/Centering: This is the fastest method of making pottery. A lump of clay is placed on the drum of a potter's wheel. As the potter's wheel rotates one can shape the required object in and out, up and down, accordingly to get the desired shape and size.

GLAZE

It is a vitrous substance used to cover ceramic works in order to make them attractive, durable and impervious to liquids.

Types of glazes

- 1. Transparent glaze:** This is a type glaze which is clear and colour of the clay body under the glaze is seen.
- 2. Opaque glaze:** This type of clay is non transparent. Opaque glaze obscures the details of ceramic forms.
- 3. Gloss glaze:** This type is smooth and glass like. They are highly reflective and brilliant.
- 4. Matt glaze:** This type of glaze is not brilliant. They are rough and more porous and can be used to produce unique interesting ceramic pieces.

Methods or techniques of decorating pottery.

- 1. Stamping:** It is a technique of pressing forms into clay body of the piece being worked on to get decorative effects.
- 2. Slip trailing:** Is a technique where slip (liquid clay) is applied to green ware through a tube nozzle much like icing a cake.
- 3. Embossing:** This is a method where one models or builds on the surface of the piece or ceramic article like vases, pots to create simple reliefs.
- 4. Burnishing:** This is a technique of polishing clay to a beautiful piece without the use of glaze.
- 5. Inlaying:** This is a technique of using two or more types of coloured clays when making a ceramic article.

6. Painting: This where the artist uses a brush to paint designs on a pot

7. Glazing: This is a technique done by applying vitrous substance which is glass like surface coating to the biscuit ware before firing.

9. Incising/sgraffito: Its a technique of cutting into the surface of a given ceramic article using a sharp tool to create designs on the surface.

FIRING CLAY PRODUCTS

Before you fire your clay products make sure that they are dry completely as green ware. Clay articles can be fired using electric Kilns, firewood or oil kilns, pit fire kilns, born fire kilns etc

1. Fire pottery using pit fire kiln

- X. Dig a pit, set the material like wood, saw dust etc.
- XI. Fill the bottom of pit with thick layer of saw dust.
- XII. Place the pots facing different directions in the pit.
- XIII. Put layers of saw dust paper, dry wood around the pots.
- XIV. Light the fire from the top and allow it to burn slowly.
- XV. Allow the pots to cool for some time or longer than heating process.
- XVI. When all is cool dig up the fired pots, clean them up, this is referred as **biscuit level**.

2. Firing a pot using born fire kiln

- I. Pots are arranged in hip with some dry grass on a clear ground
- II. Firewood is arranged vertically around and on top of the pots and is lit.
- III. Fired pots are porous when filled with water.
- IV. Pots should be polished or glazed

3. Local/ Traditional Kiln:

4. Electric Kiln: