

Lapidary

Level-II

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Module Title:

Bead Making

LG Code MIN LAP2 M07Lo(1–4) LG(25-28)

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Adama April, 2021

Table of content

LO #1- Prepare Primary Processing equipment for operation 3

Instruction sheet	3
Information Sheet 1- Confirming available spice and herbs materials for threshing, de-stemming, de-corning and de-hulling	5
Self-check 1	Error! Bookmark not defined.
Information Sheet 2- Confirming the availability of equipment for threshing, de-stemming, de-corning and de-hulling	Error! Bookmark not defined.
Self-Check – 2	Error! Bookmark not defined.
Information Sheet 3- Confirming type and quality of materials for pre-Processing	Error! Bookmark not defined.
Self-Check – 3	Error! Bookmark not defined.
Information Sheet 4- Identifying and confirming cleaning and maintenance Requirements	Error! Bookmark not defined.
Self-Check – 4	Error! Bookmark not defined.
Information Sheet 5- Fitting and adjusting machine components and related	Error! Bookmark not defined.

LG #25

LO #1- Prepare for Work

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Prepare for Work

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Preparing for Work

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).
6. If you earned a satisfactory evaluation proceed to “Operation sheets
7. Perform “the Learning activity performance test” which is placed following “Operation sheets” ,
8. If your performance is satisfactory proceed to the next learning guide,
9. If your performance is unsatisfactory, ask your trainer for further instructions or go back to “Operation sheets”

Information Sheet 1- prepare for work

Before starting slab or cab a gem, you have to determine the type of the project or final product that you want to attain. Once you plan what to do, follow the safety producer requirements and the discipline of the workplace adhered to throughout the process and arranges sequence of tasks in conjunction with other slabbing/trimming and cabbing processes.

Select and check tools and equipment like slab saws / trim saws, grinder (Caber), blades(sintered-rim or notch-rim), wheels, scales, magnifiers, light source, pails / buckets, drill bet, drill machine , bead negate, (bead vice) etc. and the work area and equipment's must be clean to create conducive and better work environments.

Prepare rough materials (gemstones) for the desired bead, select and weigh them. Determine the size, color and pattern to meet the desired project. Weight the stone is important to know the final recovery rate or output. Check the availability of proper coolant in saw(s) or grinders and check the availability of standard blades, wheels, template, glue/wax/epoxy, despotic, depot. Finally, equipment's are maintained per schedule and / or as required.

For more information refere Uc-6 LG-13

Self-Check -1	Prepare the work
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Direction 1: Short answer items

Instruction1- Read the following questions and give answers for each.

1. What do you consider during work preparation? 2pts
2. What is the importance of selecting gem material.2 pts

Note: Satisfactory rating - 3 points

Unsatisfactory - below 3 points

Answer Sheet

Score = _____
Rating: _____

Name: _____ Date: _____

LG #26

LO #2- Slabbing stone.

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Slabbing stone
- Cleaning of work area

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Slab stone
- Clean the work area

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).
6. If you earned a satisfactory evaluation proceed to “Operation sheets
7. Perform “the Learning activity performance test” which is placed following “Operation sheets” ,
8. If your performance is satisfactory proceed to the next learning guide,
9. If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet 1- Slabbing stone

Slab stone

- Next to the procedures mentioned in learning guide 18 load stones on the stone carriage
- (carriage-land-clamp arrangement for holding and feeding the stone into the blade) and check the stone touches 3 points and tie the stone by a vice.
- Check the coolant whether it is enough or not, close the splash hood to protect the spread of coolants into the surrounding space and turn on the machine and start slabbing.
- Check the rotation of the blade and wait until it finishes the slab.
- Turn off the machine when it finishes to take off (remove) the slab.
- Clean the slab by appropriate water and detergents.
- Dry the slab because it is better to permanent outline until grinding is takes placeFigure:
- Cleaning of ginger

For more information refere **Uc-6 LG-14**

Self-Check – 1	Written test
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Name..... ID..... Date.....

Directions: Answer all the questions listed below. Examples may be necessary to aid some explanations/answers.

Test I: Short Answer Questions

1. Why you weight gem materials? (3pts)
2. Wtat do you do if your pump is stop its function? (10pts)
3. When do you clean your work place? 2pts
4. When do you maintain tools and equipment? 2pts

Note: Satisfactory rating - 12 points Unsatisfactory - below 12 points

Score = _____
Rating: _____

You can ask you teacher for the copy of the correct answers.

Operation Sheet 1	Slab stone cabbing
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Steps of Slab the stone

Step 1- wear PPE.

Step 2- selects the rough stone.

Step 3- check and adjust the necessary parts slab saw

Step 4- turn on the slab saw

Step 5-check availability of coolsnts

Step 6- check the rotation of blade

Step 7 - turn off the machine

Step 8- take out the slab

Step 9-outline based on the project

Step 10 –Trim near to the outline

Step 11- clean the slab and work area

LAP Test 1	the slab stone
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Name:

_____Date: _____

Time started: _____Time finished: _____

Instructions: Slab the stone using the following steps? (10 pts)

Task:-making slab stone with the thicknes of 15mm

Information Sheet 2- Clearing work area

Clear work area

At the end of the day the work area must be cleared and all the machines and equipment are set on the appropriate places

1. . Clearing, mopping, and cleaning equipment and Work area

After completing slabbing work, the work area and the equipment should be properly cleaned and made ready for further use. This should be a routine task of operators of the machine and done by following the following general procedures.

A. shutting down the machine

Machines have their safe shutting down procedures. It is advisable to shut machines following their procedures, if there is an accident. This is because the procedures designed for safe restoration of machine parts. To shut down the faceting machine, stop rotational speed, make direction of rotation at neutral and press on/off switch.

Removing products

The products should be removed after switching off the machine. Attempting to pick up the product while the machine is running is very dangerous. Picking up should be performed after every moving part of the machine is in static condition.

Cleaning and storing equipment and work area

By using cleaning consumables the machine should be properly cleaned and the work area too be cleaned by using detergents. Here, Occupational health and safety should be taken into account. This is because stone chips may harm our fingernails if not properly handled, the smell from tank may affect our respiratory system etc.

The common waste and dirt to be removed include:

stone chips

mud resulting from stains of soil

wooden chips from the vice

Thick slurry of oil, kerosene other chemicals

The equipment should also be inspected for its normality, and its areas of friction like tool guides, screw, etc should be lubricated to reduce heat that may be produced by friction causing chipping and breaking down of the parts.

More over the coolant level of the machine should be adjusted by adding additional oils for losses during operation.

When you clear/ clean your shop follow the following steps

- Organize loose parts. ...
- Disinfect the classrooms. ...
- Protect your electronics by keeping them clean and dust free. ...
- Clean the break room. ...
- Empty waste baskets every day. ...
- Ensure the public area is presentable. ...
- Clear off desk(work) spaces to keep clutter(disorder) to a minimum for a clean company office

Self-Check -2	Written Test
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Directions1: short answer Items

Instruction 1: Write the correct answers for the following questions on the space provided

What is the importance of clearing of work area? 4points)

When you clean the work shop? 2pts

Note: Satisfactory rating 2 points and above

Unsatisfactory - below 2 points

You can ask you teacher for the copy of the correct answers.

Name of the studentScore-----

Rating-----

LG #27**LO #3- Make HCR Material Beads.****Instruction sheet**

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Making bead

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- Make bead

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the “Information Sheets”. Try to understand what are being discussed. Ask your trainer for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” which are placed following all information sheets.
5. Ask from your trainer the key to correction (key answers) or you can request your trainer to correct your work. (You are to get the key answer only after you finished answering the Self-checks).

6. If you earned a satisfactory evaluation proceed to “Operation sheets
7. Perform “the Learning activity performance test” which is placed following “Operation sheets” ,
8. If your performance is satisfactory proceed to the next learning guide,
9. If your performance is unsatisfactory, see your trainer for further instructions or go back to “Operation sheets”.

Information Sheet 2- Making HCR Material bead.

BEAD MAKING

A **bead** is a small, decorative object that is formed in a variety of shapes and sizes of a material such as stone, bone, and shell, glass, plastic, wood or pearl and with a small hole for threading or stringing. ... Bead work is the art or craft of **making** things with **beads**.

The **Bead-Making** project has been in operation since October 2010 and it allows participants to celebrate the colourful and exciting culture of Ethiopia

Beads are simply gems with holes in them. The fashioning of a round or other symmetrically shaped beads can be by hand with cabbing equipment's, but usually done with advice called a bead mill. There are 4 steps to make a bead. They are

1. Sawing to cubs
2. Drilling
3. Roughing and rounding
4. Smoothing and polishing

Sawing to cubs : Slab the stone and make a cube according to you project . After cutting of the cubs, the hole can be drilled. This hole can be completely through the gem or only part way through, in which case it is said to be half drilled.

Drilling holes into beads will require patience and a steady hand. ... Note that smaller beads will require the use of even smaller **drill** bits. When **drilling** holes in glass or stone beads, you will need to use a diamond-tipped **drill** bit due to the hardness of the material. Mark your stone with your marker pen or china graph pencil where you wish the hole to be. Set up your water tray by placing your piece of wood or rubber into the tray, place your pebble on top and pour water in until the stone is covered by about 1cm of water. There are many gem drill machines **Drilling** holes in pearls, stones and **beads** can present several challenges, mainly when it comes to fixing them in plac. Manual gem drill, automatic gem drill, and ultra-sonic gem drill (best) are common in bead making industries.

The next step is drilling the gem. . At this step the bead must be rounded perfectly. Then after we can follow the same steps as cabochon making (polishing).

Roughing and rounding is the cutting of the cubs to remove the ages to make it round it.

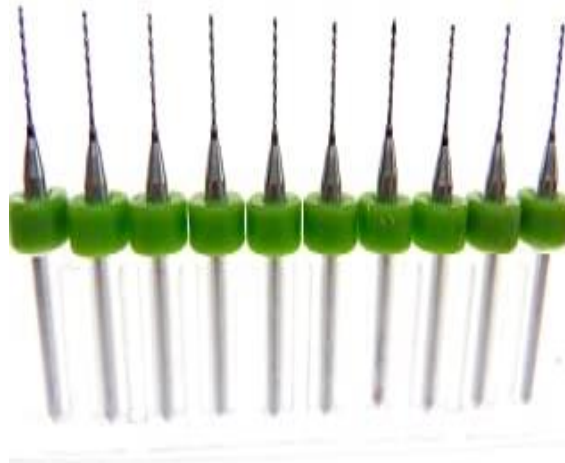
Finally, the beads must be clean by different detergents, dry and stored by their color and size.



Drill bits are diamond tip stainless steel with different sizes. E.g 0.5,0.75,1.0,1.5 etc mm diameter. There are different types of drilling machine such as automatic, manual, ultrasonic drill machines. The Ultrasonic/Sonic Driller/Corer is a drilling device that uses vibrations in order to hammer its bit through materials, as opposed to traditional drilling methods.



Drill machine



Drill bits

Operation Sheet 2	Bead Making
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Steps of bead making

Step 1- wear PPE.

Step 2- make a cube

Step 3- check the caber

Step 4- check availability of coolsnts

Step 5 –gought gring the bead

Step 6- polish the bead

Step 7 –drill the bead

Step 8- clean the bead

Step 9- clean work area

LAP TEST	Performance Test
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Name..... ID..... Date.....

Time started: _____ Time finished: _____

Task 1-cut and polish ahead with the diameter of 15mm.

