

<b>Instruction Sheet</b>	<b>Learning Guide #20</b>
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This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Workstation setup according to specifications
- Cutting knife, patterns selection and preparation according to work specification and requirements
- Materials collection, sorting and layout in preparation for cutting
- Cleaning and maintenance of cutting board
- Record maintaining

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 –

- Set up workstation according to specifications
- Select and prepare cutting knife and patterns according to work specifications and requirements
- Collect, sort and layout of materials in preparation for cutting
- Clean and maintain cutting board routinely
- Maintain records

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 17.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask your teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1” in page \_\_\_.

5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Instruction #2.
7. Submit your accomplished Self-check. This will form part of your training portfolio.
8. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
9. Accomplish the “Self-check 2” in page \_\_\_.
10. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
11. Read the information written in the “Information Sheets 3 and 4”. Try to understand what are being discussed. Ask your teacher for assistance if you have hard time understanding them.
12. Accomplish the “Self-check 3” in page \_\_\_.
13. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
14. If you earned a satisfactory evaluation proceed to “Operation Sheet 1” in page \_\_. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Instruction #6.
15. Read the “Operation Sheet 1” and try to understand the procedures discussed.
16. Request a desktop computer or laptop from your teacher. Make sure the unit is plugged to a power source before turning on the power  $\odot$ . Then insert the CD in the CD drive located in your computer. Access the information as described in the Operation Sheet 1 in page \_\_\_.

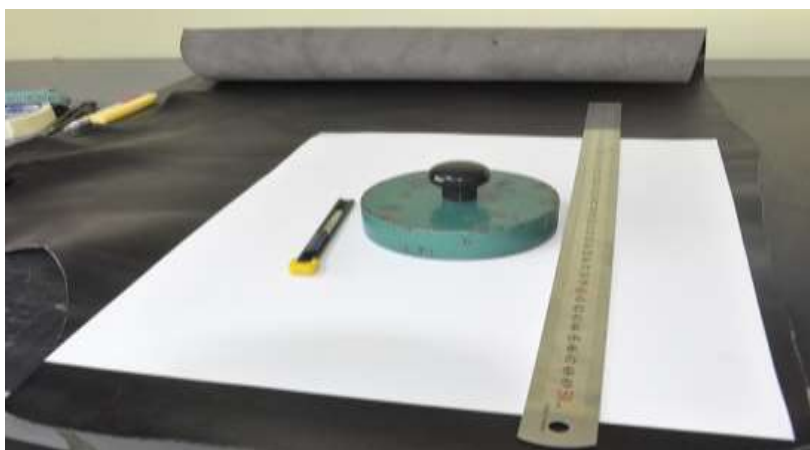
17. Do the “LAP test” in page \_\_ (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work. But if satisfactory you can proceed to Learning Guide #2.

<b>Information Sheet-1</b>	<b>Workstation set up according to specifications</b>
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### **1.1- Workstation Set Up According to Specifications and Safety**

#### **Procedures**

Work station is defined as an area, in an office, outfitted with equipment and furnishings for one or more workers. Normally leather products are operated in a work shop therefore the work station for a leather goods/garments worker would be the work shop. It is necessary for a worker to prepare his work station and the pieces to be done Well-arranged working area i.e. properly seated machineries, assembling areas, good and safe placement of tools and equipment facilitates and motivates a worker to do his/her job in a good and respectable way but before doing so a worker should be well aware of the safety rules and regulations.



*(pic. of a working area showing only the cutting area)*

Having created a good working area, the subsequent effort would be allocation of work according to the departments/sections. The process of cutting starts after the patterns of the particular product are being completed.

Once the patterns are completed and delivered to the cutting department/section with their specification the next process would be selecting the specified leather and all other necessary materials to be cut (including the color and texture according to the specification given), making ready the necessary tools and equipment, assorting which is a vital process carried out by highly skilled technicians before starting to cut. It must be done under perfect lighting system so that its quality can be assured. Leathers are assorted according to thickness needed for various parts of the product, size, color, defects, texture, and stretch/elasticity. The person should know the various defects that could exist on the skin/hide and mark them on the leather using silver marking pencil so that it would be visible enough while cutting and he/she must also know where to apply cutting i.e. matching the section of the leather with the part of the product to be cut. Visible areas should be cut from the best section of the leather. But before going through the process the person (cutter) should be aware of the safety procedures and ergonomic principles for a better and organized work.

**Safety:** means the quality of being safe or freedom from danger or risk of injury. It is a contrivance or device designed to prevent injury. Work shop safety is extremely important both to workers and managers (owners).

Generally leather product processing is not as dangerous as many other manufacturing plants, but occasionally accidents can happen. It is easier and cheaper to prevent accidents before it occurs rather than later.

Accidents fall in to one or more of the following categories:-

**Electricity:** occurs when connections are faulty such as:

- Cables are not fit for the quantity of power
- Cable insulations badly connected, loose cables and its connectors
- Circuit breaker is not installed/ not working or too strong
- Fuses are too strong to protect current flow

**Fire:** can destroy all the work of years

- Incorrect power connections can heat up cables and produce sparks (fire)
- scouring/rubbing of metal causes small sparks which can glow for hours before igniting (usually occurs when nobody is around)
- Handling of flammable liquids such as alcohol, solvents and glue (the storage of all FLAMMABLE materials must be away from the working area and stored safely)

**Others**

- Bad shelf storage of tools and materials, can fall off and hurt people
- Badly placed tools/devices like hot air blower can cut or injure people
- Poor furniture can injure people
- Slippery surfaces can make people fall
- Poor knowledge of machines and equipment
- Poor condition of tools and equipment

Understanding this accident is not enough for a worker but it is also necessary to take precaution before they happen.

Self-Check 1	Written Test
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*Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:*

1-define what work station mean? (4pts)

2-Discuss about safety? (4pts)

3- Write similarities and differences of workstation vs. workshop? (7pts)

**Note: Satisfactory rating - 10 points**

**Unsatisfactory - below 10 points**

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

Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Short Answer Questions

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## Round knife



Round knife made of stainless steel with excellent sharpness and edge retention. Especially suitable for thicker leathers (vegetable tanned leather, belt shoulders, water buffalo croupions, etc.). Can also be used for skiving (thinning) the leather edges.

## 2. Swivel knives

A swivel knife is an important part of the leather cutting process, and you will be using it for detail work. It features a very sharp cutting head that makes cutting into a leather piece quite simple. You'll be able to perform many tasks with your swivel knife.

This tool can be adjusted from a length of 80mm all the way up to 95mm. It is going to prove to be a very useful part of your leather cutting process. You will often find these swivel knives included in leather cutting kits, making it obvious that it is an essential tool to own..



### **3. Skiving knives**

Skiving knives are important tools to consider purchasing, as well. These knives differ from the others that have been covered on this list so far. A skiving knife is good for making general cuts because it is very sharp, but this isn't the primary

function of the tool. It is excellent for skiving your pieces of leather in order to shave off pieces.

When you want to be able to thin out a certain area of the leather piece that you are working on, then you will need a quality skiving blade. Skiving a piece of leather is something that you want to take slowly. You need to meticulously shave off the pieces of the leather that you are trying to alter. It may take some time, but you will be able to get great results when using this method.



#### **4. Rotary cutters**

Rotary cutters are common leather cutting tools that will be used for several purposes. These cutting tools are actually used for purposes other than leather cutting pretty often. They can be excellent for cutting through fabrics, felt, and even vinyl. It's a great tool for leather cutting, as well, and it is going to come in handy when you want to finish off a project properly.

When you want to use a rotary cutter to cut through leather, you'll just want to ensure that it is sharp enough for the task. The leather is pretty tough and you will need to have a blade that can handle cutting it effectively.

There is a sliding button on this model that is being shown here. You can use it to extend the blade outwards while you are cutting. The handle is very comfortable, and you'll be able to make good use of this tool in your leather cutting efforts.



**i. Scissors and shears**

Scissors have both handles the same size but shears have one handle larger than the other. Scissors and shears are hot-forged, high-grade steel, honed to a fine cutting edge. The blades are joined with an adjustable screw to ensure even pressure along the length of the blade. Sharp shears make clean cuts and well-defined notches.



Fig 2: scissors and shears

**ii. Bent-handled shears:**

Bent-handled shears are best for pattern cutting because the angle of the lower blade lets Leather/lining lie flat on the cutting surface. Chrome-plated shears are used for heavy-duty cutting. The lighter models with stainless steel blades and plastic handles are used for light weight linings while a serrated-edge shears are used for synthetic linings.



Fig 3: bent-handled shears

**iii. Pinking shears or scalloping shears:**

Pinking scissor or scalloping shear is used for zigzag or scalloped cutting at the edges of the components. Zigzag fold edges give more elegance than plain fold edges. It cuts a ravel-resistant edge.



Fig 4: Pinking shears or scalloping shears

## 11. Cutting Mat



## LEAD PEN



Self-Check 2	Written Test
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

*Instructions:* Answer all the questions listed below. Illustrations may be necessary to aid some explanations/answers.

- 1- Discuss different types of cutting tools used for cutting leather? (5pts)
- 2- What is the difference between Scissors and shears? (6pts)
- 3- Discuss about straight cutting knife? (4pts)



**Note: Satisfactory rating – 10 points**  
**points**

**Unsatisfactory - below 10**

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

Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

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Information Sheet 3	Materials collection, sorting and lay out in preparation for cutting
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## Introduction to leather garments manufacturing

### Manufacturing processes:

Leather garments manufacturing processes involve assorting, marking, sub-assembling, assembling and finishing. Once the patterns with constructional details and leathers are received, they are sent for assorting and marking.

#### Assorting:

Assorting of leathers is done by highly skilled technicians who have sound knowledge about garment leathers and its properties. Leathers are assorted on a wooden table under bright lights and carefully examined for imperfections, holes, scratches and thin spots. Any noticeable defects are marked with a silver marking pencil, which can be easily erased by a piece of soft cloth. Leathers are selected which are most alike in feel, thickness, color/shade, texture, stretch, grain pattern, etc. After selecting leathers, they are sent with patterns having fabricating details to the next process of cutting.



Fig. 5 : Assorting

#### Cutting:

Cutting of leathers and linings are done by highly skilled cutters. It is a vital process and should not be done in haste and is done by a sharp high-speed hacksaw blade. Accurate cutting is essential for the garment to be assembled correctly and to fit well. The leathers are laid out flat and patterns are arranged to make maximum use of

leather by butting up straight edges and putting the pieces very close together. Several arrangements may be tried before deciding which is most practical. Patterns may be arranged in any direction but patterns should be laid with the grain.

The pattern pieces are arranged in such a way that the finished garment will fit the way the skin did the animal it came from. Leather does not have a true grain line. Since it has the least stretch and greatest strength in the length from neck to tail, the lengthwise grain is considered to be parallel to the backbone. Generally, the center or back of the animal is most attractive while the legs and belly may be weak and thin. For this reason, center front and center back should be placed along the grain. Smaller pattern pieces can fit in along the edges as needed and can be turned slightly off grain to make the best use of the skin. For rough suede and splits, which have no nap, color and thickness must be considered when laying out the patterns. In case of suede, the nap direction must be carefully examined. The nap runs generally from head to the tail and from the back bone to the legs. A firm placing of hand on the pattern while cutting gives adequate control.

Cutting is done with a sharp high-speed hacksaw blade fitted with handle. Cutting is also done with sharp shears. Always work with the finished side of the skin facing up. **Masking tape** is used to attach pattern pieces to the skin for cutting components but the tape should not be left on the skin for too long as it may cause damage to the finish. Cutting pieces in accordance with the grain will promote even graceful draping in garments the most noticeable sections the fronts, collars and lapels are first cut from the skins. The largest and most important pieces must be cut in the center where the leather is thickest while small pieces must be cut near the edges. **Notches** are marked on plain seams with small clips.

**Linings and interfacings** are also cut using appropriate patterns. In big garment industries, linings are cut with lining cutting machine. After cutting, the leather, lining and interfacing components are bundled with the constructional details marked at the back of the components and sent for the next unit operation of sub-assembling.

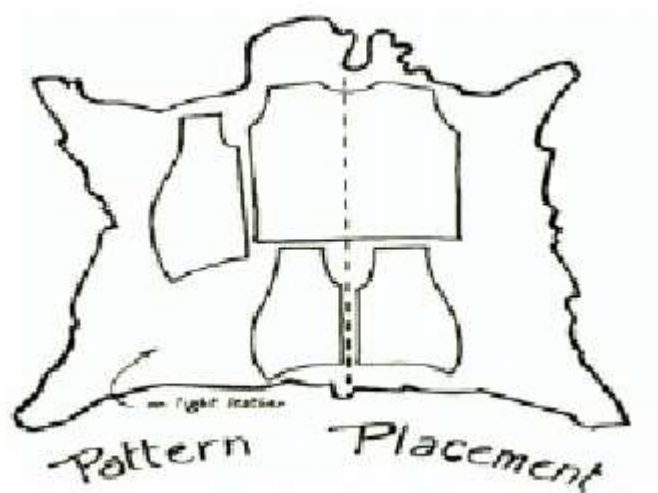


Fig. 6 : Pattern Placement

Self-Check 3	Written Test
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

*Instructions:* Answer all the questions listed below. Illustrations may be necessary to aid some explanations/answers. Write your answers in the sheet provided in the next page.

1. Explain about assorting?(4pts)
2. Which part of skin is most good for cutting big patterns? Why?(5pts)
3. What are lining and interfacing components?(7pts)
4. what is masking tape?(4pts)

**Note: Satisfactory rating - 15 points  
points**

**Unsatisfactory - below 15**

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

Answer Sheet

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Short Answer Questions

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Information Sheet 4	Cleaning and maintenance of cutting board
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Cutting Mats



Most of time leather Cutting is done on an inclined table fitted with soft zinc metal sheet or Teflon sheet, which makes the cutting easier and more accurate. It also prevents leathers and linings from sliding and pulling out of shape.

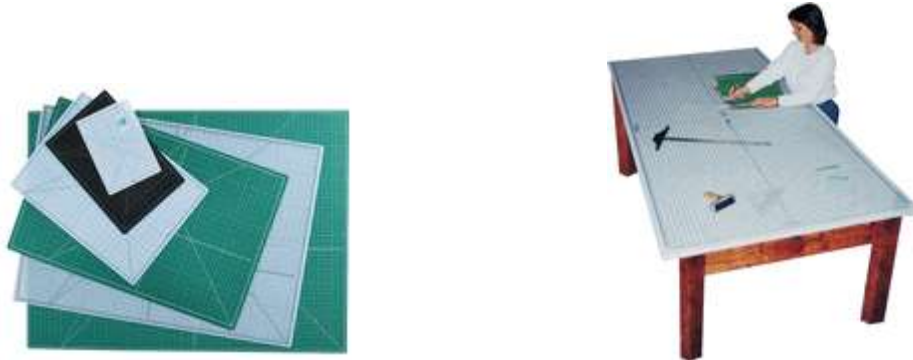


Fig. 7: Cutting mats

How do you choose the right cutting mat for the job? Here are a few things to look for when selecting a quality cutting mat and how to properly care for them.

**Cutting Mat Types** – For every project where you use a utility cutter, you also need a cutting mat. Cutting mats protect the work surface from damage, and prevent the blade from dulling quickly. Cutting mats are described as either hard-surface or self-healing (soft surface).

**Hard-surface cutting mats (self-sealing)** are more rigid and more rugged, since the blade skims over the mat surface without cutting into it.

**Self-healing cutting mats** are thinner and more flexible and usually have a thin layer of colored vinyl on the cutting surface. Cutting blades create tiny scratches in the mat surface.

Both types are appropriate for sewing, quilting, sign making, printing, and many other uses.

**Cutting Mat Size** – In general, choose the largest mat that fits the work and storage areas available.

**Cutting Mat Thickness** – Self-healing cutting mats are generally either 2 millimeters (mm) or 3 mm in thickness. 2 mm mats have more of a plastic texture and are often either too smooth or too rough. 2 mm mats are often referred to as "hobby mats" and are not suitable for straight knife use. 2 mm mats generally have thin cores which makes them much more susceptible to cut-through. 2mm mats are more of a "hobby grade" mat and are not a professional-grade mat. A sign of a poor-quality cutting mat is one where the laminations have separated.

Cutting mats eventually wear out, they do not last forever. Most of them are designed to last for years, depending on how they are used. All cutting mats can take repeated cuts without gouging; they are made for heavy professional use. However, any material will show a knife mark unless it is made of stone or hard metal. Do not be alarmed if you can see the knife marks. Cutting mat performance and longevity is dependent on several things:

- Type of material being cut
- Type of knife being used
- Sharpness of cutting blade
- Cutting pressure by user

How to reduce damage

- Be sure always use sharp, new blades when cutting and change blades often.
- Rotate the mat often to avoid frequent cuts in the same area.

### **Storage**

- It is best to store self-healing cutting mats flat. Do not roll them. Most of self-healing cutting mats have a convenient hanging hole for easy storage.
- Improperly stored mats will warp and are impossible to repair.
- Keep cutting mats away from heat such as direct sunlight to prevent warping.
- Don't leave cutting mat in a hot place and do not store it in an attic (directly under a roof).

- Avoid storing your mat in a cold room to prevent having hardness and cracking.
- Remove rolled cutting mats from their packages immediately. Do not store cutting mats rolled.

### **Cleaning**

- To prolong the life of any cutting mat, keep it clean. We recommend using your favorite all-purpose household spray cleaner or warm water and mild detergent. Avoid abrasive cleansers and solvents that can damage the mat or remove the printed markings. Use a napped lint brush to remove surface lint and fabric crumbs. A nylon net scrubber can be used to loosen any stubborn dirt or debris on your cutting mat. Microfiber cleaning cloths/towels can also be used to remove tiny fibers from knife cuts on your cutting mats.

Self-Check 4	Written Test
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

*Instructions:* Perform the following tasks. Write your answers in the answer sheet provided:

- 1- Discuss about storage and cleaning of cutting mats?(6pts)
- 2- How long will cutting mats last?(3pts)
- 3- write the types of cutting mats? And Which cutting mat is better for leather cutting?(6pts)

**Note: Satisfactory rating - 10points  
points**

**Unsatisfactory - below 10**

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

Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Short Answer Questions

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Information Sheet 5	Record maintaining
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**Recording** is the process of capturing data or translating information to a recording format stored on some storage medium, which is often referred to as a **record** or, if an auditory medium, a recording.

### **Record, Paperwork and File Keeping**

The amount of records you should keep is actually more limited than you might think.

#### **Which works are kept?**

- Learning manuals
- Learning CDs
- Books
- Documented evidence
- Paper exercises
- Component works
- sketches
- patterns
- portfolio material

#### **How to Keep a Record Collection Safe**

1- Protect the records from dust

Store each record in its original lightweight cardboard cover or in plastic record sleeves. Look for acid-free plastic sleeves if you haven't already got some.



Fig. 8: record docment

2- Protect the records from heat.

Heat is a record's enemy and will warp records. Store records away from heating sources, such as baseboards, open fires, pot belly stoves, heaters, etc. Also store away from damp areas, as humidity will provide a fertile ground for mold growth, which can destroy your limited edition covers. Eg CD

Keep records away from direct sunlight. Sunlight will damage records both from heat and UV rays



Fig. 9: \_\_\_\_\_cd case\_\_\_\_\_

### **3-Store records vertically.**

This is the best position to minimize damage - keep them upright and do not cram them too closely together in the storage container. Some collectors also insist on storing records in a relatively airtight container or cabinet as additional protection, along with regularly vacuuming around them to keep the records dust-free.

- **Clean your vinyl records regularly**: Keeping your records clean will minimize the potential for damage from dust and other particles which could result in scratching. For cleaning:



Fig. 10: Records stored vertically



Self-Check 5	Written Test
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

*Instructions:* Perform the following tasks. Write your answers in the answer sheet provided:

- 1- Why should you keep records?(5pts)
- 2- What kind of records should you keep?(5pts)
- 3- How long should you keep records?(5pts)

**Note: Satisfactory rating - 15 points  
points**

**Unsatisfactory - below 15**

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

Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

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Date: \_\_\_\_\_

Short Answer Questions

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Operation Sheet 1
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<b>Procedures of holding knife</b>
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Follow the steps in order to properly hold your knife/cutter

**Step 1**

Hold the knife with thumb finger and middle finger



### Step 2

Press with index finger



### Step 3

Ring finger and ladies finger are guiding the direction and should be laid in to the cutting material



#### **Step 4**

Pierce the knife at the point of depart, make suitable angle (300 for straight and at list 600 to 900 for curved) and apply suitable pressure pull it towards from the top to the bottom and or from left to right according to the exercise given.



Whenever you practice cutting, keep the movement of hand from elbow. Keep wrist locked, keep shoulder locked.

<b>Operation Sheet 3</b>	<b>Collecting, storing and laying materials</b>
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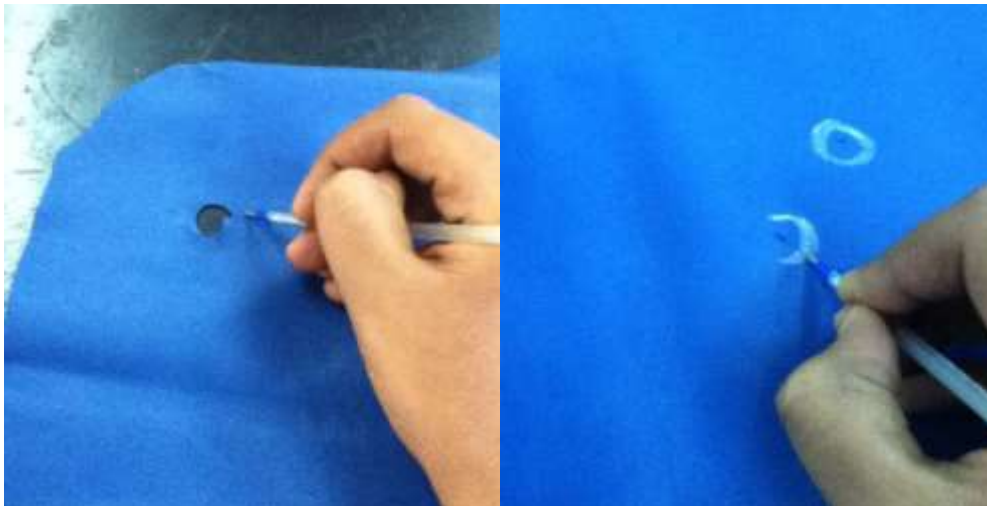
#### **Step 1**

Assorted on a wooden table under bright lights and carefully examined for imperfections, holes, scratches and thin spots.



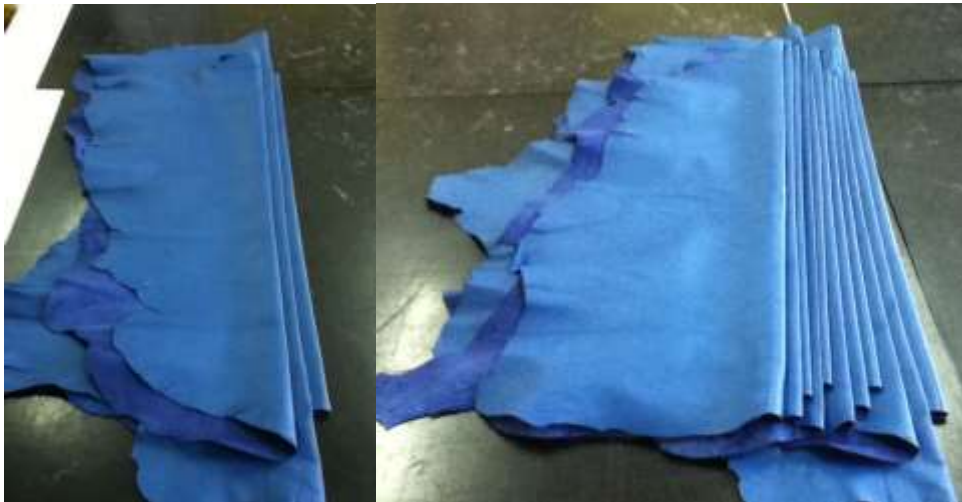
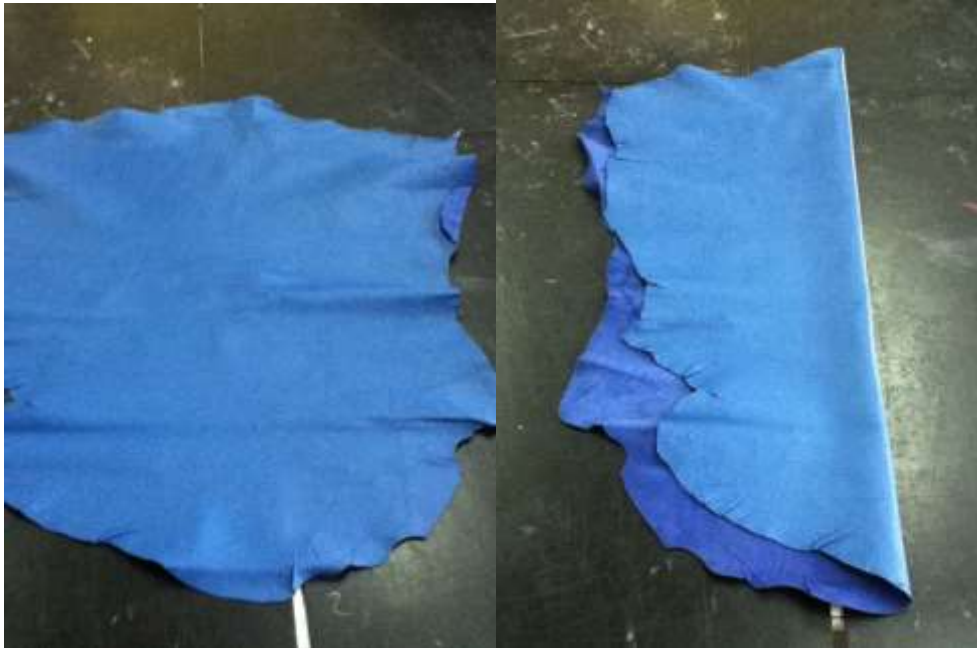
### Step 2

Noticeable defects are marked with a silver marking pencil, which can be easily erased by a piece of soft cloth.



### Step 3

Leathers are selected which are most alike in feel, thickness, color/shade, texture, stretch, grain pattern, etc.



#### **Step 4**

After selecting leathers, they are sent with patterns having fabricating details to the next process of cutting.





Operation Sheet 4

**Procedures how to Clean and maintain cutting board**

Removes fleece and flannel lint and batting fibers from your cutting mat. Use a brush like stroke with the angled edge and it will pull the fibers from the crevasses of your cutting mat. To clean, use a brush to scrub lint off under cold water.

LAP Test	Practical Demonstration
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Instructions:** based on the practice that you have made on how to hold your cutter/knife on the paper exercises

**Task 1:-** perform each cutting exercises?

**Task 2:-** show how to do laying, sorting and selecting different leathers?

**Task 3:-** show how to identify defects on leather?

## REFERNCES

<https://stonestreetleather.com/how-to-cut-leather/>

<https://www.universityoffashion.com/lessons/leather-sorting-cutting-pt1/>