Instruction Sheet	Learning Guide #-1

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

- Selection of drawing tools and instruments
- Workbench and seating set up according to OHS practices

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 –**

- Select drawing tools and instruments
- Set up workbench and seating according to OHS practices

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 20.
3. Read the information written in the "Information Sheets 1". Try to understand what are being discussed. Ask you 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 Activity #1.
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)

Information Sheet-1	Selection of drawing tools and instruments

Introduction

The Design studio/workshop environment is preliminary process for designing. The work is performed according a system of work process and culture. The staff and employees having a considerable knowledge in designing parts ,construction parts, material knowledge, production procedure and experience in preparation of work. The drawing tool department where pencil, knife, eraser etc. and equipment are stored should take care of not only use but also for its storage and handling. Material Type is a major data which identifies what data is relevant to the related material and identifies basic behaviors of the material.

The quality of work depends on good work environment and work space. To create a proper preparation for work special attention should be taken —

- Clean your working place,
- Wait for instructors brief,
- Taken over tools, training material, components, product in process,
- Clean and lubricate sewing machine before use if any,
- Work on base the plan or instructors direction
- Keep the time, checking in/ checking out,
- Do not continue on work if any poor quality of component appears/ bad patterns/ machines not tuned or something is damage,
- Observe the rules of safety, tidiness, quality, timing,
- Put everything in order – Working bench, Materials, Machines, Tools etc,
- Record final your Daily Report,
- Store semi- products, components in progress properly,
- Clean and cover the machines,
- Turn-off the electric power of machines, and main switch,
- Turn in tools, unearned material to instructor,
- Separate wastage materials, and clean the workplace for next day.
-

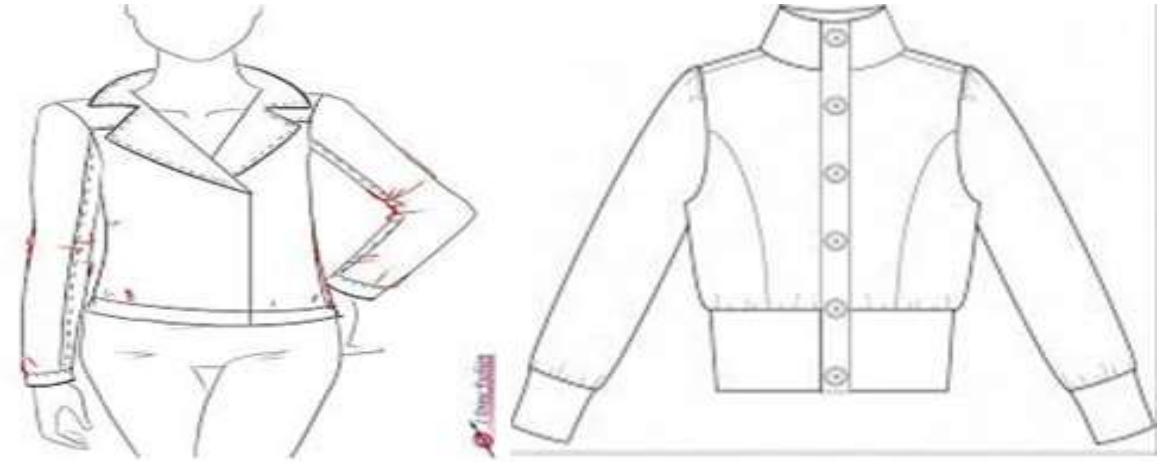
1.1.1 LAYOUT PAD

Layout Pad a book of plain paper containing sketches or for making sketches in Hasty writing notes or sketches. It is in thin to allow see things underneath and trace. It is used for designers and to create layout. It is excellent for blending colors and building tones.

The Layout Pad size is depending according to the paper sizes. In the ISO paper size system, the height-to-width ratio of all pages is the square root of two (1.4142: 1). In

other words, the width and the height of a page relate to each other like the side and the diagonal of a square. This aspect ratio is especially convenient for a paper size. If you put two such pages next to each other, or equivalently cut one parallel to its shorter side into two equal pieces, then the resulting page will have again the same width/height ratio.

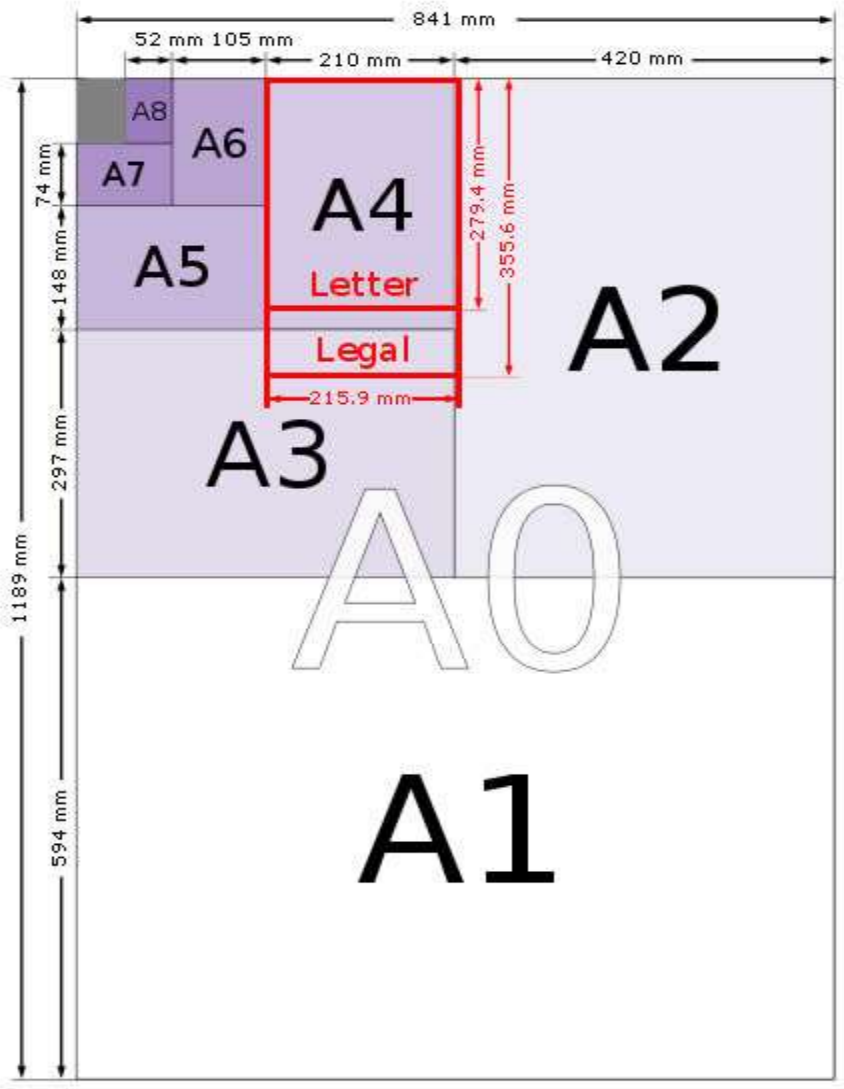
The ISO paper sizes are based on the metric system. The square-root-of-two ratio does not permit both the height and width of the pages to be nicely rounded metric lengths. Therefore, the area of the pages has been defined to have round metric values. As paper is usually specified in g/m², this simplifies calculation of the mass of a document if the format and number of pages are known. It uses to make sketching new ideas or creative ideas. So our Sketch book uses as bank account, when we want start new work, we can see our previous Sketches. In addition we can develop our skill of drawing




Tension
Tension

Drawing Paper A1 size

In the ISO paper size system, the height-to-width ratio of all pages is the square root of two (1.4142: 1). In other words, the width and the height of a page relate to each other like the side and the diagonal of a square. This aspect ratio is especially convenient for a paper size. If you put two such pages next to each other, or equivalently cut one parallel to its shorter side into two equal pieces, then the resulting page will have again the same width/height ratio.



The ISO paper sizes are based on the metric system. The square-root-of-two ratio does not permit both the height and width of the pages to be nicely rounded metric lengths. Therefore, the area of the pages has been defined to have round metric values. As paper is usually specified in g/m², this simplifies calculation of the mass of a document if the format and number of pages are known.

ISO 216 defines the A series of paper sizes based on these simple principles:

The height divided by the width of all formats is the square root of two (1.4142).

Format A0 has an area of one square meter.

Format A1 is A0 cut into two equal pieces. In other words, the height of A1 is the width of A0 and the width of A1 is half the height of A0.

All smaller a series formats are defined in the same way. If you cut format An parallel to its shorter side into two equal pieces of paper, these will have format A(n+1)

A Series Paper Sizes Chart

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	Size	Height x Width (mm)	Height x Width (in)
1	4A0	2378 x 1682 mm	93.6 x 66.2 in
2	2A0	1682 x 1189 mm	66.2 x 46.8 in
3	A0	1189 x 841 mm	46.8 x 33.1 in
4	A1	841 x 594 mm	33.1 x 23.4 in
5	A2	594 x 420 mm	23.4 x 16.5 in
6	A3	420 x 297 mm	16.5 x 11.7 in
7	A4	297 x 210 mm	11.7 x 8.3 in
8	A5	210 x 148 mm	8.3 x 5.8 in
9	A6	148 x 105 mm	5.8 x 4.1 in
10	A7	105 x 74 mm	4.1 x. 2.9 in
11	A8	74 x 52 mm	2.9 x 2.0 in
12	A9	52 x 37 mm	2.0 x 1.5 in
13	A10	37 x 26 mm	1.5 x 1.0 in

Hard paper A1 size it is a types of paper which uses to make any patterns of garment and goods and also to makes mockups of any design which use to differed size, color, style… of the design.

1.1.2 Pencils with HB leads

Type of Pencils

Many pencils across the world, and almost all in Europe, are graded on the European system using a continuum from “H” (for hardness) to “B” (for blackness), as well as “F”, a letter arbitrarily chosen to indicate midway between HB and H. (It is a persistent myth that "F" stands for "Fine"; grade F pencils are no more fine or easily sharpened than any other grade). The standard writing pencil is graded HB. According to Petro ski, this system might have been developed in the early 20th century by brook man, an English pencil maker. It used “B” for black and “H” for hard; a pencil's grade was described by a sequence or successive Hs or Bs such as BB and BBB for successively softer leads, and HH and HHH for successively harder ones.

As of 2009, a set of pencils ranging from a very hard, light-marking pencil to a very soft, black-marking pencil usually ranges from hardest to softest as follows:

9H 8H 7H 6H 5H 4H 3H 2H H F HB B 2B 3B 4B 5B 6B 7B 8B 9B

Hardest → Medium → Softest

The mechanical pencil (fixer) is the precision drafting pencil and for these pencils a wide range of lead grades are available in different sizes such as 0.3, 0.5, 0.7 and 0.9mm diameters.

Color pencil

A thin cylindrical instrument used for writing, drawing, etc., consisting of a rod of graphite or other marking substance, usually either encased in wood and sharpened or held in a mechanical metal device.

Fiber pens

Many different drawing pens are available. Magic marks come in many colors and are quick-drying. Fiber-tipped are useful for fine lines.

Marking pens

Alternative to chalk but marks can sometimes only be removed by washing. Some pens produce a mark which disappears after 48 hours. Useful for marking on the top of fabric. For example pocket position. Only use on washable fabric. Always test on the spare fabric.

A few drawing pencils. Having at least three pencils will bring tonal variety to your drawing. Graphite comes in different grades that range from soft to hard, so the utensils you choose are important.

The softer the graphite, the darker a mark it'll make. Likewise, harder graphite will make lighter and more precise lines. So, how can you tell the difference between the two? Just look for the labels on your pencil. Utensils labeled *B* denote the softer graphite. The higher the number, the darker it'll be. (Many brands of pencils go up to 8 or 9B.) The same goes for the *H* pencils, although they will be harder and lighter.

1.1.3 PENCIL SHARPNER

A thin cylindrical instrument used for writing, drawing, etc., consisting of a rod of graphite or other marking substance, usually either encased in wood and sharpened or held in a mechanical metal device.

Cutter with blender it is made up of steal & us you know it uses to cut paper leather and to make sharper a pencil.

1.1.4 Eraser (rubber)

Eraser (rubber) an object, typically a piece of soft rubber or plastic, used to rub out something written (or of a synthetic material with properties similar to rubber); commonly mounted at one end of a pencil.

Type of eraser

Part of drawing is making mistakes. (I'd probably argue with myself on that opening sentence.) Part of drawing is subtracting. (That's probably more accurate.) Erasers are an inevitable part of the process of subtraction in drawing. I'm not going to discuss the many ways that erasers can be used to actually create the drawing in this article. Instead, I want to give you a run-down of the different types of erasers and what they are generally used for.

1. **Rubber Erasers**- A rubber eraser is the most common type of eraser out there. It can be found at the end of every #2 pencil. Rubber erasers are generally colored pink, although I have seen them available in all different types of colors. The Pink Pearl brand eraser is a standard for most artists. It comes as a wedge shape and is colored pink. Rubber erasers are best suited for erasing pencil (graphite) on paper. It works by shedding itself as it lifts the pigment from the surface. Rubber erasers will not tear the paper unless they are used over-aggressively. Rubber erasers are also quite economical.

2. **Gum Erasers**- Gum erasers are sometimes called art gum erasers. These erasers are also made of rubber, but are a softer version than rubber erasers. Gum erasers are very soft and tend to crumble as they erase. If the integrity of the paper is a concern, then a gum eraser may be your best bet because they will not tear the paper even with aggressive rubbing. Gum erasers are best for erasing graphite on paper. These erasers are usually brown in color and some are even semi-transparent. One negative aspect of gum erasers is that they don't last very long. Because they crumble so easily, the life of the gum eraser is a short one.

3. **Kneaded Erasers**- Kneaded erasers are very soft, pliable erasers that are formed and sculpted. They are a unique breed of eraser because of this feature. They work by lifting the pigment off of the surface. Because of this, kneaded erasers will not harm the

surface. Because they are easy to form, kneaded erasers are particularly popular with artists. Kneaded erasers become dirty as they erase but can be pulled and manipulated to clean them. They can even be washed. The standard color for kneaded erasers is gray, although I have seen them in all sorts of colors. Kneaded erasers are mostly used for graphite and charcoal. Kneaded erasers are best suited for charcoal. These erasers are a bit more expensive than rubber erasers.

4. **Vinyl Erasers**- Vinyl erasers are made of soft vinyl and are sometimes called plastic erasers. These erasers are the toughest of the bunch. If not used properly, they can easily tear paper. Vinyl erasers can erase almost anything including ink. Vinyl erasers are usually white and come in a variety of shapes. Many draftsmen prefer vinyl erasers because of their ability to erase cleanly and completely. Vinyl erasers are fairly expensive, ranging in depending on the brand.

5. **Erases**- Although the material used to create erases is vinyl, I still think it necessary to mention them. Erases are just erasers in a pencil form. They can sharpen just like a pencil for super precise erasing. Because the eraser material is vinyl, they can damage the paper if not used gently. Erases are becoming increasingly hard to find, but with a little search on the internet, you're sure to find a place where they can be ordered.

Drawing Table (Board)/ Smooth working surface: is the drawing instrument used to put the paper. The drawing surface/ Work surface should be FLAT, SMOOTH and FIRM.

- **Dusting Brush**: During erasing particles coming from the eraser will remain on the drawing paper. These particles are removed or cleaned using a dusting brush. It is poor practice to use fingers or palm of the hand for cleaning the drawing paper.

Drawing board Smooth flat rectangular board on which paper, canvas, etc., is placed for making drawings. **Back to the drawing board** return to an earlier stage in an enterprise because a planned undertaking has failed

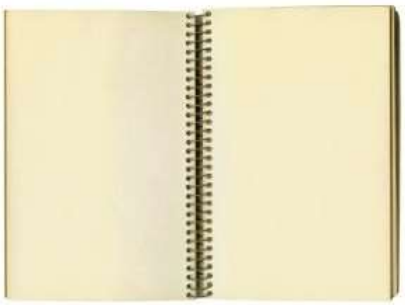
Scotch tape (masking tape)

Scotch tape drawing board is the surface the **paper** needs to be squared upon. The **masking tape** is used to tape all four corners of the **paper** to the table.

Sketch book

Sketch book a book of plain paper containing sketches or for making sketches in

Hasty writing notes or sketches



Pedestal (still life stand)

Pedestal (still life stand) a stand of work of Art. And also a stand of tools you are draw like still life.

"Donkey" Bench

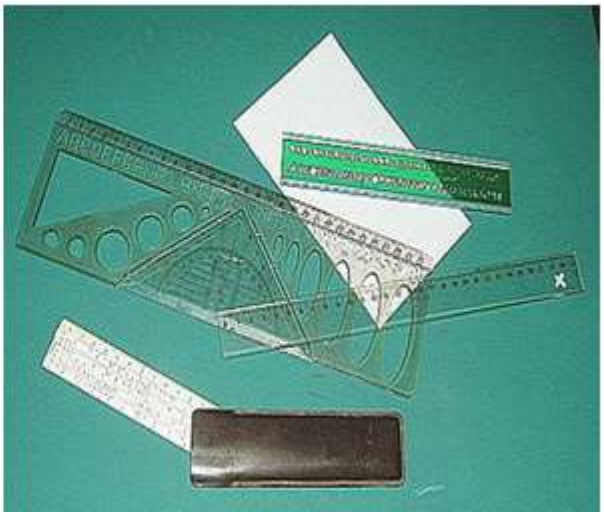
Donkey" Bench (or "Drawing Horse") it designed for student comfort as well as easy storage in the classroom. Easy to take down and stack them up. The cobaltite Bench is made of solid Oak and Oak plywood to provide a great workspace at a very low price. This item does not fold.
Canvas leans against back and is held in place by one of 2 (depending on angle desired) notches.
Paint with this like an old master!
Seat height: 17-1/4". *Base dimensions: 29" x 13-1/2". *Shipping weight: 18 lbs. *Assembly required. Ships by UPS *Box dimensions: 49" x 12" x 4".

1.1.5 TEMPLATES

A **template** is a thin piece of metal or plastic which is cut in to a particular shape. It is used to help you cut wood, paper, metal, or other materials accurately, or other materials accurately, or to reproduce the same shape many times.

Different types of drawing templates are used to minimize the time consumed in preparation of technical drawing.

Exercise: - use template to draw garment sketches; example skirt.

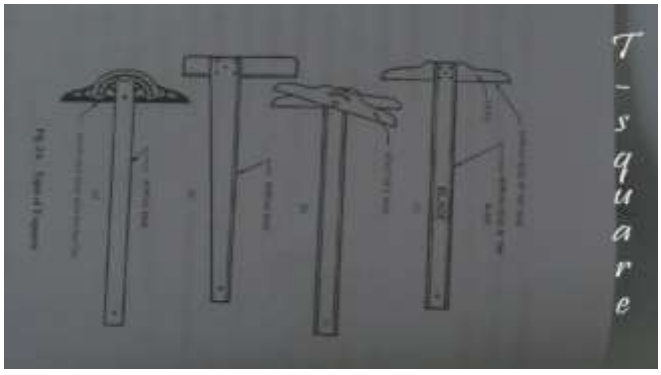


Templates contain pre-dimensioned holes in the right scale to accurately draw a symbol or sign.

Letter templates will deliver the text, as well number as letter characters. Diagrams are usually of a standard letter shape and size to conform to standards of encodings (e.g. DIN or ANSI). For example in Finland the series used is 1.8 mm, 2.5 mm, 3.5 mm, 5.0 mm and 7.0 mm. Except for the very biggest ones, the templates are suitable for only technical pen drawing.

For drawing circles and circle-arcs, circle templates are used, containing a suitable set of holes in certain dimensions. With suitable sized holes in them, Models are also available for other geometric shapes such as squares and for drawing ellipses.

- **T-square**: is used to draw horizontal lines and to support or guide the set squares. If the head is adjustable, it can also be used to draw inclined lines.



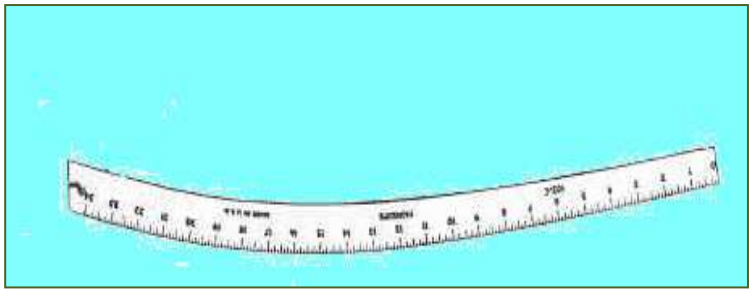
- **Set Squares (**also called **triangles)**: are drawing instruments used for drawing vertical and inclined lines.

The 45^0 triangle and the 30 - 60^0 triangles are the ones commonly used for preparing ordinary technical drawings.

- **Curved rulers**

a) **Hip curve ruler**: is one curved end and one straight end 24" length, used to shape and curve hiplines on skirts and blend hems.

- Also known as leg curve.
- It is 2½" from one side and 1 to 1¼" from the other side.
- Available in wood, metal and plastic.
- It is used-
  - ✓ For shaping hipline and elbows.
  - ✓ Also shape hemlines of the garments.
  - ✓ To true curved style-lines, shaped and contoured darts.
  - ✓ Give proper shape to flares and garment panels



b) **French curve (set)**: are used to draw curves other than circles and circular area.

Various sizes and shapes used for blending and shaping waistlines, necklines, and armholes for style lines.

- It is also known as irregular curve.
- It is made of plastic about 10" long with a spiral curve shape at the end.
- To form and true curve lines like princess line, lapels, reveres, collars and hemlines.

c) **Flex general ruler**: it is a flexible ruler.

- ½ x 12 inches, very accurate flexible ruler.
- Used for measuring curves and straight lines.
- Made of rubber strip, can be bend into any shape for adjustments to curved pattern pieces.

Fig: Flex ruler.

d) **Protractor**: are used for measuring and lying off angles.

e) **Compass**: used to draw circles and arcs.

f) **Divider**: as the name implies, a divider is a drawing instrument used for dividing distances in to equal parts or laying off a series of equal spaces.

A divider can also be used for transferring distances or dimensions from one part of drawing to another.

g) **Metric ruler**

it is a wooden graduated long ruler used for long line construction.

h) **Elastic tape measure**:

- Is essential for most measuring jobs.
- The best are made of flexible, synthetic material or glass fiber, which will not tear or stretch.
- The most common length is 150 cm (60 in.) with non fraying metal-tipped ends

i) **L-square**: useful for finding the basis of straight grain, altering patterns or squaring off straight edges. It can also be used as a ruler.

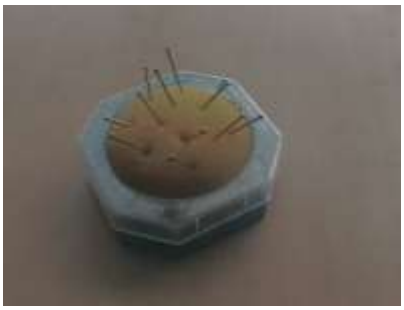
j) **Tracing wheel**

- A 7" handheld tool, with a wooden or plastic handle on one end and a metal wheel on the other end.

- This tool is used to transfer patterns to paper or muslin and to true darts in the pattern making process.

k) **Pin and pin cushion**

Pins: - Steel straight pins used for pinning tissue patterns together and fitting on dress forms.



l) **Tailor's chalk**

- It is a square or round shape chalk
- Available in different colors like white, blue, pink and yellow
- It is used to-
  - ✓ Marking fabric according to pattern.
  - ✓ Color should be selected according to the color of fabric.

m) **Pattern notcher**

- A 4 ¾” handheld tool used to make a 3/16”x1/16” notch.
- Used on master patterns to indicate armhole, darts, center front, center back, and to notch key matching positions.

n) **An awl or stiletto**

Used to punch small holes on the pattern at specific points to indicate apex point, punch holes for darts and tucks, pocket placement, and other style details.

o) **Calculator**

p) **Paper scissor**

- Only used to cut paper and light weight card boards.

- **Pinking shear**

  For finishing fabric edges or seams by producing a zigzag edge to stop fraying of the fabric, and in some cases to provide an attractive finish.

- **Tracing paper**
  It is a transparent paper on which finished drawings are traced from paper drawings for the purpose of reproducing by blueprinting or other similar processes. Tracings may be by made in pencil or in ink.

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

I. Answer the following question briefly

1. What is the use drawing board?(3Pts)
2. Describe the types of eraser and its use? (5Pts)
3. What are the templates used in the sketch? (5Pts)

II. Fill the blank space with correct answer(2 pts) each

1. A_____ is a thin piece of metal or plastic which is cut in to a particular shape
2. _____ a book of plain paper containing sketches or for making sketches in Hasty writing notes or sketches
3. _____ Smooth flat rectangular board on which paper, canvas, etc., is placed for making drawings.
4. It is a _____ paper on which finished drawings are traced from paper drawings for the purpose of reproducing by blueprinting or other similar processes.
5. _____ a book of plain paper containing sketches or for making sketches in Hasty writing notes or sketches

III. choose

1) Which instrument is NOT a drawing instrument?

A. T-square C. Ruler

B. Bodkin D. Template

2) Which precaution should NOT be taken when you use a drawing instrument?

A. Never put either of the ends of a pencil in to your mouth.

B. Never sharpen the pencil over the drawing board or the drawing paper.

C. Begin work without wiping off the drawing board and instruments.

D. Never put instruments away without cleaning them

Note: **Satisfactory rating - 20points** **Unsatisfactory - below 20points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Test I Short Answer Questions

1. _____

_____

_____

_____

2. _____

_____

3. _____

_____

Test II Blank space answer

1. _____
2. _____
3. _____
4. _____
5. _____

Test III choose

1. _____
2. _____

Information Sheet-2	WORKBENCH AND SEATING SET UP ACCORDING TO OHS PRACTICES

This unit covers the skills and knowledge to Basic Sketch of leather Goods components using a workbench set up and operation techniques. This unit contains employability skills. The unit applies to selecting designs, laying up pattern pieces and cutting and assembling leather goods in a non-commercial environment.
This unit is designed for particular application in a highly supervised environment and is suitable for selection in vocational education and training (VET) in schools programs or where access to volume production and commercial machines and
Processes are not an option.
This unit requires the application of skills associated with communication and problem solving to identify pattern requirements and planning and organizing in order to complete leather goods. Ability to use simple technology will also be required. Self management skills are required to ensure leather goods meets quality requirements.

PREPARE WORKSTATION FOR BASIC SKETCHES SET UP ---
1. Workbench and seating are set up according to OHS practices.
2. Drawing tools and equipment are selected and prepared.
3. Reference source appropriate to illustration requirements is selected.
4. Reference source is collaged to assist in illustration process.
5. Compositional balance, scale and perspective are analyzed.
6. Figure details are analyzed.
7. A variety of illustration techniques are identified for use in presenting fashion illustration.
8. Appropriate media are selected.
9. Techniques to be used are selected.
10. Illustration techniques and media selected are analyzed for appropriateness in communicating a variety of fabrics and textures.
11. Proportion, scale and stylization relevant to fashion illustration are selected.
12. Clean, confident and stylized lines are used in presenting representation of fashion figure.
13. A variety of silhouettes and poses are illustrated.
14. Illustration of clothed fashion figure is produced.
15. Illustration is inspected against quality standards.
16. Any changes or adjustments to sketch are carried out as required.

In order to obtain the best utilization for designing, pattern making and to inspect it on a flat surface. The table has a slide for unused components can go in a box.

When we misuse hand tools, the possibility of injury to ourselves or people working around us increases considerably. Furthermore, using a tool incorrectly can damage the tool or even cause the tool to fail. Here are some guidelines for hand tool safety.

Using the correct tool for the job is the first step in safe hand tool use. Tools are designed for specific needs. That's why you'll find screwdrivers with various lengths and tip styles and pliers with different head shapes. Using any tool inappropriately is a step

in the wrong direction. To avoid personal injury and tool damage, select the proper tool to do the job well and safely.

Quality professional hand tools will last many years if they are taken care of and treated with respect. Manufacturers design tools for specific applications. If you use your screwdriver as a chisel or a pry bar, you can't expect it to be in good shape when you actually need to drive a screw. Use tools only for their intended purpose.

1.2.1 MANUAL HANDLING TECHNIQUES

Material master data is used to represent and identify each item, product or service that a company is producing, selling or processing over that material. While creating Material Master Data material type is a mandatory field that should be defined for each master data record in SAP systems. Material Type is a major data which identifies what data is relevant to the related material and identifies basic behaviors of the material.

1.2.2 STANDARD OPERATING PROCEDURES

Standard Operating Procedures (SOPs) help maximum safety and operational efficiency for leather goods manufacturing unit: SOPs are detailed written instructions to achieve uniformity of the performance of a specific function. A well-written SOP can be used to satisfy compliance requirements. SOPs are recommended for all procedures that pose a potential risk to the health and safety of personnel.

Standard Operating Procedures (SOPs) lets you operationalize documents such as plans, regulation, compliance, and policies. SOPs distil requirements contained in these documents into a format that can be used by staff members in their work environment. Standard Operating Procedures (SOPs) should be transferred without every modification to insure the expected results. Every modification or divergence of a given standard, the Procedure should being served, while an investigation and results of the investigation documented according to the internal divergence procedure. All high-class processes and procedures should be put on in a Standard Operating Procedure. This Standard Operating Procedure should be the base for the everyday training programmed of every employee. The Standard Operating Procedure should be often updated to insure of obedience to the realization conditions and the working practice.

A minimum review list of 3 years is recommended. Changes of the Standard Operating Procedure are activated generally by the process or the procedure changes or the adaptations. These changes should be led by the internal site controlling procedure. A part of the activity list of such changes should be to update the coherent standard operating procedure. Standard operating procedure should be in the place for all high-class systems plus the specific operational activities on the side.

The structure of the Procedure System and the sum of all SOPs should be considered carefully. Too many standard operating procedures could lead to a breakdown of the SOP System.

PERSONAL PROTECTIVE EQUIPMENT

Every worker obliged to secure its qualified attendance through the respective training from the point of view of the safety or work attendance. The operative must be properly trained and acquainted with the danger existing on tools and equipment.

- Safety glass must be worn when using the grind stone.
- Always use a safe method to break a hacksaw blade; a small device can be used.
- Avoid wearing loose cloth.
- For female workers tide their hairs.
- Never carry around the knife with blade exposed, it could cause injury may be you and others.

1.2.4 SAFE MATERIAL HANDLING

Organization safety is extremely important both to staffs/ workers and managers and owners. Generally leather product processing is not as dangerous as many other manufacturing plants. Occasionally accidents can happen .It is easier and cheaper to prevent accidents before rather than later. In leather products some of the high inflammable materials are used, such as Rubber Solution, Dendrite, Rubber Sheet, Eva Sheet, Spirit, Synthetic material and others. But It is needed proper storage and maintenance. For Safety precautions we have to keep in our mind such as –

1) ELECTRICITY :
    - Cables used should be good quality and high resistance,
    - Loose connection should always checked,
    - Fuses are too strong to protect current flow.

2) FIRE :

- Handling of inflammable materials such as adhesive, chemicals, spirits, rubber sheet etc are dangerous,
- Due to loose connection can cause an accident,
- Sourcing of metal causes small sparks which can glow for hours before igniting, usually occurs when nobody is around.

3) ELECTRICITY :
   - Cables used should be good quality and high resistance,
   - Loose connection should always checked,
   - Fuses are too strong to protect current flow.

4) OTHERS :
   - Poor knowledge of machines and equipments
   - Poor conditions of tools and equipments,
   - Bad condition of storage can cause of accidents,
   - Poor knowledge of infrastructure planning etc

ERGONOMIC ARRANGEMENT OF WORKPLACES

The word ergonomics is derived from two words: ergo meaning work & Nomo's meaning the law. Ergonomics is the scientific study of the relationship between the man, the machine (with which he works) & the environment (in which he works). Ergonomics is also termed as human engineering & bio-techniques.

The modern approach of ergonomics is "fit man & machine together".

Therefore it is very useful tool to make man & machine compatible for maximum efficiency.

There are main constituent areas of study of ergonomics, which guide us towards best ergonomically practices:-

1) Stand or sit with the work in front of you – avoid twisted postures.

2) Employ smooth, rhythmical movement – avoid sudden changes of direction

3) Keep things on the level to avoid vertical movements

4) Avoid sudden changes of direction

5) Avoid continuous repetition of movement

6) Avoid stretching where possible – keep items used frequently within arm's reach

7) Chairs should provide support for the lower part of the back, and the worker should sit so that his/her back at the lower most curved part, is in contact with this support whether standing or sitting the individual worker should be able to adjust his/her position to enable the requirements.

AWARENESS:

General rules that a hand cutter should be aware on while cutting the leather

1. Closely impact the leather for any defects, these include surface marks, flay cuts, loose offal and mark these areas for ease of identification.
2. Check the flesh side of the skin for warble hole and fly cuts.
3. Check for the correct line of tightness as this will vary slightly from skin to skin.
4. Check the components to be cut make sure that all patterns are there.
5. Ensure that your working bench is clean.
6. From your cutting sheet select the largest size patterns
7. Variations in color
8. Grain matching
9. The cutter must test his leather for stretch, to ensure that the cut parts are correct.
10. After grading and selection the cutter should select for cutting leathers from the horse

11. Ensure that your patterns are smooth and your knife is sharp
12. After cutting the leather must check the quality of his product, and place it on the bench in front of him.

1.2.6 TAKING OF REST BREAKS

1. Rest breaks are important for employees, employers and the self-employed.

One must have energy to perform a job well. This Guide aims to draw the attention of employers and employees to the importance of rest breaks and encourages them to work out through consultation rest break arrangements suitable for the employees as

well as meeting operational needs of the business. Although this Guide does not have a legal binding effect, it recommends that all employers should adopt the best practice of working out, in consultation with their employees, a rest break arrangement for all

workers after a continuous period of work. This Guide reminds employers who have not yet made proper arrangements for rest breaks to do so in consultation with their employees.

2. Working long hours continuously without any break causes fatigue as well as safety and health problems. Fatigue impairs an employee's ability to perform. It also affects one's judgment, productivity, work efficiency and quality. Fatigue may even lead to serious occupational accidents resulting in injury to persons, loss of lives and properties and also affecting the business operation. Occupational accidents would bring about higher insurance premium and increase operating costs, thus undermining the interests of employers, employees, and the self-emplo

3. A short break after a long period of continuous work provides a chance for employees to relax and recuperate. It helps to improve their performance and quality of service, foster better employer employee relationship and motivate employees to give their best performance. Every person shall arrange himself a rest break after a long period of work. Employers should be open-minded and work out, in consultation with their employees, an appropriate rest break arrangement.

4. Employers and employees should cooperate and follow the rest break arrangement they worked out through consultation. Employers should facilitate employees to take their rest breaks, and employees should resume work promptly after a rest break.

5. Self-employed persons may overlook the importance of rest breaks because of heavy workload or due to the desire to earn more. However, a burnt-out and worn-out person would hardly be able to provide quality service, but instead is more prone to accidents. Suitable rest breaks are beneficial to one's business as well as to one's safety and health.

6. For workers who are engaged in hazardous or strenuous work processes, such as work involving exposure to high temperature, steam or vibration, or work expending a lot of energy as in manual handling of heavy objects, frequent rest breaks of shorter duration may be required provided that the safety of the workers and other persons is not affected.

7. Rest breaks are much more important to employees working in hot environment, for example: working close to hot stoves in kitchens of restaurants, canteens or food factories; or close to boilers in dyeing factories. Frequent rest breaks of shorter duration are even more important for these workers.

Hectic life and busy work are common causes of muscle fatigue, resulting in soreness in neck, shoulder, back and limb. Prolonged disregard of these symptoms may result in overuse injuries. Regular exercise can keep you in good shape and improve your productivity.

1.2.7 FOLLOWING MARKED WALKWAYS

This objective is to create a safe, comfortable workplace that will reduce the potential for injury. The results can be loss of productivity and product quality. Safety means not only preventing accidents but also doing something about poor work conditions.

- Employ smooth, rhythmical movement – avoid sudden changes of direction.
- Keep things on the level to avoid vertical movements.
- Position your cutting block at the right height to minimize your back strain and give easy of working. Sometimes it may be necessary to place wooden blocks under the cutting board to raise its height to the correct position.
- Keep your workplace tidy, scrap leather around your feet could cause a bad fall.
- Working areas, Pedestrian walkways clearly marked.
- Are pedestrian walkways kept clear?
- Avoid poor conditions such as – Poor Lighting, Loud Noise.
- Follow up and respect written instructions.

1.2.8 SAFE STORAGE OF EQUIPMENT

This leather goods unit deals with the skills and knowledge required to use hand tools for the manufacturing leather goods. It also applies to the use of hand and power tools in the maintenance. This unit is based and equivalent to the leather goods unit Use hand tools, which has been contextualized to meet the requirements of the leather exports. This article has covered the importance of using hand tools safely and treating them with respect. Always remember, safety is essential to good job performance. Pay attention to what's going on around you, be flexible, and adapt to changing conditions. Think before you react, and keep your head in the game.

Think about tool safety each and every time you begin a job, and you'll perform your job safely and effectively. Those are your hands that are being extended by the knife or the hammer. Treat your tools as carefully as you treat your hands.

HOUSEKEEPING

The importance of good housekeeping at a workplace in the prevention of accidents and injuries is indicated by the large number of times it is referred to, both expressly and implicitly, in the Occupational Health and Safety regulations. Although it is often taken for granted, good housekeeping is a vital element of any safety program.

Workplace housekeeping is traditionally defined as keeping the job site clean and orderly. This involves a wide range of routine activities including:

- maintaining floors and surfaces;

- keeping aisles and exits free of clutter, controlling minor spills and responding to it quickly when occur, properly installing and maintaining equipment and tools, ensuring adequate and safe storage areas; and
- Handling and disposing waste.

The benefits that flow from these activities are great. Slips and trip accidents are reduced because the floors are kept clean, in good condition and free of spills. Fires hazards are reduced because materials are properly stored, combustible materials are not piling up, and sprinkler systems and exits are not blocked. Back injuries are curbed because material handling is minimized, and Workplace Hazardous Materials

Information System compliance is made easier regarding labeling and inventory requirements because of the orderly storage and flow of materials.

To realize these benefits, routine housekeeping activities must be incorporated into the work procedures. This requires management planning - planning of the movement of materials from the point of entry to the point of exist, and planning of the workplace environment to ensure the safe movement of people and materials on a daily basis.

Develop knowledge and understanding;-

- ✓ Where alarms, emergency exits, escape routes, emergency equipment and assembly points are located
- ✓ What the alarm sounds like
- ✓ What hazardous substances are used in the workplace and methods of making safe or reducing their danger in the event of an accident
- ✓ How to handle and store hazardous substances
- ✓ What the most likely accidents and emergencies in the workplace are and how to deal with them
- ✓ Who the nominated first aiders are
- ✓ How to deal with loss of property

Develop skill and techniques on the following issues

- ✓ Identifying the location and type of incident
- ✓ Raising alarms
- ✓ Following emergency procedures
- ✓ Using emergency equipment
- ✓ Recognizing potential hazards and rectifying them where possible
- ✓ Storing materials and equipment
- ✓ Handling waste and debris and moving them to safe locations
- ✓ Identifying malfunctions in machinery and equipment, correcting if possible, and reporting them
- ✓ Noting service malfunctions and chemical leaks

Elements of a Good Housekeeping

The following are the basic elements of a good housekeeping:

Aisles: - Wide enough for traffic movements, marked off by floor lines from work positions and storage areas.

Space: - insuring sufficient room for the individual to work.

Storage: - Adequate and convenient space for materials and tools.

Materials handling: - Layout planned for materials flow, with efficient methods and equipment.

Ventilation: - Good general ventilation plus local exhaust ventilation to remove air contaminants at the source.

Floors and Walls: -of construction and materials that are easy to keep clean and in good repair.

Lighting: -Well-distributed artificial light and effective use of available daylight.

Amenities: - Clean, up-to-date washrooms and lockers for clothing, and clean and inviting lunch room for employees to eat their meals.

Waste Removal: -Adequate facilities to prevent congestion and disorder. Let us look at some of these elements in detail.

Keep Aisles Clear: Aisle space should be reserved for the movement of personnel, products and materials. It should be kept clean and clear and should never be used for "bottleneck" or "overflow'' storage. This also applies to passageways and emergency exits. Blind corners should be eliminated or be adequately protected by warning signs.

Aisle boundary markings should be drawn to show clearly the space which has been reserved for traffic. Markings should be sufficiently wide (say a minimum of 30 mm) and of a color to make them clearly visible. Paint or durable plastic strips can be used.

1.2.10 REPORTING ACCIDENTS AND INCIDENTS

Members often fail to complete Accident Book entries, or report incidents, including near misses, to either their managers or to local union health and safety representatives.

By doing this, they are storing up problems for other workers, making the job of keeping staff safe harder for union reps and managers and may even be breaking the law.

Employers and risk assessments

Employers have a legal duty to safeguard the safety and health at work of all their employees.

Part of this requires them to assess the hazards and risks that their workers are exposed to and to ensure that they have placed adequate precautions in place.

These risk assessments have to be revised at any time when evidence suggests that they are no longer valid.

Reports of incidents, where there was a potential injury, even if no actual or serious injury occurred, could highlight deficiencies in the risk assessments that the employer has to remedy.

Safety representatives

Safety reps do a valuable job in reducing accidents and injuries at work - independent surveys have found that the accident rate in workplaces where there are safety reps who are consulted properly by management can be as much as 50% less than workplaces with no safety reps.

But, to be effective, they need to know what is going on. They have a legal right to inspect the workplace, on a quarterly basis, but they also need to be told when incidents happen.

If members put details into Accident Books, the rep can see what has been going on in the workplace over the preceding three months when they start their inspections.

Legal duty on employees

Under the 1999 Management of Health and Safety at Work Regulations, employees have a legal duty to inform the employer of any work situation that they consider represents a serious and imminent danger to health and safety and, in addition, of any matter which they think represent a shortcoming in the employer's protection arrangements for health and safety.

So, if you know that something is a risk to safety, you must tell your employer (via your line manager) or bring it to the attention of your local PCS safety rep, who can follow the matter up with management.

1.2.11 ENVIRONMENTAL PRACTICES

The workshop environment is preliminary process for production. The work is performed according a system of work process and culture. The staff and employees having a considerable knowledge in leather parts from hides and skins and experience in preparation of work. The tool department where hand tools and equipment is stored should take care of not only use but also for its storage and handling.

The quality of work depends on good work environment and work space. To create a proper preparation for work special attention should be taken —

- Clean your working place,
- Wait for instructors brief,
- Taken over tools, training material, components, product in process,
- Clean and lubricate sewing machine before use if any,
- Work on base the plan or instructors direction
- Keep the time, checking in/ checking out,
- Do not continue on work if any poor quality of component appears/ bad patterns/ machines not tuned or something is damage,

- Observe the rules of safety, tidiness, quality, timing,

- Put everything in order – Working bench, Materials, Machines, Tools etc,
- Record final your Daily Report,
- Store semi- products, components in progress properly,
- Clean and cover the machines,
- Turn-off the electric power of machines, and main switch,

- Turn in tools, unearned material to instructor,
- Separate wastage materials, and clean the workplace for next day.

Self-Check 1	Written Test

Name: _____ Date: _____

Time started: _____ Time finished: _____

Directions: Answer all the questions listed below.

Part A: Fill in the blank space

1. Members often fail to complete ---------- entries, or report incidents, including near misses.(3pts)
2. The _____ environment is preliminary process for production.

Part B: True or False: (5 * 1 = 5)

1. Workstation should have proper walking space with reference to the seating tools to be used.
2. Turn-on the electric power of machines, and main switch always.
3. Design of product is haphazard drawn in pencil using templates.
4. Well-distributed artificial light and effective use of available daylight.
5. Proportion, scale and stylization relevant to fashion illustration are selected.

You can ask you teacher to correct your work.

PART- C (4 * 1 = 4)

1. Write to ensure the safe movement of people and materials on a daily basis (5 points)

2. Employers have a ---------- to safeguard the ---------- and ---------- at work of all their employees. (Fill in the gap)

A. health
B. equipment
C. legal duty
D. safety

3. Write the following are the basic elements of a good housekeeping. (5 Points)

4. Prepare workstation for Basic Sketches set up --- (5 Points)

Note: **Satisfactory rating = 15 points and above Unsatisfactory rating = below 15 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Part A: Fill in the blank space

1. _____
2. _____

Part B: True or False

1. _____
2. _____
3. _____
4. _____
5. _____

PART- C (4 * 1 = 4)

1. _____
2. _____
3. _____
4. _____
5. _____