

BASIC TEXTILE OPERATION

NTQF Level -I

Learning Guide -12

Unit of Competence: Work in the Textile Industry

Module Title: Working in the Textile Industry

LG Code: IND BTO1 M03 LO3-LG-12

TTLM Code: IND BTO1 TTLM 0919v1

**LO 3: Identify Production Processes
and Supply Chains**



Instruction Sheet	Learning Guide # 12
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This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Identifying workplace materials
- Identifying workplace production processes
- Identifying workplace products supply chains

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:

- Identify work place materials
- Identify workplace production process
- Identify workplace supply chains



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 teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-checks” in each information sheets.
5. Ask from your teacher the key answers or you can request your teacher to correct your work after you finished answering self-checks.
6. If you earned a satisfactory evaluation proceed to “Operation sheets and LAP Tests if any”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity.
7. After you accomplish Operation sheets and LAP Tests, ensure you have a formative assessment and get a satisfactory result;
8. Then proceed to the next information sheet



Information Sheet-1

Identifying workplace materials

The textile industry uses many raw materials, or substances that have not yet been turned into textile threads. Raw material is a unique substance in any production oriented textile industry. It plays a vital role in continuous production and for high quality fabric. Textile raw materials are selected as per the manufacturing policy of the company i.e. whether a composite mill or only a spinning, weaving or dyeing /finishing.

3.1. Types of textile raw material

- Fiber
- yarn
- Fabric
- Dye stuff
- Chemical and auxiliaries

3.1.1. Fiber

Nature presents a large variety of fibers. Beside this it is possible today to produce a number of different kinds of manmade fibers but only a relatively small amount of this is actually used in textile industry.



Jute fiber

Fiber is a matter which includes flexibility, fineness and a high ratio of length to thickness. It is necessary at least length to diameter ratio is 1000 to consider a fiber.

Some additional characteristics are the required for textile fibers, such as stability at high temperature, a certain minimum strength & extensibility.



Name and Source of fiber

- Cotton
- Silk
- Jute
- Wool
- Polyester
- Nylon
- Spandex
- Flax
- Acrylic
- Aramid
- Polyethylene
- Polypropylene etc.

3.1.2. Yarn

In textile sector, yarn is a long continuous length of twisted fibers. Yarn is suitable for using in the production of textiles, knitting, weaving, rope making, crocheting and weaving etc. There are two sets of yarn (such as warp yarn and weft yarn) used in woven fabric manufacturing technology and one set of yarn is used knit fabric manufacturing technology.

3.1.3. Fabric

Fabric is a planar textile structure produced by interlacing yarns, fibers, or filaments. It may be woven, knitted and nonwoven.

Name and Source:

- 100 % Cotton fabric
- CVC fabric
- PC fabric
- 2*2 Lycra rib fabric
- Lycra single jersey fabric
- Viscose Lycra
- Double Lacoste
- Plain Interlock
- 100% Polyester fabric
- Grey mélange etc.

3.1.4. Dyes

A dye is a colored substance that has an affinity to the substrate to which it is being applied. The dye is generally applied in an aqueous solution, and requires a mordant to improve the fastness of the dye on the fiber. The following dyes are used:

- Reactive dye
- Disperse dye
- Acid dye
- Basic dye
- Direct dye
- Sulfur dye
- Azoic dye
- Vat dye

3.1.5. Chemical and Auxiliaries:

Dyeing auxiliaries mean a chemical or formulated chemical product which enables a processing operation in preparation, dyeing, printing or finishing to be carried out more effectively, or which is essential if a given effect is to be obtained.

- Sequestering agent.
- Lubricants / Anti crease
- Pretreatment Chemicals
- Levelling and Dispersing Agent.



- Sequestering, Dispersing and Levelling Agent for Reactive dyeing.
- Antifoam.
- PH Control and buffer system.
- De-sizing Agent
- Yarn Lubricant
- Mercerizing agent
- Dye fixing agent
- Optical Brightener.
- Soaping Agent / Washing off Agent.

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

1. Write raw material for spinning?(**2marks**)
2. List five name and source of finer?(**2.5 marks**)
3. List materials which are used in dyeing?(**4marks**)



Note: Satisfactory rating - 4 points

Unsatisfactory - below 4 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Short Answer Questions

1. _____

2. _____

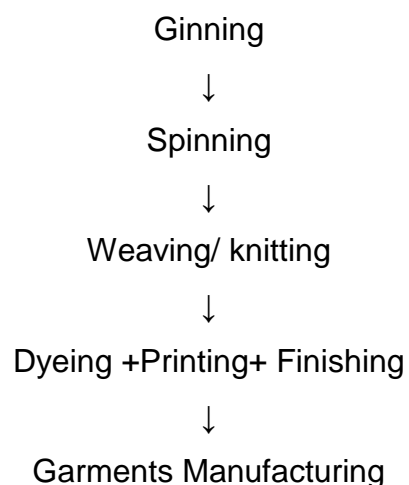
3. _____



Pic: 2.1. Textile manufacturing process

Clothing is the basic human need. For hiding shame and also protecting from the inclemency of weather clothing is essential for human being. Clothing is the final product of textile manufacturing. Textile manufacturing or production is a very complex process. The range of textile manufacturing is so long. It starts from fiber to finished products. Flow chart of textile manufacturing is given below:

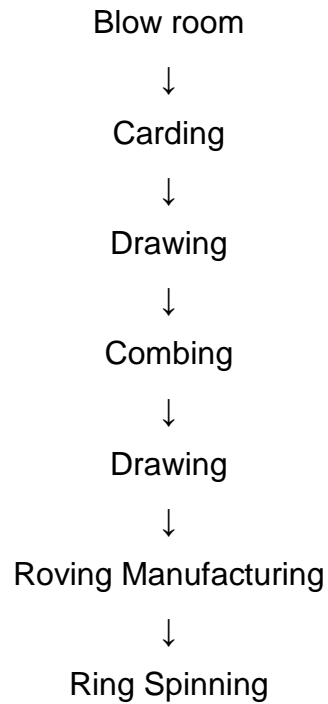
2.1. Process Flow Chart of Textile Manufacturing



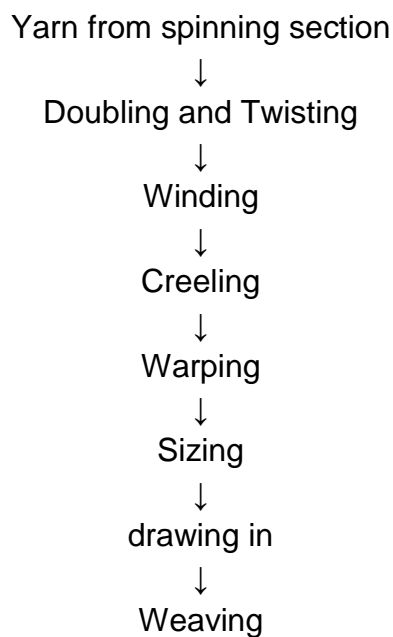


This is the basic and primary flowchart of textile manufacturing. In this article I will give flow chart of all branches of textile engineering like as spinning, weaving, dyeing, printing, finishing and garment manufacturing.

2.1.1. Flow Chart of Spinning

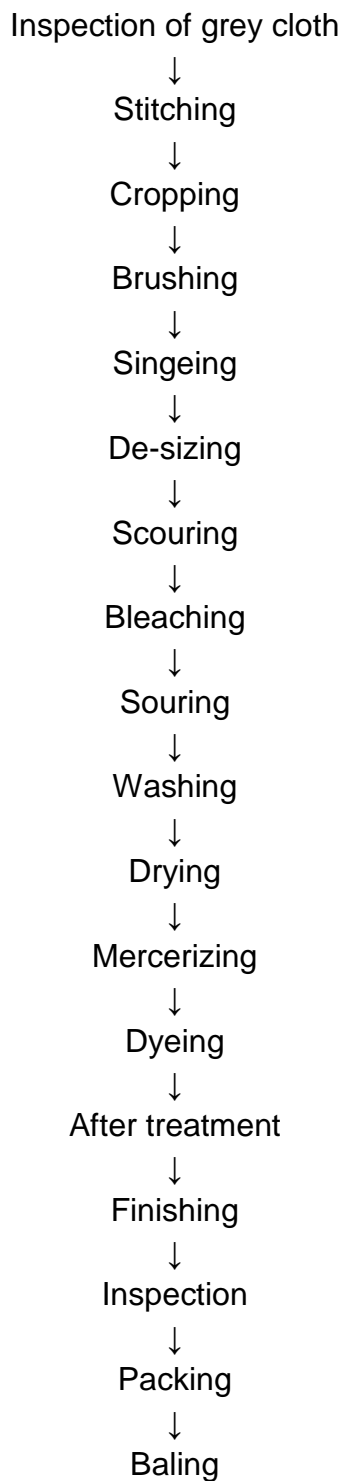


2.1.2. Flow Chart of Weaving



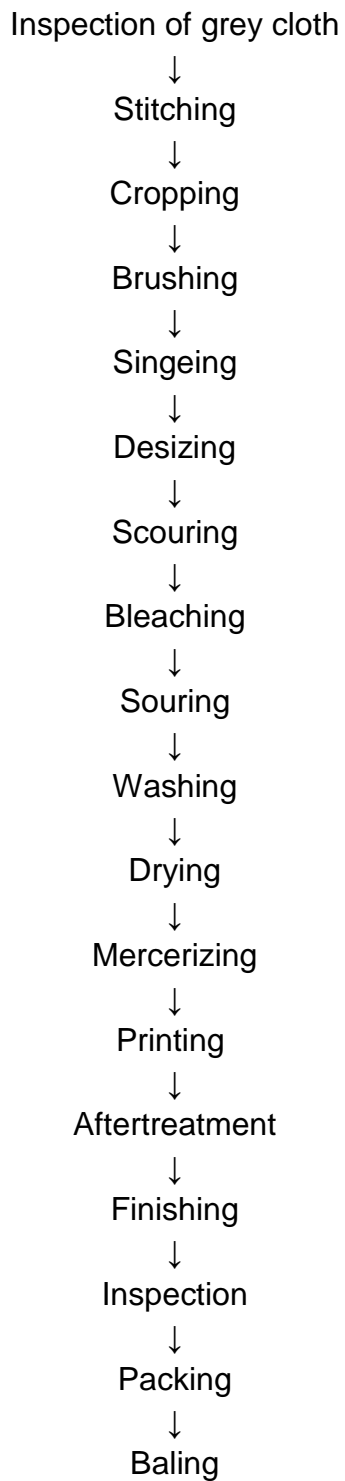


2.1.3. Flow Chart of Dyeing



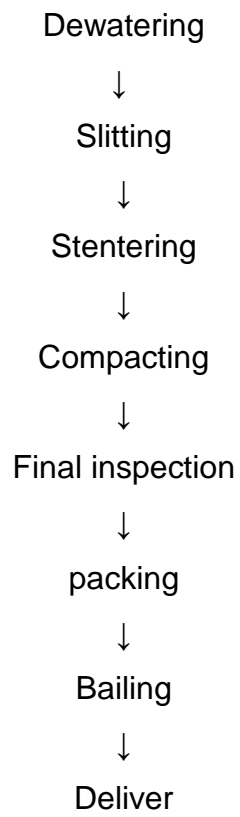


2.1.4. Flow Chart of Printing



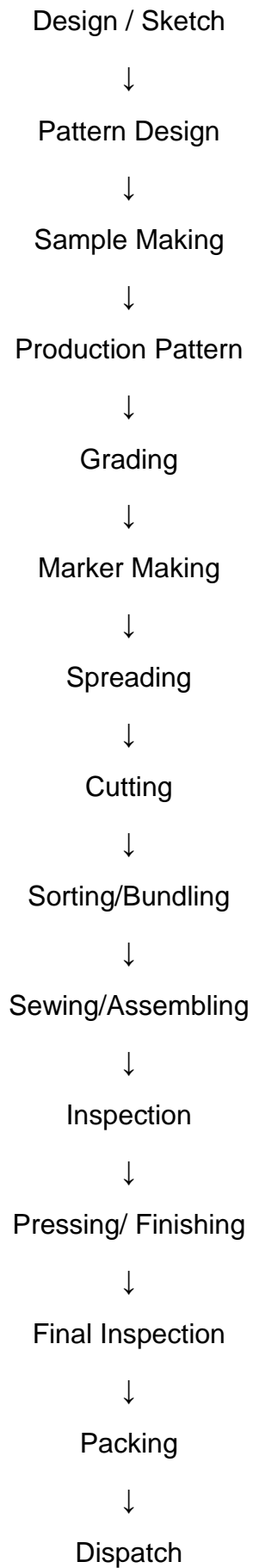


2.1.5. Flow Chart of Textile Finishing





2.1.6. Flow Chart of Garment Manufacturing





Self-Check -2	Written Test
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Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write the process flow of textile manufacturing(**5marks**)
2. Write the Flow Chart of Textile Finishing(**3 marks**)



Note: Satisfactory rating - 5 points

Unsatisfactory - below 5 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Short Answer Questions

1.

2.



Information Sheet-3

Identifying workplace products supply chains

Fiber
↓
Yarn
↓
Fabric
↓
Color
↓
Garment

- 3.1. Spinning department : yarn
- 3.2. Fabric manufacturing department: fabric
- 3.3. Wet processing department : treatment/ color/ finishing
- 3.4. Garment manufacturing department: garment



Self-Check -3

Written Test

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

1. Write the textile product supply chain? **(5marks)**



Note: Satisfactory rating - 5 points

Unsatisfactory - below 5 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Short Answer Questions

1. _____



List of Reference Materials

1- BOOKS

2- WEB ADDRESSES (PUTTING LINKS)