# HOME ECONOMICS ALPHA TERM JS 3

**WEEK 1**

INTRODUCTION TO TEXTILES STUDY

*What is the study of textiles?*

The study of textiles involves an understanding of the origin of fibres to the ways of constructing fibres into fabrics, properties of the fabrics, ways of caring for the fabrics and the uses of the fabrics.

REASONS FOR THE STUDY OF TEXTILES

*The study of textiles will help you in the following ways:*

* Identifying different types of fabrics and their characteristics or properties.
* Selecting or choosing the suitable fabric for a given purpose.
* Taking proper care of the fabric
* Handling the fabric correctly
* Making you a wise consumer
* You can develop interest in clothing and textiles careers.
* Using fabrics intelligently

GENERAL USES OF TEXTILES

*Textiles are used for:*

* Construction of personal and family clothes e.g dresses, underwear
* Construction of household linen, such as bed sheets, curtains, towels
* Keeping the body warm or cool e.g sweaters and cotton wears
* Protecting the body from rain or wind e.g rain coats
* Beautifying or adorning the body

Covering our nakedness (modesty)

**BASIC TEXTILE TERMS**

* **Fibre** is a hair-like basic unit of raw material used in the making of yarns and fabrics e.g. cotton, linen, silk, wool, nylon fibres.
* **Yarn** is a thread made by twisting or spinning fibres.
* **Fabric** is cloth constructed with yarn or directly from fibres by weaving, knitting, crocheting, felting, etc. A woven fabric is made up of two set of yarn or thread-the warp and the weft.
* **The warp** is the yarn or thread which runs length-wise in a woven fabric. It is parallel to the selvedge.
* **The weft** is the yarn that runs across-wise in a fabric. It runs at right angles across the selvedge grain.
* **The selvedge** is the edge of the fabric made by the weft thread or yarn by turning over the warp thread. It is the mill-finish edge of a fabric which runs in a length-wise direction.
* **Bias** is the diagonal direction across the two grain lines, wrap and weft.
* **True Bias** makes an angle of 450 across the length-wise and crosswise grains. It has the greatest stretch
* **Grain** of the fabric refers to the direction of yarns or threads in a fabric
* **The right side** (RS) of the fabric is the side worn out it has better finish and more distinct print than the other side
* **The wrong side** (WS) of the fabric is the side to be worn inside.

**WEEK 2**

CLASSES AND PROPERTIES OF FIBRES

Fibres are classified into two main classes. Namely;

1. *The natural fibres*; which are gotten from either plant e.g cotton and linen; or from animals e.g wool and silk.
2. *The man-made fibres*; which are gotten from cellulose based fibres e.g viscose rayon and acetate or from non-cellulose based e.g nylon, polyester and acrylics.

PROPERTIES OF FIBRES

A. COTTON: Cotton is a vegetable fibre. It is made from cotton balls of the cotton plant. The cotton fibres surround the seeds of the cotton plant.

PROPERTIES OF COTTON

1. It absorbs moisture quickly
2. It is reasonably strong and durable
3. It washes well
4. It can be dyed easily
5. It is cool and comfortable to wear.

B. LINEN: Is a vegetable fibre. It is gotten from the stem of flax plant. The flax plant grows in countries such as France, Russia, it is not produced in Nigeria.

PROPERTIES

1. It is stronger than cotton
2. It is absorbent and cool to wear
3. It dries slowly
4. It washes well
5. It is a good conductor of heat.

**C. WOOL;** is an animal fibre. It is gotten from the hair of fleece f sheep. The hair of camel, Angora, rabbit or angora goat can also be used. It is commonly produced in Britain, Australia e.t.c.

**PROPERTIES**

1. A wool fibre has a scaly appearance
2. It is stronger when dry than when wet.
3. It gives the smell of burning feather when burnt.
4. It makes a very absorbent fabrics
5. It is readily affected by bleach

**D. SILK;** is an animal fibre. It is produced by silk worm. Silk is produced chiefly in France, Italy, China and Japan.

**PROPERTIES**

1. It is a very strong fibre
2. It is smooth and fine
3. It is warm to touch
4. It absorbs moisture easily
5. It is an expensive fibre

**E. VISCOSE RAYON;** is made by treating wood pulp or cotton linters with certain chemicals

**PROPERTIES**

1. It is not very strong especially when wet
2. 2. it has smooth surface
3. 3. resemble sink in appearance only

**F. ACETATE**; it is made from wood pulp or cotton linters treated with acetic and acid acetic anhydride

**PROPERTIES**

1. it dries quickly
2. it looses strength when wet

**G.** NYLON; is the family name for all synthetic polyamides

PROPERTIES

1.It is very strong

2. It is light in weight

3. It requires no ironing

4. It is durable.

MANUFACTURING PROCESS OF FIBRES

A COTTON; are processed from bolls by the following steps;

1. Ginning
2. Baling
3. Clearing
4. Carding
5. Combing
6. Drawing
7. Spinning
8. Dyeing
9. Weaving

B. LINEN; Is produced from the stem of flax plant by the following steps

1. Retting
2. Breaking and scotching
3. Combing
4. Spinning

**C. WOOL;** wool fibres are produced into two forms

1. ***Worsted yarn; this is made from long fibres***
2. ***Woollen yarn; this is made from short fibres***

The major steps for the manufacturing of both forms are;

1. Clipping
2. Sorting
3. Scouring
4. Carbonizing
5. Carding
6. Spinning
7. Weaving

**D. RAYON**

1. The cellulose (wood pulp or cotton linters) is first purified
2. The cellulose is then treated with the right chemicals. It is then changed into a thin liquid.
3. The liquid is then forced through a nozzle containing many fine holes called a spinneret. The rayon filaments or fibres are produced
4. The filaments are spun into yarns. The yarns are woven into fabric

***Assignment***

***Outline the manufacturing process of the following***

1. ***Silk***
2. ***Nylon***
3. ***Acetate.***

**EXPERIMENT AND TEST ON DIFFERENT FIBRES**

|  |  |  |  |
| --- | --- | --- | --- |
| **FIBRES** | **APPEARANCE TEST** | **MICROSCOPIC TEST** | **BURNING TEST** |
| **COTTON** | It is cool to feel and fairly firm  It has a dull appearance | Fibre is flat  Has a twist characteristics  Resembles a twisted ribbon | Burns in and out of flame  Smells like burning paper  Leaves very little grey or white powdery ash |
| **LINEN** | It has a cool crisp handle  Dull appearance | fibre is round and smooth with swellings or nodes at interval | Similar to cotton |
| **WOOL** | Has a projecting fibre  Rough and dull appearance  Warm to handle | Wool fibre is covered with scales that overlap and point towards the top of the fibre | Does not burn but smoulders(i.e it burns slowly  producing smoke but not flames  Gives smell of burning hair or feathers |
| **SILK** | Has a smooth and rich lustrous appearance  Soft, smooth and resilient to harm | De-gummed fibre is very fine and has a smooth surface  Raw silk fibres are seen as double filamentss | Similar to wool |
| **VISCOSE RAYON** | has a smooth fairly soft handle  A smooth lustrous appearance  It may resemble silk | Fibre is rounded with groves running length-wise  It looks like transparent rods streaked with wavy line | Similar to cotton |
| **ACETATE** | Is silk-like and it drapes well  Has smooth and soft handle  Maybe dull or lustrous | Fibre is rounded with one or more surface ridges which look like thickened lines | Burns like cotton and gives a smell of  acetic acid or vinegar  Smell like boiling celery |
| **NYLON** | Fabric is very smooth and slippery | Filament looks like a smooth glass rod | Shrinks like flame and melts into hard white or  grey or bead. |

**WEEK 4**

CARE AND HANDLING OF DIFFERENT FABRICS

*Reasons for care of clothing*

1. To make the clothing last longer. Dirt can damage fabrics
2. To kill any disease-carrying germs and pests in the fabrics
3. To keep the clothes looking clean or better, dirty clothes are unpleasant to look at
4. To save money since clean clothes last longer
5. To ensure that whatever clothes you have will be available for wearing anytime.

LAUNDRY AGENTS AND EQUIPMENT

1. *Water;* used for soaking, washing and rinsing clothes.
2. *Soaps and detergents*; to lower the surface tension of water, remove certain stains, kill carrying germs in fabrics.
3. *Bleaches;* make white cotton and linen fabrics whiter, remove certain stains, kill disease carrying germs in fabric.
4. *Stiffening agents;* to stiffen cotton and linen fabrics, to give the fabrics a smooth surface and fresh look
5. *Stain removers;* to remove stains from fabrics.

**LAUNDRY EQUIPMENT AND TOOLS**

1. ***Equipment and tools for collecting dirty clothes***; these include linen baskets or bins, laundry bags
2. ***Equipment and tools for washing;*** these include basins, buckets and laundry tubs or trays, they can be made of plastics, stainless steel or porcelain. We also have washing machine.
3. ***Equipment and tools for drying;*** clothes lines, movable clothes, horses or hangers, pegs e.t.c.
4. ***Ironing or pressing equipment;*** These include the iron, ironing board, ironing pads e.t.c.

**GENERAL GUIDELINES AND STEPS IN LAUNDERING FABRICS**

1. Sorting
2. Mending
3. Stain removal
4. Soaking and steeping
5. Washing
6. Rinsing
7. Boiling
8. Bluing and stiffening
9. Drying
10. Finishing or ironing
11. Airing
12. Folding and storage.

***Assignment***

***Explain the steps in laundry process***

**THE BASIC ELEMENTS OF DESIGN**

***The basic elements of designs are***

1. **LINE**: This refers to the outline of an object or to the obvious lines within it.
2. **SHAPE**: This refers to the form of a solid object, which is created when lines are combined. The outline of a garment is its shape.
3. **SPACE:** This refers to the three dimensional area that is to be designed. It is the entire area within a garment.
4. **TEXTURE**: This is the way the surface of a fabric looks and feels.
5. **COLOUR:** This is one of the most important elements. It has many visual effects and its own language.

**COLOUR WHEEL**

This is an arrangement of colours in a circle to show how they are related.

1. **The primary colours:** They are red, yellow and blue.
2. **The secondary colours:** They are orange, green and purple/ violet.
3. **Tertiary colours:** These are six, and each is a blend of primary and secondary colours. They include red- violet, blue- violet, blue- green, yellow- green, yellow- orange and red- orange.
4. **Warm colours:** These are red, yellow, orange, yellow- orange etc.
5. **Cool colours:** These are blue, green, purple, blue- purple etc.

**POINTS TO REMEMBER WHEN CHOOSING COLOURS**

1. Cool and dark colours make one look smaller than normal.
2. Warm and light or bright colours make one look larger than normal.
3. Bright contrasting colours draw attention to the figure, they therefore make one look larger than normal.
4. Black can be used with all colour except very dark brown because there will be no contrast.
5. White goes with every colour provided it is used sparingly.
6. Brown goes well with yellow, green, light blue, orange etc.
7. Grey as neutral colour, it harmonizes with red, yellow, blue, green, orange and purple.

**WEEK 7**

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| --- | --- | --- | --- |
| 1 | Tall and slender | (i) large flowery designs (ii) warm colours (iii) horizontal stripes (iv) full sleeves and collars (v) gathered or pleated skirts | (i) vertical shapes (ii) tight dresses (iii) v- shaped or low narrow neck lines (iv) collarless dresses (v) sleeveless garments (vi) tiny designs |
| 2 | Short and plump/ stout | (i) vertical stripes (ii) cool colours (iii) fitted sleeves (iv) v- shaped, u- shaped or rectangular neckline | (i) fabrics with large elaborate prints (ii) large sleeves (iii) tight fitting dresses with high collar (iv) wide belts. |
| 3 | Flat chest | (i) Gathered and draped styles (ii) bodice should have added fullness (iii) bows, drapes | (i) fitted bodices (ii) too wide a neckline |
| 4 | Large bust | (i) v- shaped neckline (ii) fitted sleeves (iii) vertical lines | (i) very high neckline (ii) full sleeves (iii) breast pockets (iv) draped and gathered bodices |
| 5 | Short neck | (i) open neckline (ii) v- shaped neckline (iii) u- shaped neckline (iv) open collars | (i) tie neck bands (ii) high polo- necks (iii) mandarin neckline |
| 6 | Long neck | (i) high neckline (ii) turtle neck and high collars (iii) huge jewellery (iv) use of scarves | Wide or boat-shaped necklines |
| 7 | Large hips | (i) shape skirt from waist (ii) straight dresses with no belt (iii) gored skirts (iv) gathers can be used if the waist is small (v) stitched down pleats | (i) too narrow bodice (ii) fitted skirts (iii) pockets at hips |
|  |  |  |  |

**WEEK 8**

DRESSES FOR DIFFERENT OCCASIONS

1. School clothes

2. Clothes for office work

3. Clothes for household work or activities

4. Clothes for sleeping

5. Clothes for sports, picnics and relaxation

6. Clothes for religious worship

7. Clothes for travelling (journey / trips).

1. SCHOOL CLOTHES:

i. Fabric for school clothes should be dirable, washable colourful and comfortable.

ii. He style should be loose enough to allow for school activities and it should be simple.

iii. Shoes should be dirable, comfort and easy to clean.

2. CLOTHES FOR OFFICE WORK:

i. The cloth should be comfortable, smart and simple.

ii. Fabrics should be easy to clean / washable.

iii. Over dressing should be avoided.

iv. Only simple accessories are needed.

v. Clothed should not be too tight or revealing.

vi. Clothes should be discreet.

vii. Make – ups should be applied lightly.

viii. Dress and shoes should be avoided.

3. CLOTHES FOR HOUSEHOLD WORK OR ACTIVITIES: It is very important to dress neatly even when working at home. Clothing for household activities should be comfortable, suitable and washable of simple style and durable fabric. An apron or overall can be worn over the dress to protect it.

4. CLOTHES FOR SLEEPING (Night goons or pyjamas)

i. Fabrics should be soft – textured and flame resistant.

ii. Clothes should be comfortable and loose. Tight Clothes can restrict movement or flow of blood.

iii. A house coat can be worn over the night goon outside the bedroom.

5. CLOTHES FOR SPORTS, PICNICS AND RELAXATIONS.

i. Clothes for active sports should provide for freedom of movement and at the same time cover the body decently.

ii. Fabrics for such, clothes should be durable and easy to care for.

iii. Shoe should be comfortable for easy movement.

iv. Fabrics should be washable.

6. CLOTHES FOR RELIGIOUS WORSHIP.

i. The clothes should be comfortable and not tight.

ii. Fabric should not crease (wrinkle) easily.

iii. They should be washable.

CLOTHING ACCESSORIES

These are the additional items we wear in order to supplement our clothes e.g. shoes, hats, jewellery, and ties, handkerchief, scarves, and handbags e.t.c.

**WEEK 9**

THE SEWING MACHINE / TYPES

The sewing machine is major sewing equipment. It is very important in successful sewing. There are different types and makes of sewing machines. The following are common types of sewing machines.

1. HAND SEWING MACHINE: This is a simply, it is operated just with hand. It requires to be placed on a table.

2. TREADLE SEWNG MACHINE: This is operated with the feet. The worker has both hands free for guiding the work. It normally has a special stand.

3. ELECTRIC SEWING MACHINE: This is operated with to aid of an electric motor.

PARTS OF A SEWING MACHINE

|  |  |  |
| --- | --- | --- |
|  | PART | FUCTIONS |
| 1. | Balance wheel | i) It is turned either forward or backward to machine sew.  ii) It rises and loners the needle. |
| 2. | Foot presser | It holds the fabrics firmly in place for stitching |
| 3. | Presser foot lifter | It is uses to raise and loner the presser foot, it is at the back of the machine |
| 4. | Feed – dog | i) It holds the fabric tight against the presser foot  ii) It pills the fabric along for stitching as it moves up and down. It is a tooth like piece of metal under the pressure foot. |
| 5. | Throat plate | Provides slots or opening through which the needle projects down – ward and the feed – dog upward. |
| 6. | Spool pin | This holds the spool of the thread. |
| 7. | Thread guide | i. These support the thread from one part of the machine to another.  ii. They prevent the thread from twisting. |
| 8. | Needle clamp | It is an attachment for needle. |
| 9. | Stitch regulator | It is used to shorten or lengthen the stitches of the machine |
| 10. | Bobbin | It is used for winding the thread which goes in the lower part of the machine |
| 11. | Bobbin case | It is the case that holds the bobbin. |
| 12. | Stop matron screw | This is loosened to disconnect the needle and stop from moving when the machine is operated. It is the balance wheel. |
| 13. | Tension discs | This regulates the tightness of the thread as it forms the stitches. |

GUIDELINES FOR CHOOSING SEWING MACHINES

1. Compare similar types of sewing machines by different manufacturers.

2. Compare their servicing arrangements, parts, prices and any other necessary information.

3. Consider the weight of the machine is very heavy may be too different to carry about.

4. Consider the money available. Buy the best your money can afford.

5. Before paying for the machine, check to ensure that you have the instruction manual or handbook all the accessories and spare parts that accompany the in chive.

6. Before carrying away the machine. It is necessary to have the dealer demonstrate to you how is should be operated. Then try it out yourself.

CARE AND MAINTENANCE OF SEWING MACHINES

1. Study the machine handbook (manual) carefully.

2. Clean the machine often by dusting to remove, dirt and dust.

3. Oil the necessary point according to the hard book.

4. Cover the machine when not in use.

5. Do not scratch the plain work of machine by using sharp object like scissors on it.

6. Disconnect the belt of a treadle machines to enable the encasement of the machine in its box.

**WEEK 10**

SEWING MACHINE FAULTS, CAUSES AND REMEDIES

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| --- | --- | --- | --- |
|  | FAULTS | CAUSES | REMEDIES |
| 1. | Upper thread breaking | Machine not properly threaded, needle bent or blunt | Thread machine properly check the machine needle and change it if bent or blunt. |
| 2. | Lower thread breaking | i)Tension too tight  ii) Improper threading of button case of shuttle. | Check / regulate the tension, thread the bobbin case properly. |
| 3. | Breaking needle | Using the needle on heavy | Use appropriate / correct size of needle, check bent / blunt needle. |
| 4. | Skipping Stitches | Needle too small for the thread, needle not accurately set into the needle jar, needle bent or blunt. | Use accurate or correct size of needle, set the needle properly unto the needle bar. |
| 5. | Noisy Treadle | If the treadle is noisy, the crew on which it is piloted is loose. | Tighten the crew |
| 6. | Machine work heavily | The machine belt maybe too tight, the machine is gummed and needs general cleaning the belt may also be too loose and slip on the balance wheel causing the operator to treadle more than necessary, | Loosen machine belt give the machine a thorough cleaning; check to see if the belt needs tightening. |

What is fullness?

Fullness in clothing construction means the provision of extra allowance in the garment. This fullness can be created on controlled using darts, tucks, gutter and pleats.

TYPES OF FULLINESS

1. Darts: They are tapered folds of fabric and they are stitches on the wrong side of a good.

USES

i. They control fullness.

ii. They turn fabric into shapes to fit to human figure.

iii. They help to give a good fitting and shape to the finished garment.

1. Tucks: They are special stitched folds made in garments. The fold is formed on the right side of the garment.

USES OF TUCKS

i. To provide extra width

ii. To decorate a garment s a style feature.

iii. They can be used to hide a join in the fabric.

1. Gathers: They are small, soft folds made is garment they are commonly used in children’s clothes, making light weight skirts.
2. Pleats: is a fold of material designed to give extra width in garments. Pleats are used mainly on tailored skirts, dress skirts and shirts giving fullness in wear.

OPENINGS

Openings are features in garments. They help us to put on and take off our clothes. There are different kinds of openings. They can also be used to decorate the garment.

TYPES OF OPENINGS

i. Continuous wrap opening: This is a short opening; it can be fastened with hook and eye, buttons and button holes and press studs.

ii. Faced slit opening: It can be used for front or back neck openings, wrist cuff openings on long sleeves sit into a band.

FASTENINGS

Fastenings are devices on things attached to the openings.

TYPES

i. Zips

ii. Press studs

iii. Hooks and eye / bars

iv. Buttons and loops

v. Buttons and button hole

vi. Eyelets and cards.