

FIBRE TO FABRIC

L.No	Title of Lesson	SKILLS	Activity
10	Fibre to Fabric	Critical Thinking and Creative Thinking Problem Solving and Decision Making	Importance and types of fibre and fabric

Summary

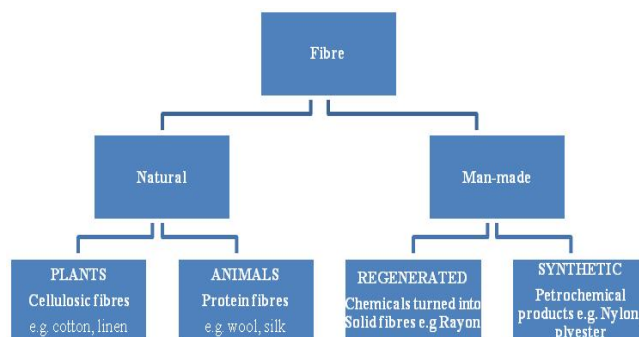
Fibre is the basic unit of fabric. Fibre may be long or short strands with a smooth structure. A **fibre** is a fine hair-like strand and is the basic unit of textiles from which yarns are made. From these yarns fabric is constructed.

Clothes are made out of fabrics. They cover the body, protect from adverse climates, enhance the personality and is an indication of the status of a person. Certain fabrics define religion and occupation e.g. a military uniform indicates that the person is a defence personnel. Fabric can be used to make upholstery, curtains etc. Fibre has to undergo various processes to become a yarn

such as **cleaning**—to remove the unwanted material; **carding**—to arrange fibres in a parallel manner; **combing**—to separate short and long fibres; **spinning** and **winding**.

Weaving is interlacing of two sets of yarns—warp and weft, at 90° angles to each other. Straight yarns in a fabric are known as **warp yarns** and horizontal yarns are known as **weft yarns**. Along the length of the woven fabric, on both sides, end yarns are woven very densely and the portion is named **selvedge**.

Knitting is the process of formation of loops of yarns and drawing of new loops through those formed previously (interlooping).



Principal Points

- Short length fibres are called **staple fibres**. They are measured in inches and centimetres e.g. cotton, wool and linen
- The long fibres are known as **filaments** and are measured in yards or meters e.g. silk and all man-made fibres
- Rayon is also called 'artificial silk'. These fibres are **thermoplastic** in nature (heat sensitive)

Build Your Understanding

Silk is a natural, protein filament produced by silk worm. Silk is soft, fine, smooth, lustrous, warm and stronger than wool. Silk is known as the 'Queen of fibres'.

You have received a silk outfit. How will you determine whether the silk fabric is pure or artificial.

Did You Know?

The behaviour of the fibres on approaching the flame, in the flame, on burning by the flame and the residue left after burning can help to identify if the fibre is natural or man-made.

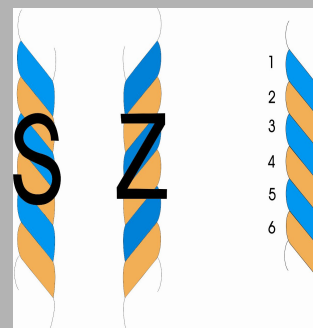
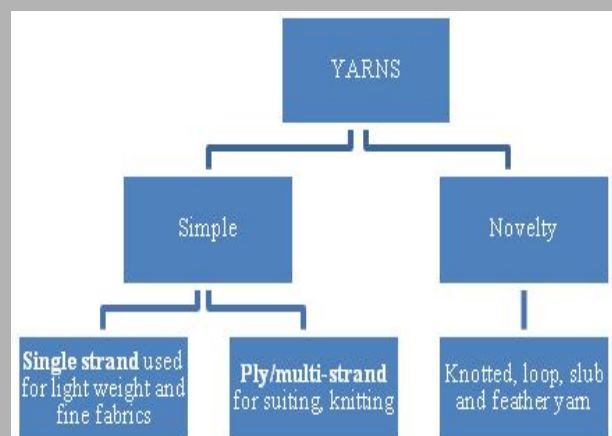
Burning test for identification of fibres

Fibre	Near flame	Type of burning	Odour of burning	Residue
Cellulosic Fibres	Catches fire easily	Continues to burn, bright flame, afterglow	Burning paper	Light, feathery, greyish-black smooth ash
Protein Fibres	Smoulder and burn	Slow flickering flame, sizzles and curl	Burning hair, feather	Silk: crisp dark ash Wool: dark irregular crushable ash

Extend Your Horizon

Twists given to fibre strands for formation of a yarn can be either 'S-twist' (clockwise) or 'Z-twist' (anticlockwise). The quality and strength of yarn is affected by the number of twists per inch. Lesser the number of twists per inch, bulkier and less strong is the yarn. If there are more number of twists the yarn is finer and stronger.

Take a strand of the cloth you are wearing and untwist it to see if it is S-twist or Z-twist.

**What's Important to Know?****CLASSIFICATION OF YARNS****Evaluate Yourself**

1. Your friend feels very hot in summers. He wants to know what fabrics would suit him in summers. Suggest two fibres and fabrics suitable for summers.
2. What kind of fibre and fabric will you select for your undergarments and why?
3. Your mother wants to buy new eco-friendly clothes. Suggest some fabrics that she can buy.

Maximize your marks

- Learn definitions
- Diagrams can help in understanding and memorising various techniques
- Learn the tables given in the chapter