



FASHION DESIGN: STRAND 3

Textiles in Fashion

Standards:

- Students will examine the use of textiles in fashion.
 - Standard 1: Identify basic fibers, the characteristics, use and care of the following textiles.
 - Standard 2: Recognize various types of fabric construction.
 - Standard 3: Identify textile related careers.

Textile Fibers

- Fibers are the basic units of all textiles.
- Textiles are a form of cloth or fabric from which clothing and other items are made.

There are two main groups of fibers:

- Natural fibers
- Manufactured fibers



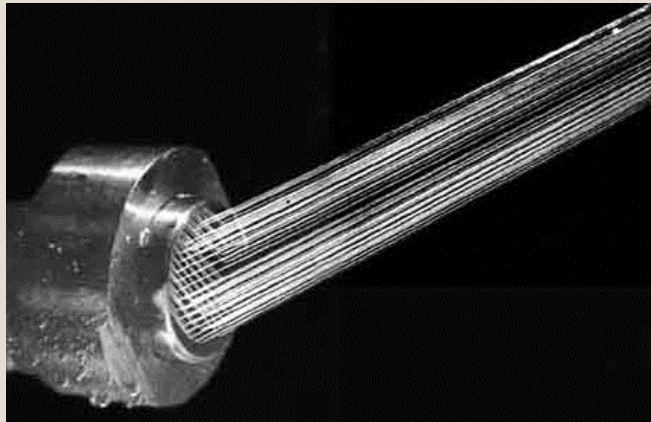
Natural Fibers

- Come from plants (cellulosic) and animals (protein)
- General characteristics:
 - Hydrophilic (absorbs water)
 - Most wrinkle easily
- Types:
 - Cotton
 - Wool
 - Linen
 - Silk



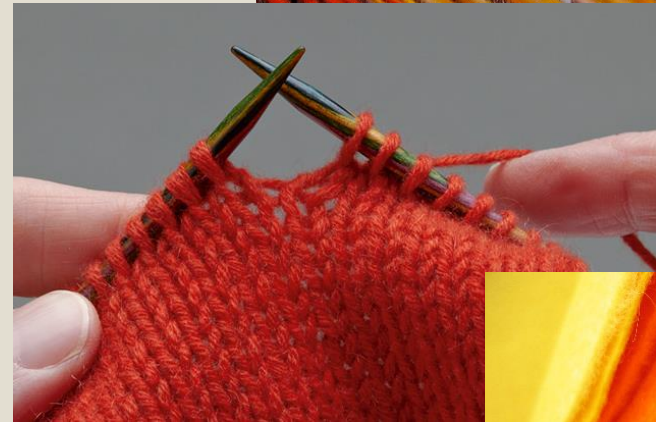
Manufactured Fibers

- The raw materials and chemicals used to make manufactured fibers can vary (nitrogen, oxygen, hydrogen, and carbon).
- They all go through the same basic steps before they become fibers:
 1. The raw material is changed to a liquid.
 2. The liquid is extruded (forced or pushed) throughout a spinneret—a small nozzle with many tiny holes, similar to a bathroom showerhead.
 3. The liquid hardens in the form of a fiber often called a filament. A filament is a continuous strand of fiber.
- Types:
 - Nylon
 - Polyester
 - Acrylic
 - Rayon
 - Spandex
 - Acetate



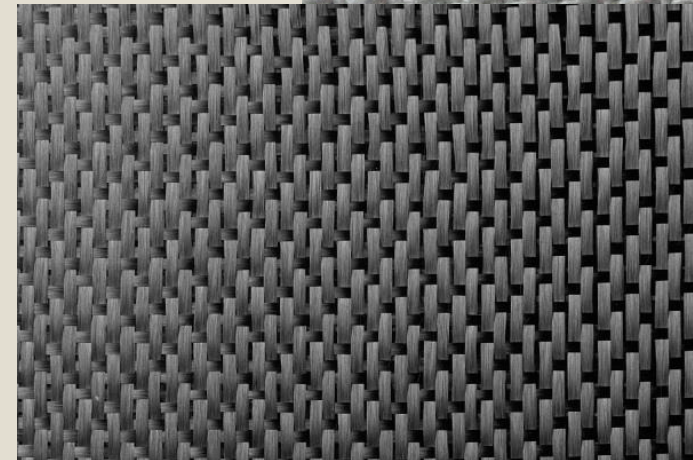
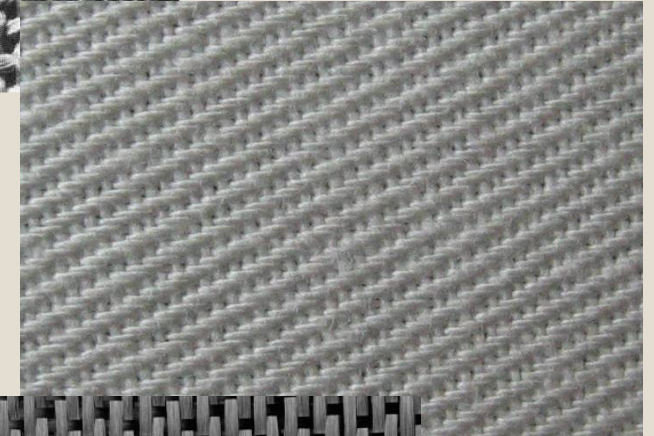
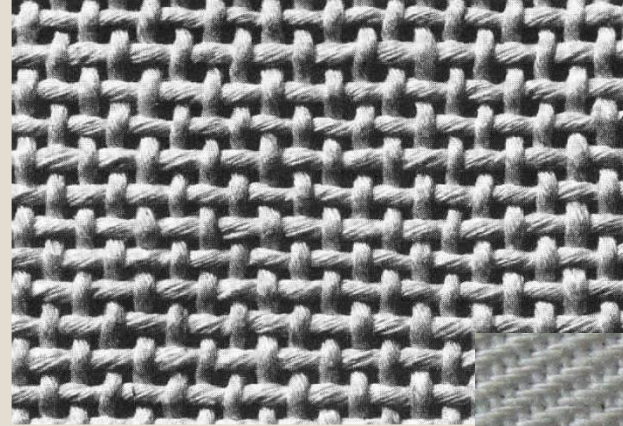
Fabric Construction

- From only a few construction methods come many different fabrics.
- The two most common methods:
 - Weaving: the process of interlacing yarns at right angles to each
 - Knitting: a process that loops yarns together
- Other methods:
 - Felting: matting, condensing and pressing fibers together using heat and moisture
 - Bonding: joining two layers fabric to each other by a chemical process or adhesive



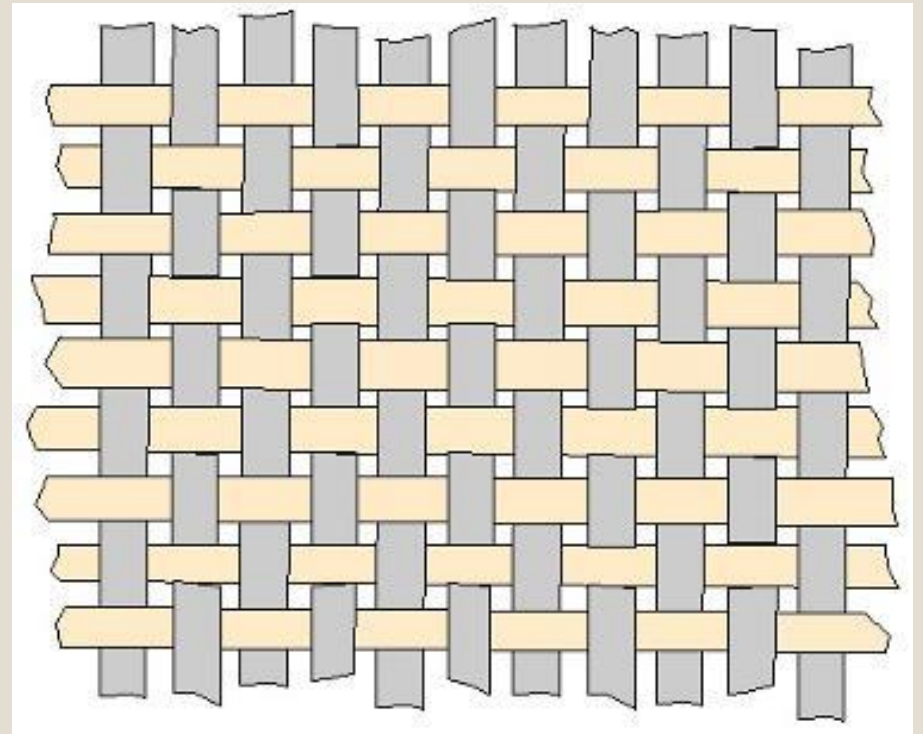
Weaving

- Is done on machines called looms
- Requires the use of two sets of yarns. The lengthwise yarns are the warp yarns. The crosswise yarns are the filling yarns.
- The filling yarns pass over and under the warp yarns.
- Through the weaving process, passing the filling yarns over and under different numbers of warp yarns can create various types of woven fabric. There are three basic types of weaves:
 1. Plain Weave
 2. Twill Weave
 3. Satin Weave



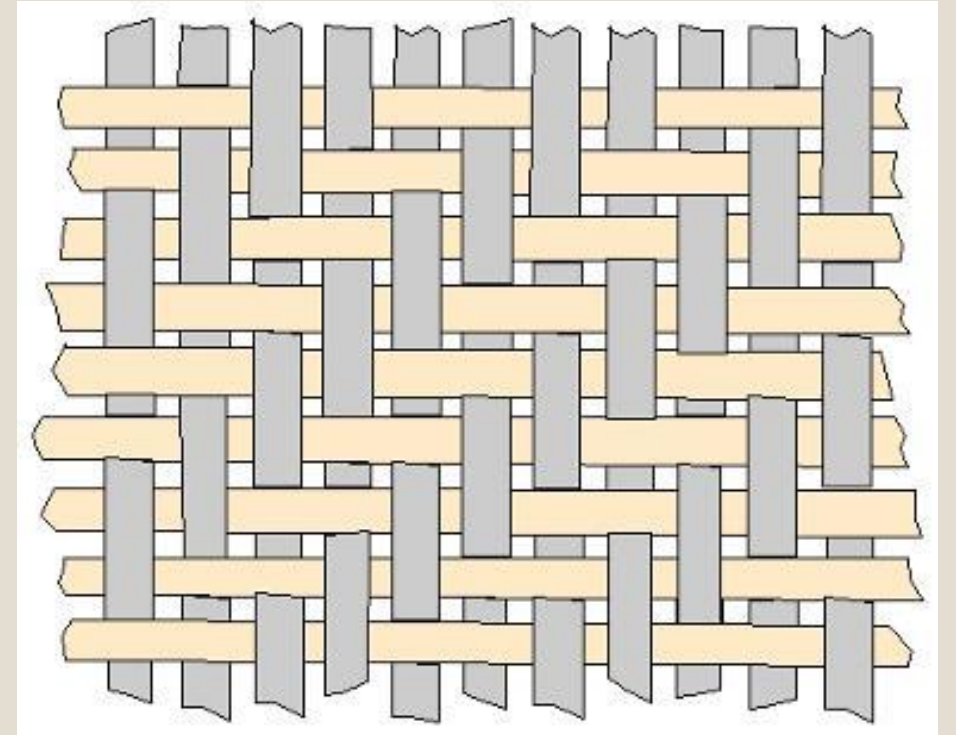
Plain Weave

- Simplest and most common weave
- Filling yarn passes over and under each warp yarn, then alternates
- Plain Weave: (1x1)
 - Line 1: 1 over, 1 under, 1 over, 1 under etc.
 - Line 2: 1 under, 1 over, 1 under, 1 over etc.
 - Repeat



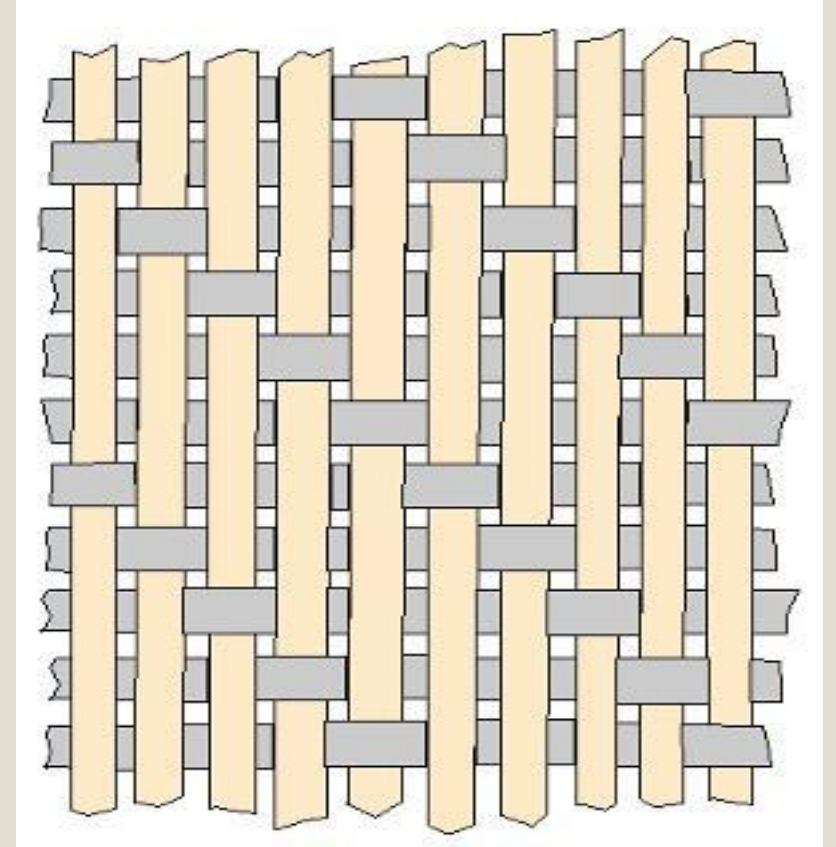
Twill Weave

- Strongest weave
- Recognized by obvious diagonal ridges
- Filling yarn passes over and under two or more warp yarns then shifts to the right or left of each successive row
- Twill Weave: (2x2)
 - Line 1: 2 over, 2 under, 2 over, 2 under, etc.
 - Line 2: 1 over, 2 under, 2 over, 2 under, etc.
 - Line 3: 2 under, 2 over, 2 under, 2 over, etc.
 - Line 4: 1 under, 2 over, 2 under, 2 over, etc.
 - Repeat



Satin Weave

- Most lustrous weave
- The filling yarn passes over 4-8 warp yarns
- Satin Weave: (4x1)
 - Line 1: 4 under, 1 over, 4 under, 1 over, 4 under, etc.
 - Line 2: 1 over, 4 under, 1 over, 4 under, 1 over, etc.
 - Line 3: 1 under, 1 over, 4 under, 1 over, 4 under, etc.
 - Line 4: 2 under, 1 over, 4 under, 1 over, 4 under, etc.
 - Line 5: 3 under, 1 over, 4 under, 1 over, 4 under, etc.
 - Repeat



Fabric Finishes

- After the cloth is woven or knitted into fabric, it is still in an unfinished state. The unfinished fabric is called greige goods.
 - Solution dyeing: Used for manufactured fibers. The dye is added to the liquid before it is forced through the spinneret.
 - Yarn dyeing: Used on some yarns before being knitted or woven into fabrics. The yarns are tightly wound on tubes, and then placed in the dye bath.
 - Piece dyeing: The most common method of dyeing. Color is added after the fabric has been made.
 - Printing: The process of adding color, pattern, or design to fabric surfaces.



Careers

- Textile designer:
 - Designing the different structures and looks of different textiles, or fabrics.
- Textile chemist:
 - A highly specialized field that applies the principles of chemistry to the production of textiles. Textile chemists may create new products to meet specific market needs or modify existing products to become more generally marketable.



Cotton

- Cotton is obtained from the cotton plant.
- It is the most widely used natural fiber.
- Characteristics:
 - Comfortable, Absorbent, Wrinkles easily
- Uses:
 - Dresses, Skirts, Underwear, Shirts, Jeans, Sportswear
- Care of:
 - Wash in washer and dry, Iron at HIGH temperature



Wool

- Wool is made from the fleece/hair of sheep or lambs.
- It is the most common animal fiber people wear today, but its use goes back to early times.
- Characteristics:
 - Durable, Warm, Fire resistant
- Uses:
 - Sweaters, Gloves, Socks, Suits, Blankets
- Care of:
 - Dry clean or hand wash and dry flat, Iron at LOW temperature



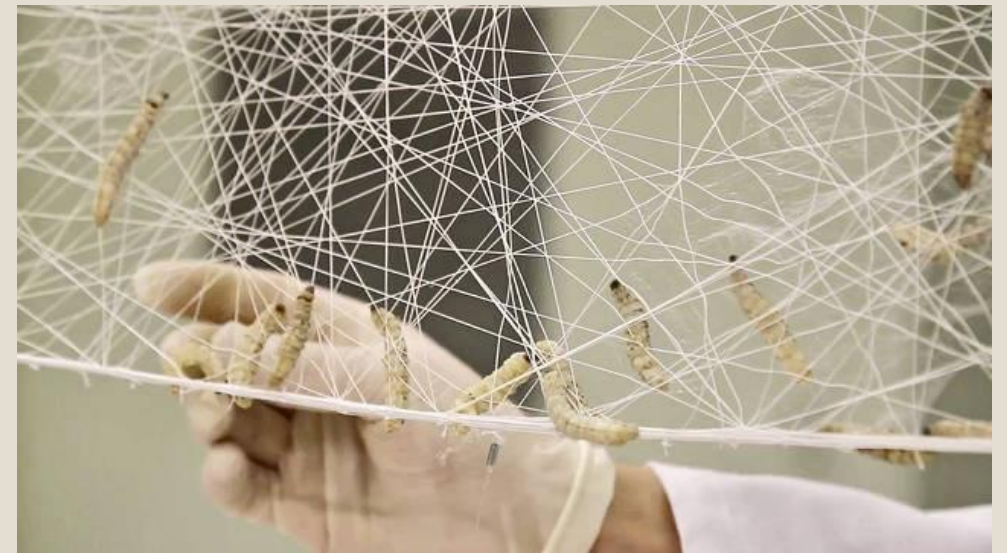
Lin

- Flax is the fiber used to make linen fabric.
- It was the first cellulosic fiber used for making fabric. Egyptian mummies were wrapped in linen.
- Characteristics:
 - Strong, lint free, wrinkles excessively
- Uses:
 - Blouses, Dresses, Skirts, Suits
- Care of:
 - Wash or dry clean (CHECK LABEL), Iron at HIGH temperature



Silk

- Silk is a protein fiber that comes from the cocoons of silkworms.
- The silk fiber is the longest natural fiber, sometimes reaching a thousand yards or more.
- Characteristics:
 - Soft, Smooth, Lustrous
- Uses:
 - Blouses, Dresses, Neckties, Scarves, Lingerie
- Care of:
 - Hand wash or dry clean (CHECK LABEL), Iron at LOW temperature



Nylon

- Nylon is the strongest out of all the fibers.
- Characteristics:
 - Strong, lightweight, heat sensitive
- Uses:
 - Sportswear, Jackets, Raincoats, Backpacks, Purses, Hosiery
- Care of:
 - Easily laundered, Iron at LOW temperatures



Polyester

- Polyester is the most widely used out of all the fibers.
- Characteristics:
 - Strong, resilient, hydrophobic (repels water), retains oily stains
- Uses:
 - Pants, Shirts, Suits, Sportswear, Skirts
- Care of:
 - Easily laundered, Needs little or no pressing



Acrylic

- Acrylic is often a replacement for wool in garments.
- Characteristics:
 - Resists wrinkles, Soft, Warm, Pills easily
- Uses:
 - Sweaters, Faux Fur, Coats, Pants
- Care of:
 - Dry cleaned or laundered, Iron at LOW temperature



Rayon

- Rayon is primarily made from wood pulp.
- Has many of the same characteristics as cotton.
- Rayon was the first manufactured fiber.
- Characteristics:
 - Soft, comfortable, absorbent, wrinkles
- Uses:
 - Dresses, Skirts, Lingerie, Blouses
- Care of:
 - Usually dry cleaned, Iron at LOW temperature



Spandex

- Spandex is a type of stretchy polyurethane fabric.
- Characteristics:
 - Elasticity, stretch, resistant to sun, perspiration and abrasion
- Uses:
 - Pants, Shirts, Underwear, Socks, Bras, Tights
- Care of:
 - Usually dry cleaned only, Iron at LOW temperature



Acetate

- Acetate is a chemical compound made of salt or ester of acetic acid.
- Characteristics:
 - Absorbent, dries quickly, silky appearance and feel
- Uses:
 - Skirts, Blouses, Dresses, Scarves, Linings
- Care of:
 - Hand wash or dry clean only, Do not dry, Iron at LOW temperature

