

# Fashion strategies

## Notes



~Characteristics and Care of Textiles~

~Fabric Construction~

~Stain Removal~

# Fabric Construction

## Fiber, Yarn, Fabric

1. All fabric is made from \_\_\_\_\_, either natural or synthetic.
2. The fiber is processed and twisted into \_\_\_\_\_.
3. The yarn is then woven or knit into \_\_\_\_\_.

## Yarn Twist

1. Twist affects the \_\_\_\_\_ of fabric.
2. Twist affects the \_\_\_\_\_ of fabric.
3. Twist affects the \_\_\_\_\_ of fabric.
4. Twist affects the \_\_\_\_\_ of fabric.
5. Twist affects the \_\_\_\_\_ of fabric.

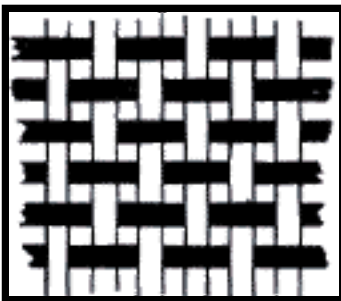
## Fiber Blends

1. Fibers are often blended together to increase \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and other \_\_\_\_\_.
2. The most common fiber blend is \_\_\_\_\_
  - Other fiber blends include: Wool & Nylon, Raime & Cotton

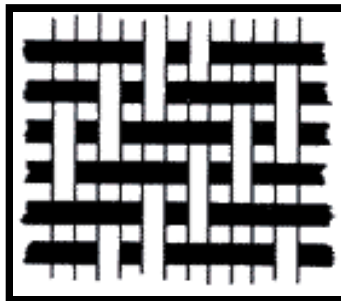
## Woven Fabric

1. Woven fabrics are created by the \_\_\_\_\_.
2. The three main types of woven fabric are:

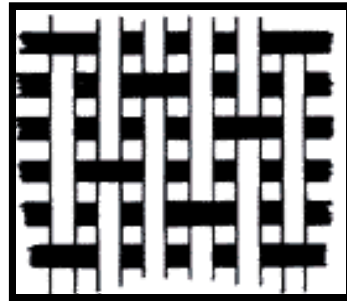
### a. Plain Weave



### b. Twill Weave



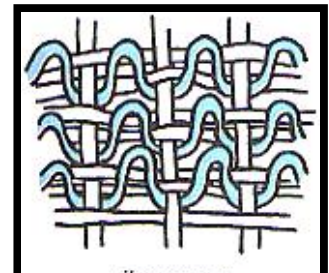
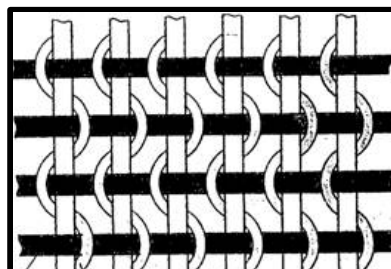
### c. Satin Weave



## Pile Weaves

1. Pile weave are woven with \_\_\_\_\_ sets of yarns instead of two.
2. The extra yarn gives the final fabric more \_\_\_\_\_.
3. Examples of Pile Fabrics:

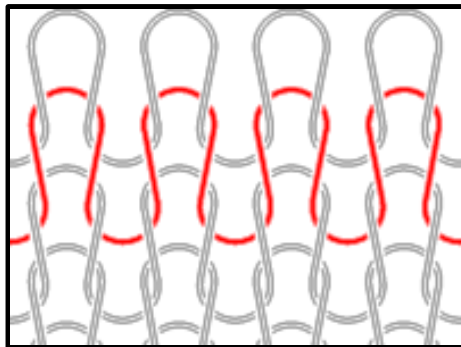
- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_



- d. \_\_\_\_\_
- e. \_\_\_\_\_

**Knit Fabrics**

1. Knits are popular because:
  - a. They are easy to \_\_\_\_\_ for.
  - b. They are \_\_\_\_\_ to produce.
2. If the fabric has a \_\_\_\_\_, it will:
  - a. Stretch
  - b. Sag
  - c. Get Baggy
  - d. Have less recovery from stretching.
3. If the fabric has a \_\_\_\_\_, it will have:
  - a. More stability
  - b. Less shrinkage
  - c. Better recovery from stretching (shape recovery)
4. Structure of Knits:



5. Examples of Knit Fabrics:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_

**Non-Woven Fabrics**

1. Making fabric \_\_\_\_\_.
2. The Felting Process:
  - a. A mass of fibers \_\_\_\_\_ with heat and moisture.
  - b. The best fibers used for felting are:
    - \_\_\_\_\_
    - \_\_\_\_\_

**Felt**

1. \_\_\_\_\_ comes in a variety of thicknesses, are easy to shape, will not unravel, and has shock and sound absorbency.
2. Felt will not recover from \_\_\_\_\_, and holes in it cannot be mended satisfactorily.

**Interfacing**

1. Interfacing is a non-woven fabric used to \_\_\_\_\_.

2. Interfacing comes in a variety of weights, thicknesses and colors.
3. Most modern interfacings have \_\_\_\_\_ on one side. These are called \_\_\_\_\_ interfacings.

## Textiles and Fibers

1.		Term used to refer to fibers, yarns or fabrics.
2.		The basic unit from which fabric is made.
3.		Fibers that come from natural sources, such as plants and animals.
4.		Also called synthetic fibers. Fibers that come from substances such as wood pulp, petroleum, natural gas, air and water.

### Natural Fibers

#### 5. \_\_\_\_\_

- The world uses more cotton than any other fiber!
- In 1793, Eli Whitney invented the cotton-gin which revolutionized cotton production worldwide
  - Properties of Cotton:
    - Good Absorbency
    - Good conductor of Heat
    - Strong and Durable
    - Comfortable
    - Cheap!
  - Uses of Cotton:
    - Pretty Much Anything!
    - (Apparel, Towels, Blankets, etc.)

#### 6. \_\_\_\_\_

- Wool comes from sheep!
- Wool fibers have scales on them which cause them to be itchy.
  - Properties of Wool:
    - Very Strong!
    - Keeps you VERY Warm!
    - Durable
    - Weaker when wet
    - Doesn't Wrinkle Easily
  - Uses of Wool:
    - Apparel
    - Blankets
    - Coats
    - Felt

#### 7. \_\_\_\_\_

- Flax is one of the oldest textile fibers-the Ancient Egyptians were famous for it!
- Linen is the fabric made from the flax plant.
  - Properties of Flax/Linen:
    - Very Strong!
    - Can be Soft or Hard
    - Durable
    - Good Absorbency
  - Uses of Flax/Linen:
    - Apparel
    - Bedding
    - Tablecloths
    - Comfortable
    - Accessories (Purses, Luggage, Upholstery, etc.)

#### 8. \_\_\_\_\_

- Silk comes from the cocoons of silkworms.
- China is famous for silk. Real silk is very expensive!
  - Properties of Silk:
    - Strongest Natural Fiber
  - Uses of Silk:
    - Apparel

- Shiny, Smooth & Luxurious
- Durable
- Very Comfortable!
- Good Absorbency

- Sheets
- Tapestries
- Furnishings

9.

- It comes from the Ramie plant.
- One of the strongest natural fibers, especially when wet!
- It has been around for at least 6,000 years!

- Properties of Ramie:

- Resistant to shrinking
- Blends well with other fibers
- Lacks resiliency
- Low in elasticity

- Uses of Ramie:

- Packing materials
- Fishing nets
- Upholstery
- Blended with wool in clothing

10.

- Comes from the cashmere goat-sometimes called pashmina.
- The hair is usually combed by hand during the molting season

- Properties of Cashmere:

- Very expensive!
- High quality apparel
- Great drapability
- Warm
- Sensitive to chemicals

- Uses of Cashmere:

- Apparel/Clothing
- Sweaters
- Coats
- Blankets

## Manufactured Fibers

11.

- Was the first manufactured fiber
- First named “artificial silk”-then name changed to rayon
- Produced by wet spinning

- Properties of Rayon:

- Weak when wet
- Highly absorbent
- Soft/comfortable
- Easy to dye

- Uses of Rayon:

- Apparel
- Upholstery
- Drapery
- Diapers

12.

- Started out as a varnish for airplane wings during WWI
- Produced by dry spinning
- Will dissolve in acetone (nail polish remover!)

- Properties of Acetate:

- Wrinkles easily
- Low cost

- Uses of Acetate:

- Formal wear
- Lining in clothing

- Low absorbency
- Low strength

- Furnishings
- Fiberfill

## 13.

---

- First synthetic made fiber in the U.S.
- Has several different structures (round, voided, trilobal, etc.)
  - Properties of Nylon:
    - Excellent stretchability
    - Static build-up
    - Durable/Resilient
    - Not comfortable
  - Uses of Nylon:
    - Hosiery/nylons
    - Carpet
    - Windbreakers
    - Rope

## 14.

---

- Produced by gel spinning
- Has very low moisture absorbency
- Very chemical resistant
  - Properties of Olefin:
    - Smooth
    - Good heat retention
    - Strong and durable
  - Uses of Olefin:
    - Furniture
    - Socks
    - Carpet

## 15.

---

- Polyester is the most widely used synthetic fiber
- Polyester became very popular in the 1970's-It was used to make the infamous "Leisure Suit"
- Although it has many good qualities, it is not very comfortable
  - Properties of Polyester:
    - Extremely durable
    - Doesn't wrinkle easily
    - Very strong
    - Not very comfortable
  - Uses of Polyester:
    - Apparel
    - Furnishings
    - Fiberfill
    - Tires

## 16.

---

- Produced either by dry or wet spinning
- It can be destroyed by chlorine bleach
- Be sure to follow care instructions
  - Properties of Acrylic:
    - Soft
    - Warm
    - Lightweight
    - Resilient
  - Uses of Acrylic:
    - Apparel
    - Blankets
    - Craft Yarns

## 17.

---

- Produced by dry spinning
- Has properties similar to acrylic, but is flame and heat resistant.
- Requires special care-follow care instructions
  - Properties of Modacrylic:
    - Does not wrinkle
    - Soft
    - Warm
    - Tendency to pill
  - Uses of Modacrylic:
    - Fur-like fabrics
    - Wigs/Hairpieces
    - Pile-type fabrics

## 18.

---

- Extremely elastic fiber!
- Seldom used alone in fabrics-usually mixed with other fibers
  - Properties of Spandex:
    - Durable
    - Resistant to body oils
    - Doesn't deteriorate easily
  - Uses of Spandex:
    - Swimwear
    - Exercise clothing
    - Power-stretch apparel

## 19.

---

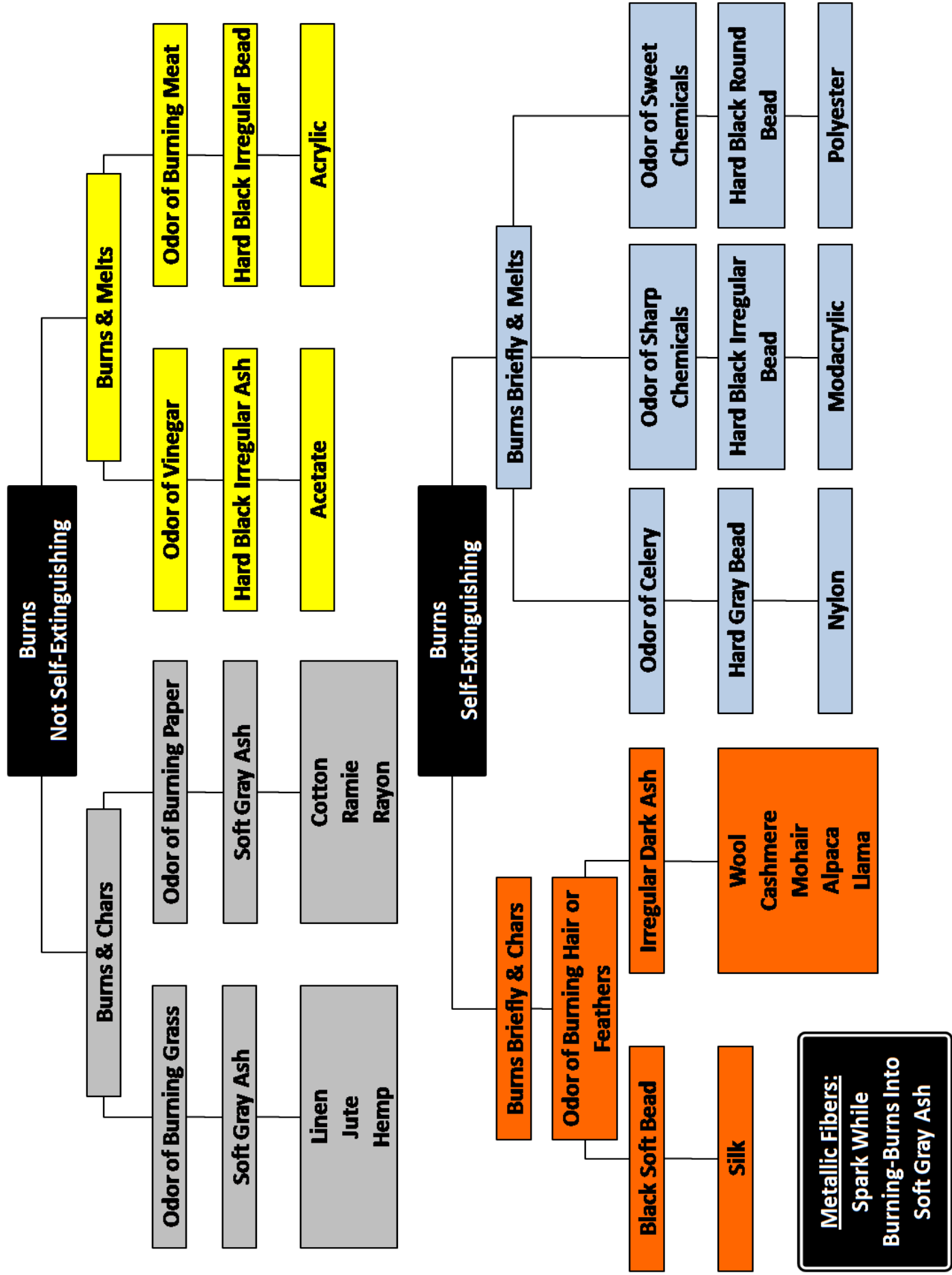
- Materials for fiberglass include sand, silica and limestone-they are melted at 2400°F and formed into tiny round filaments
- Will not melt or burn.
  - Properties of Fiberglass:
    - Can only be hand-washed
    - Severe skin irritation
    - Strong
    - Heat resistant
  - Uses of Fiberglass:
    - Ironing board covers
    - Molded plastic
    - Draperies
    - Mattress covers

## 20.

---

- PBI stands for polybenzimidazole
- Synthetic fiber with high melting point
- Will not ignite under flame
  - Properties of PBI:
    - Extremely fire resistant
    - Does not shrink
    - Difficult to dye
  - Uses of PBI:
    - Firefighters uniforms
    - Space suits
    - Race car driver clothing
    - Submarines

# FIBER BURN CHART





# Fiber Burn Test

For the following experiment, obtain:

## **11 mystery samples of fabric, small pie tin, tweezers and matches**

Refer to the Fiber Burn Chart on the previous page to help you determine what type of fiber was used in each of the mystery samples. Record your findings below. Be sure to keep your samples in order. BE CAREFUL and good luck.

Choose From:

**Acetate, Acrylic, Cotton, Jute, Linen, Metallic, Nylon, Polyester, Rayon, Silk, Wool**

<u>Mystery Fiber</u>	<u>Flame Color</u>	<u>Odor</u>	<u>Residue/Ash</u>	<u>Mystery Fiber Conclusion</u>	
				Your Answer	Correct Answer
Sample 1					
Sample 2					
Sample 3					
Sample 4					
Sample 5					
Sample 6					
Sample 7					
Sample 8					
Sample 9					
Sample 10					
Sample 11					

# Laundry and Stain Removal

## Basic Clothing Care

1. Read \_\_\_\_\_ and treat clothes accordingly.
2. Washing \_\_\_\_\_ clothing.
3. Hot water gets clothes the \_\_\_\_\_, but also causes shrinkage or damage.
4. Cold water doesn't clean as well, but it does \_\_\_\_\_ of your clothes and conserves energy.
5. Never use \_\_\_\_\_ directly on clothing. Mix with water first.
6. Dissolve \_\_\_\_\_ in water before adding clothing.
7. Remember to clean out the \_\_\_\_\_ often.

## The Laundry Process

1. \_\_\_\_\_
  - a. Color
    - Whites
    - Light Colors-Solid or Patterned
    - Medium and Bright Colors
    - Dark Colors
    - Colorfastness
  - b. Type and Weight of Fabric
  - c. Kind and Amount of Soil
  - d. Size
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

## The Basics of Stain Removal

1. Remember, for the best results, treat stains \_\_\_\_\_!
2. Many stains are set by \_\_\_\_\_. Be sure the stain is gone before drying.
3. Try to \_\_\_\_\_ most of the stain before using stain removal products.
4. Start at the outer edges of the stain and \_\_\_\_\_.
5. \_\_\_\_\_ the stain-don't scrub it.

# Staining Lab

1. Use the two squares previously sewn and serged for this project.
2. Obtain a set of foam letters from your teacher. Pin one letter to the upper left hand corner of each sample.

**Record your foam letter and color here:** \_\_\_\_\_

3. Choose 25 different products found around the lab and make a small stain within each box.  
For example: Stain 1=Mustard, Stain 2=Grass, Stain 3=Ballpoint Pen, etc.
4. Be sure to record what and where each stain is located in the chart below.
5. Each piece of fabric should have the same stains in the same squares.
6. The teacher will instruct you on what to do when you are finished staining all squares.

## Record Stain Type Here

Stain 1	Stain 2	Stain 3	Stain 4	Stain 5
Stain 6	Stain 7	Stain 8	Stain 9	Stain 10
Stain 11	Stain 12	Stain 13	Stain 14	Stain 15
Stain 16	Stain 17	Stain 18	Stain 19	Stain 20
Stain 21	Stain 22	Stain 23	Stain 24	Stain 25

### Follow Up Questions:

1. What was the difference between the sample you treated immediately and the one you let sit for a class?
2. Were the stain removal techniques you used effective? Would you use them again?