

NAME: \_\_\_\_\_

- 1. Undergarment    A. Name of fabric \_\_\_\_\_  
                          B. Woven or Knit \_\_\_\_\_  
                          C. Fiber content \_\_\_\_\_
  
- 2. Socks            A. Name of fabric \_\_\_\_\_  
                          B. Woven or Knit \_\_\_\_\_  
                          C. Fiber content \_\_\_\_\_
  
- 3. Pant/Skirt      A. Name of fabric \_\_\_\_\_  
                          B. Woven or Knit \_\_\_\_\_  
                          C. Fiber content \_\_\_\_\_
  
- 4. Shirt/Sweater    A. Name of fabric \_\_\_\_\_  
                          B. Woven or Knit \_\_\_\_\_  
                          C. Fiber content \_\_\_\_\_
  
- 5. Coat/Jacket     A. Name of fabric \_\_\_\_\_  
                          B. Woven or Knit \_\_\_\_\_  
                          C. Fiber content \_\_\_\_\_
  
- 6. Purse/Backpack A. Name of fabric \_\_\_\_\_  
                          B. Woven or Knit \_\_\_\_\_  
                          C. Fiber content \_\_\_\_\_

**Name of Fabric** – refers to the name of the fabric, such as jersey, muslin, denim, etc.  
**Woven or Knit** – is it a woven fabric or a knit fabric?  
**Fiber content** – look at label for fiber content

Name: \_\_\_\_\_

What 3 things are required by the TFPIA on a garment label?

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

Word Bank

- A. Brand Name
- B. One method of Care
- C. UPC Code
- D. generic fiber name
- E. Trademark fiber name
- F. care symbols
- G. RN# or Company name
- H. size
- I. flammability information
- J. Country of Origin

What is required information on a care label?

4. \_\_\_\_\_

What could be included on the care label?

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

Identify which of the following labels meet the **TFPIA** requirements. Rewrite the labels that do not follow the **TFPIA** requirements. **HINT:** see **TFPIA handout** – not CARE LABEL

A. 20% wool

80% Dacron™

Machine wash, line dry

Made in the USA

B. 70% Herculon

27% cotton

2% silk

Manufactured by the ABC Co.

C. 60% cotton

40% polyester

Made in the USA

RN# 12345

Name \_\_\_\_\_

Please ask 3 people to take this survey & fill it out yourself.

When buying clothes do you read the label for fiber content?	Yes	No
Do you check the care of the garment before buying?	Yes	No
Is one more important than the other?	Fiber Content	Care
Are you <u>less</u> likely to buy a garment if it is dry clean only?	Yes	No
Do you always follow the manufacturers care suggestions?	Yes	No

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Name \_\_\_\_\_

Define the terms.

Filament: \_\_\_\_\_  
\_\_\_\_\_

Staple: \_\_\_\_\_  
\_\_\_\_\_

List 2 examples of each of the following and circle if filament (F) or staple (S).

**Natural Fibers**

F or S \_\_\_\_\_

F or S \_\_\_\_\_

**Manufactured Fibers**

F or S \_\_\_\_\_

F or S \_\_\_\_\_

**Cellulosic Fibers**

F or S \_\_\_\_\_

F or S \_\_\_\_\_

**Protein Fibers**

F or S \_\_\_\_\_

F or S \_\_\_\_\_

**Regenerated Cellulosic Fibers**

F or S \_\_\_\_\_

F or S \_\_\_\_\_

**Synthetic Fibers**

F or S \_\_\_\_\_

F or S \_\_\_\_\_

**What generalizations can be drawn about fabrics with staple vs filament fibers?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_

We know that in general natural fibers are more absorbent than most manufactured fibers. In this activity we will try and determine which fabric samples are natural and which are manufactured by checking their absorbency. This test is a very rough estimation since finishes are often added that affect absorbency.

With each fabric sample submerge in water, agitate sample 1 minute, remove and blot on paper towel. Record observations. This page with the samples attached will go into your swatchkit.

Sample #1 Natural or Manufactured - Filament or Staple

Observations: \_\_\_\_\_

Sample #2 Natural or Manufactured - Filament or Staple

Observations: \_\_\_\_\_

Sample #3 Natural or Manufactured - Filament or Staple

Observations: \_\_\_\_\_

Sample #4 Natural or Manufactured - Filament or Staple

Observations: \_\_\_\_\_

Sample #5 Natural or Manufactured - Filament or Staple

Observations: \_\_\_\_\_

Sample #6 Natural or Manufactured - Filament or Staple

Observations: \_\_\_\_\_

NAME: \_\_\_\_\_

For each of the following fibers, indicate the major reason or reasons why the fiber would be chosen for the specified end use. **HINT: Use page 28 in your book!!!**

Rayon	Kitchen wipe	
Wool	Winter coat	
Nomex	Car race uniform	
Linen	Summer dress	
Acrylic	Child's sweater	
Cotton/Polyester Blend	Uniform shirt & pants	
Acetate	Prom dress	
Cotton	Hospital sheets	
Silk	Scarf	
Olefin	Dialysis equipment	
Nylon	Carpet	
Polyester	Micro fiber couch	
Kevlar	Bullet proof vest	
Polypropylene	High performance underwear	
Cashmere Blend	Man's suit	

Name \_\_\_\_\_

Using the sheets on the fabric identification burn testing give your “best guess” on the fabrics you have been given. **USE THE SAMPLES GIVEN FOR ACTIVITY 4!!!**

**Fabric # 1-description:**

Name of fabric based on test:
Reason you believe this:

**Fabric # 2-description:**

Name of fabric based on test:
Reason you believe this:

**Fabric # 3-description:**

Name of fabric based on test:
Reason you believe this:

**Fabric # 4-description:**

Name of fabric based on test:
Reason you believe this:

**Fabric # 5-description:**

Name of fabric based on test:
Reason you believe this:

**Fabric # 6-description:**

Name of fabric based on test:
Reason you believe this:

Name \_\_\_\_\_

1. Fold each sample in half lengthwise and then fold it in half crosswise.
2. Place sample under weight (book) for 5 minutes
3. Remove weight and observe creasing/record observations  
(Pronounced, Moderate, Minimal)
4. Allow samples to rest with creased sides up for 5 minutes/record observations  
(Pronounced, Moderate, Minimal)

**USE SAMPLES FROM ACTIVITY 4.**

Sample	Under Weight 5 min.	After resting 5 min.
1		
2		
3		
4		
5		
6		

What generalizations can you make about the crease recovery of fabrics made from synthetic or natural fibers?

Using your swatch book evaluate the luster of each fiber sample and indicate in table:

Sample #	Low Luster	Medium Luster	High Luster
A #6 linen			
B #9 mohair			
C #14 rayon			
D #15 acetate			
E # 20 olefin			
F # 47 percale			
G # 49 burlap			
H # 56 silk noil			
I # 60 taffeta			
J # 73 satin			
K # 74 sateen			
L # 84 jacquard			
M # 85 damask			

What generalizations can you make about the luster of manufactured versus natural fibers? Can you make any generalizations about filament versus staple fibers? Use the back of the paper if you need to.

Name \_\_\_\_\_

1. Name 3 woven fabrics? \_\_\_\_\_

2. Name 3 knits fabrics? \_\_\_\_\_

3. Which fabric or fabrics is : plain weave \_\_\_\_\_

twill weave \_\_\_\_\_

plain ribbed weave \_\_\_\_\_

4. Woven or Knit – which is the best insulator? \_\_\_\_\_

5. Woven or Knit – which is the most durable? \_\_\_\_\_

6. Woven or Knit – which is wrinkle resistant? \_\_\_\_\_

7. Which fabric would be good in the rain? \_\_\_\_\_

8. Which would be easier to sew – Woven or Knit? \_\_\_\_\_

9. Define weft? \_\_\_\_\_

\_\_\_\_\_

10 Define wales? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

11. In your opinion which fabric has a: crisp hand \_\_\_\_\_

soft hand \_\_\_\_\_

12. Which fabric do you find most appealing and why? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

Choose **Print** or **Dye** for these fabrics;  
**IF DYED** list how they are dyed: **Stock, Yarn or Piece**

- 1. Batik (Print or Dye) Dye Type: \_\_\_\_\_
- 2. Brocade (Print or Dye) Dye Type: \_\_\_\_\_
- 3. Calico (Print or Dye) Dye Type: \_\_\_\_\_
- 4. Chintz (Print or Dye) Dye Type: \_\_\_\_\_
- 5. Damask (Print or Dye) Dye Type: \_\_\_\_\_
- 6. Denim (Print or Dye) Dye Type: \_\_\_\_\_
- 7. Gingham (Print or Dye) Dye Type: \_\_\_\_\_
- 8. Herringbone (Print or Dye) Dye Type: \_\_\_\_\_
- 9. Madras (Print or Dye) Dye Type: \_\_\_\_\_
- 10. Roller (Print or Dye) Dye Type: \_\_\_\_\_
- 11. Tie-Dye (Print or Dye) Dye Type: \_\_\_\_\_
- 12. Plaid fabric (Print or Dye) Dye Type: \_\_\_\_\_
- 13. Solid Colors (Print or Dye) Dye Type: \_\_\_\_\_
- 14. Tweed (Print or Dye) Dye Type: \_\_\_\_\_
- 15. Burn-outs (Print or Dye) Dye Type: \_\_\_\_\_
- 16. Taperstry (Print or Dye) Dye Type: \_\_\_\_\_

17. Solution dyeing can be done to \_\_\_\_\_.
- A. All fibers
  - B. Manufactured fibers
  - C. Cellulosic fibers
  - D. Protein fibers

18. Colors that are permanent will not \_\_\_\_\_.
- A. Bleed
  - B. Crock
  - C. Fade
  - D. All of the Above

19. Piece dyeing is the most common method of dyeing \_\_\_\_\_.
- A. Solid-color fabric
  - B. Yarns
  - C. Complete garments
  - D. Fibers

- 20. T / F In general, natural dyes are superior to synthetic dyes.
- 21. T / F Dyes require a resin binder to make them adhere to the fabric.
- 22. T / F Colors that are permanent are considered to be colorfast.
- 23. T / F Stock dyeing is excellent for producing heather or tweed effect.
- 24. T / F Batik involves a series of waxings and dyeing baths.
- 25. T / F Dyes bond chemically with the fabric.

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[Natural Fibers](#)

[Wool](#)

[Cotton](#)

[Silk](#)

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# Fabrics

## FABRIC IDENTIFICATION

**Burn Test - CAUTION. WARNING. BE CAREFUL!** This should only be done by skilled burners! Make sure there is a bucket of water nearby and that you burn in a metal bucket or non-plastic sink.

To identify fabric that is unknown, a simple burn test can be done to determine if the fabric is a natural fiber, man made fiber, or a blend of natural and man made fibers. The burn test is used by many fabric stores and designers and takes practice to determine the exact fiber content. However, an inexperienced person can still determine the difference between many fibers to "narrow" the choices down to natural or man made fibers. This elimination process will give information necessary to decide the care of the fabric.

**WARNING:** All fibers will burn! Asbestos treated fibers are, for the most part fire proof. The burning test should be done with caution. Use a small piece of fabric only. Hold the fabric with tweezers, not your fingers. Burn over a metal dish with soda in the bottom or even water in the bottom of the dish. Some fabrics will ignite and melt. The result is burning drips which can adhere to fabric or skin and cause a serious burn.

Cotton is a plant fiber. When ignited it burns with a steady flame and smells like burning leaves. The ash left is easily crumbled. Small samples of burning cotton can be blown out as you would a candle.

Linen is also a plant fiber but different from cotton in that the individual plant fibers which make up the yarn are long where cotton fibers are short. Linen takes longer to ignite. The fabric closest to the ash is very brittle. Linen is easily extinguished by blowing on it as you would a candle.

Silk is a protein fiber and usually burns readily, not necessarily with a steady flame, and smells like burning hair. The ash is easily crumbled. Silk samples are not as easily extinguished as cotton or linen.

Wool is also a protein fiber but is harder to ignite than silk as the individual "hair" fibers are shorter than silk and the weave of the fabrics is generally looser than with silk. The flame is steady but more difficult to keep burning. The smell of burning wool is like

## Household Chemicals

Several chemicals usually found in the home can help further identify fabrics. As in the burn test, caution should be used. Reactions between some of the fibers and household chemicals are rapid and could cause damage to surrounding surfaces.

Acetate is dissolved by acetone, an ingredient in nail polish remover and Super Glue. Caution should be used when wearing acetate or an acetate blend fabric and using any acetone containing product.

Fiber-Etch, a liquid used in embroidery or cutwork embroidery, dissolves any plant fiber including cotton, linen, and rayon.

Since this product removes plant fibers, it is also useful to determine fabric content. With blends of plant fiber fabrics, the blended fibers will remain. For example, a cotton/polyester fabric will, when this product is applied to a small area, remove the cotton fiber and leave the polyester fiber.

burning hair.

#### Man Made Fibers

Acetate is made from cellulose (wood fibers), technically cellulose acetate. Acetate burns readily with a flickering flame that cannot be easily extinguished. The burning cellulose drips and leaves a hard ash. The smell is similar to burning wood chips.

Acrylic technically acrylonitrile is made from natural gas and petroleum. Acrylics burn readily due to the fiber content and the lofty, air filled pockets. A match or cigarette dropped on an acrylic blanket can ignite the fabric which will burn rapidly unless extinguished. The ash is hard. The smell is acrid or harsh.

Nylon is a polyamide made from petroleum. Nylon melts and then burns rapidly if the flame remains on the melted fiber. If you can keep the flame on the melting nylon, it smells like burning plastic.

Polyester is a polymer produced from coal, air, water, and petroleum products. Polyester melts and burns at the same time, the melting, burning ash can bond quickly to any surface it drips on including skin. The smoke from polyester is black with a sweetish smell. The extinguished ash is hard.

Rayon is a regenerated cellulose fiber which is almost pure cellulose. Rayon burns rapidly and leaves only a slight ash. The burning smell is close to burning leaves.

Blends consist of two or more fibers and, ideally, are supposed to take on the characteristics of each fiber in the blend. The burning test can be used but the fabric content will be an assumption.

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