Fiber Dye Lab Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Forensics 352 – O’Dette Date \_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_

The color of cloth depends on the type of fabric and the specific dye used. A dye, whether it be a powdered drink mix or crushed marigold flower petals, will color each type of fabric differently. To test a new type of dye, on different fabrics, chemists often use a multi-fiber ribbon. The ribbon you will use is made up of thirteen different common fabrics. When this multi-fiber ribbon is dyed, each of the thirteen fabrics will be dyed differently. *Notice the black thread next to the acetate end*.



SEF = Self Extinguishing Fiber

**Part I Dyeing a Multi-Fiber Ribbon with Powdered Drink Mixes**

Several dyes used in the food industry are also useful for dyeing fabrics. Soak a piece of multi-fiber ribbon in each of the three warm solutions prepared from powdered drink mixes. After five minutes, remove the ribbon, rinse with warm water, dry with a paper towel, and staple to this chart.

|  |  |
| --- | --- |
| Powdered Drink | Dyed Ribbon |
|  | (staple ribbon here) |
|  | (staple ribbon here) |
|  | (staple ribbon here) |

Which fabrics are best for dyeing with powdered drink mix?

1st \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2nd \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part II Dyeing a Multi-Fiber Ribbon with Another Colored Liquid**

Many food products can be used to dye cloth. Coffee, tea, boiled crushed flower petals, grape juice, etc. all can be used to dye certain kinds of fabric. Soak a piece of multi-fiber ribbon in each of the juices. After five minutes, remove the ribbon, rinse with warm water, dry with a paper towel, and staple to this chart.

|  |  |
| --- | --- |
|  | (staple ribbon here) |
|  | (staple ribbon here) |

Which fabrics are best for dyeing with cranberry juice?

1st \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2nd \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Which fabrics are best for dyeing with grape juice?

1st \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2nd \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part III Dyeing a Multi-Fiber Ribbon with Mixture #1 and Mixture #2**

Chemists use mixtures of dyes to help identify fabrics. When a multi-fiber ribbon is dyed with these mixtures, each type of fabric is dyed differently. Place a piece of multi-fiber ribbon into each of two dye mixtures. After five minutes remove the ribbon, rinse with water, pat dry and staple to this sheet

|  |  |
| --- | --- |
|  | (staple ribbon here) |
|  | (staple ribbon here) |

After the ribbons are dry, write the name of each color in the chart below. (Note: Be more descriptive than "pink". Several fabrics may fall in the spectrum of pink, so be descriptive!)

|  |  |  |
| --- | --- | --- |
| Fabric | Dye #1 Color | Dye #2 Color |
| Acetate |  |  |
| SEF |  |  |
| Arnel (bright) |  |  |
| Bleached Cotton |  |  |
| Creslan 61 |  |  |
| Dacron 54 |  |  |
| Dacron 64 |  |  |
| Nylon 6.6 |  |  |
| Orlon 75 |  |  |
| Spun Silk |  |  |
| Polypropylene |  |  |
| Viscose |  |  |
| Wool |  |  |

**Part IV Identifying an Unknown Fabric Using Dye Mixtures #1 and #2**

Now take your two unknown samples. Dye the first in dye mixture #1 for five minutes, then rinse with water, pat dry, and staple to this sheet. Then, repeat with the second unknown sample in dye mixture #2. Using the chart from **Part III**, you should be able to identify the type of fabric.

|  |  |
| --- | --- |
|  | (staple unknown here) |
|  | (staple unknown here) |

Unknown Fabric ID \_\_\_\_\_\_\_\_\_ Fabric Type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_