Textiles
Natural and Synthetic Fibers
Natural Fibers

- Come from plants and animals
- General Characteristics
  - Hydrophilic (Absorb Water)
  - Most wrinkle easily
Natural Fibers

- Cotton
- Flax (Linen)
- Wool
- Silk
- Ramie
- Leather
Cotton advantages

- Strong, durable
- Soft
- Absorbs moisture
- Breathes well
- Washes easily
Cotton disadvantages

- Mildews
- Does not spring back into shape
- Wrinkles easily
- Burns readily
- Shrinks
Clothing/Fashion uses

- Blouses
- Dresses
- Skirts
- Underwear
- Shirts
- Jeans
- Sportswear
Care of Cotton

- Wash in washer and dry
- Iron at high temperature
Flax (Linen) Advantages

- STRONG
- Absorbs moisture
- Comfortable in warm weather
- Washes easily
Linen disadvantages

- Mildews
- WRINKLES
- Burns easily
Clothing/Fashion uses

- Blouses
- Dresses
- Skirts
- Suits
Care of Linen

- Wash or Dry Clean, CHECK LABEL
- Iron at HIGH temperature
Wool Advantages

- WARM
- Durable
- ABSORBENT
- Resilient (returns to original shape quickly)
- Resists wrinkling
- Fire Retardant
Wool Disadvantages

- Requires special care
- Shrinks sometimes if washed, or dried in dryer
- Absorbs odors
- Requires protection against insects
Clothing/Fashion uses

- Knit garments
- Sweaters
- Gloves
- Skirts
- Coats
- Sportswear
- Socks
- Suits
- slacks
Care of Wool

- Dry Clean or Hand Wash and Dry flat
- Iron at low temperature
Silk Advantages

- Smooth
- Lustrous
- Strong
- Dries quickly
Silk Disadvantages

- Shows water spots
- Iron at low temperature
Clothing/Fashion uses

- Skirts
- Blouses
- Dresses
- Neckties
- Scarves
- Lingerie
- Sweaters
Care of silk

- Dry clean or hand wash, check label
- Iron at low temperature
Synthetic Fibers

- Made from petrochemicals
- Characteristics
  - Hydrophobic (water resistant)
  - Promote static cling
  - Heat Sensitive
  - Many pill
  - Most are wrinkle resistant
Synthetic Fibers

- Acetate
- Acrylic
- Nylon
- Polyester
- Rayon
- Spandex (Lycra)
- Aramid (Kevlar, Nomex)
- Olefin
- Triacetate
- Modacrylic
Acetate Advantages

- Soft
- Drapeable
- Dries quickly
- Resistant to shrinking
Acetate Disadvantages

- Can wrinkle
- Low abrasion resistance
- Heat sensitive
- Damaged by acetone
Clothing/Fashion uses

- Skirts
- Blouses
- Dresses
- Scarves
- Linings
Acrylic Advantages

- Soft
- Warm
- Wool-like
- Light weight
- Wrinkle resistant
- Resistant to moths and sunlight
Acrylic Disadvantages

- Pills
- Static electricity
- Heat sensitive
Care of Acrylic

- Dry Cleaned or laundered
- Iron at low temperature
Clothing/Fashion uses

- Sweaters
- Knit garments
- Faux Fur
- Coats
- Pants
- Skirts
- Shoe soles
Nylon Advantages

- Very Strong
- Resilient
- Lustrous
- Dries quickly
Nylon disadvantages

- May yellow or gray
- Heat Sensitive
- Low moisture absorbency
Clothing/Fashion uses

- Sportswear
- Jackets
- Raincoats
- Backpacks
- Purses
Care of Nylon

- Easily laundered
- Iron at low temperature
Polyester advantages

- Excellent WRINKLE RESISTANCE
- Resistant to abrasion
- Dries quickly
- Blends well with other fibers
- Retains heat-set pleats and creases
Polyester disadvantages

- Absorbs oily stains
- Low absorbency of moisture
Clothing/Fashion uses

- Pants
- Shirts
- Suits
- Sportswear
- Skirts
Care of Polyester

- Easily laundered
- Needs little or no pressing
Rayon advantages

- Soft and comfortable
- High moisture absorbency
- drapeable
Rayon disadvantages

- May wrinkle or shrink unless treated
- May mildew
Clothing/Fashion uses

- Dresses
- Skirts
- Lingerie
- Blouses
Care of Rayon

- Usually dry cleaned, sometimes washable
- Iron at low temperature
Spandex advantages

- Excellent elasticity and recovery
- Stronger and more durable than rubber
- Light weight
- Resistant to body oils
Spandex disadvantages

- Damaged by chlorine bleach
- Damaged by heat
Clothing/Fashion uses

- Pants
- Shirts
- Jeans
- Sportswear
- Underwear
- Socks
- Bras
- Tights
Aramid (Kevlar & Nomex) advantages

- Exceptional strength
- Exceptional heat and flame resistance
- Resistant to stretch and abrasion
Aramid disadvantage

- Not absorbent
Clothing/Fashion uses

- **Kevlar**
  - Bullet Proof Vests
  - Cut/Heat and Chemical resistant Gloves

- **Nomex**
  - Fireman Uniforms
  - Racing Apparel
The End...