Fiber Classification
— Synthetic Fibers

- 50% of fabrics are artificially produced
- Made by connecting monomers to form polymers
- Examples:
  - Rayon
  - Acetate
  - Nylon
  - Acrylic
  - Polyester
Fiber Classification
– *Synthetic Cellulose Fibers*

Regenerated Fibers (derived from cellulose):

- **Rayon**
  - Most common in this group
  - Imitates natural fibers, but stronger
- **Celenese®**
  - Cellulose chemically combined with acetate
  - Found in many carpets
- **Polyamide nylon**
  - Cellulose combined with three acetate units
  - Breathable and lightweight
  - Used in performance clothing
Fiber Classification
— *Synthetic Polymer Fibers*

**Synthetic Polymer Fibers**
- Petroleum base
- Very different from other fibers
- Fibers are spun together into yarns
- No internal structures
- Uniform diameters
Fiber Classification

-Synthetic Polymer Fibers-

- Polyester
  - “Polar fleece”
  - Wrinkle-resistant
  - Not easily broken down by light or concentrated acid
  - Added to natural fibers for strength

- Nylon
  - Easily broken down by light and concentrated acid
  - Otherwise similar to polyester
Fiber Classification
—Synthetic Polymer Fibers

- Acrylic
  - Inexpensive
  - Tends to “ball” easily
  - Substitute for artificial wool or fur

- Olefins
  - High performance clothing
  - Quick drying
  - Resistant to wear
Natural and Synthetic Fibers

- Coarse Wool
- Fine Wool
- Alpaca
- Cashmere
- Silk
- Linen
- Cotton
- Polyester