

# MERIT BADGE SERIES



# TEXTILE



BOY SCOUTS OF AMERICA®

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*"Enhancing our youths' competitive edge through merit badges"*

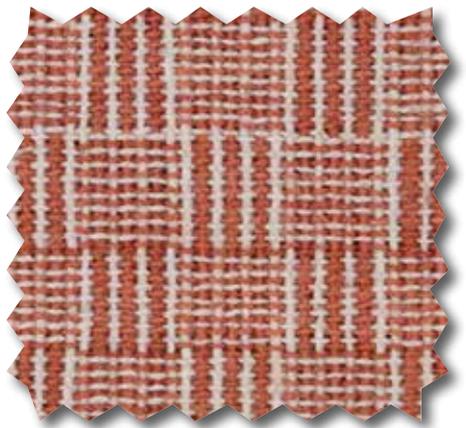


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# Requirements

1. Discuss with your merit badge counselor the importance of textiles. In your discussion, define the terms *fiber*, *fabric*, and *textile*. Give examples of textiles you use every day.
2. Do the following:
  - a. Get swatches of two natural-fiber fabrics (100 percent cotton, linen, wool, or silk; no blends). Get swatches of two synthetic-fiber fabrics (nylon, polyester, acrylic, olefin, or spandex). Get a sample of one cellulosic fabric (rayon, acetate, or lyocell).
  - b. Give the origin, major characteristics, and general content of each type of fiber obtained for 2(a). Explain the difference between a cellulosic manufactured fiber and a synthetic manufactured fiber.
  - c. Describe the main steps in making raw fiber into yarn, and yarn into fabric.
  - d. Assume you will soon buy a new garment or other textile item. Tell your counselor what fiber or blend of fibers you want the item to be, and give reasons for your choice.
3. Do TWO of the following:
  - a. Visit a textile plant, textile products manufacturer, or textile school or college. Report on what you saw and learned.
  - b. Weave a belt, headband, place mat, or wall hanging. Use a simple loom that you have made yourself.

- c. With a magnifying glass, examine a woven fabric, a nonwoven fabric, and a knitted fabric. Sketch what you see. Explain how the three constructions are different.
  - d. Make a piece of felt.
  - e. Make two natural dyes and use them to dye a garment or a piece of fabric.
  - f. Waterproof a fabric.
  - g. Demonstrate how to identify fibers, using microscope identification or the breaking test.
4. Explain the meaning of 10 of the following terms: warp, harness, heddle, shed, aramid, spandex, sliver, yarn, spindle, distaff, loom, cellulose, sericulture, extrusion, carbon fibers, spinneret, staple, worsted, nonwoven, greige goods.
  5. List the advantages and disadvantages of natural plant fibers, natural animal fibers, cellulosic manufactured fibers, and synthetic manufactured fibers. Identify and discuss at least four ecological concerns regarding the production and care of textiles.
  6. Explain to your merit badge counselor, either verbally or in a written report, five career possibilities in the textile industry. Tell about two positions that interest you the most and the education, cost of training, and specific duties those positions require.



# Textile Resources

## Scouting Literature

*American Business, Animal Science, Art, Basketry, Chemistry, Energy, Environmental Science, Graphic Arts, Indian Lore, Insect Study, and Plant Science* merit badge pamphlets

Visit the Boy Scouts of America's official retail website at <http://www.scoutstuff.org> for a complete listing of all merit badge pamphlets and other helpful Scouting materials and supplies.

## Books

- Alvarez, Nilda Callanaupa. *Textile Traditions of Chinchero: A Living Heritage*. Thrums LLC, 2012.
- Barber, Elizabeth Wayland. *The Mummies of Úrümchi*. W.W. Norton, 2000.
- Brown, Rachel. *The Weaving, Spinning, and Dyeing Book*. Knopf, 1983.
- Burningham, Veronica. *Weaving Without a Loom*. Search Press, 1998.
- Crolius, Kendall, and Anne Montgomery. *Knitting With Dog Hair*. St. Martin's, 1997.
- Dean, Jenny, and Karen Diadick Casselman. *Wild Color*. Potter Craft, 2010.
- Delaney, Connie. *Spindle Spinning: From Novice to Expert*. Kokovoko Press, 1998.
- Garfield, Simon. *Mauve: How One Man Invented a Color That Changed the World*. W.W. Norton, 2001.
- Gordon, Beverly. *Textiles: The Whole Story: Uses, Meanings, Significance*. Thames & Hudson, 2011.
- Joseph, Marjory L., et al. *Joseph's Introductory Textile Science*. 6th ed. Holt, Rinehart and Winston, 1992.
- Kadolph, Sara J. *Textiles: Basics*. Prentice Hall, 2012.
- Keeler, Patricia A., and Francis X. McCall Jr. *Unraveling Fibers*. Atheneum, 1995.
- Macaulay, David. *Mill*. Houghton Mifflin, 1989.
- McGrayne, Sharon Bertsch. *Blue Genes and Polyester Plants: 365 More Surprising Scientific Facts, Breakthroughs, and Discoveries*. John Wiley and Sons, 1997.
- Schoeser, Mary. *Textiles: The Art of Mankind*. Thames & Hudson, 2012.

**DVDs**

Unicorn Projects Inc. *Mill Times*.  
PBS Home Video.

**Magazines*****Ecotextile News***

Website: <http://www.ecotextile.com>

***Textile World***

Website: <http://www.textileworld.com>

**Organizations and Websites****All Fiber Arts**

Website: <http://www.allfiberarts.com>

**American Fiber****Manufacturers Association**

Telephone: 703-875-0432

Website: <http://www.fibersource.com>

**American Sheep****Industry Association**

Telephone: 303-771-3500

Website: <http://www.sheepusa.org>

**American Textile History Museum**

491 Dutton St.

Lowell, MA 01854

Telephone: 978-441-0400

Website: <http://www.athm.org>

**The Center for Traditional Textiles  
of Cusco**

Website: [http://www.incas.org/  
SPChincher0.htm](http://www.incas.org/SPChincher0.htm)

**Fabrics.net**

Website: <http://www.fabrics.net>

**FiberWorld**

Website: <http://www.fiberworld.com>

**Mohair Council of America**

Telephone: 325-655-3161

Website: <http://www.mohairusa.com>

**National Cotton Council of America**

P.O. Box 2995

Cordova, TN 38088-2995

Telephone: 901-274-9030

Website: <http://www.cotton.org>

**Textile Resources on the  
World Wide Web**

Website: [http://libguides.uwstout.edu/  
content.php?pid=18267&sid=124796](http://libguides.uwstout.edu/content.php?pid=18267&sid=124796)

### **Textile Colleges**

The schools listed below offer a general college education with a specialization in textiles, leading to degrees in textile engineering, textile management, textile chemistry, textile design, and textile marketing.

#### **Auburn University**

Polymer and Fiber Engineering  
 Samuel Ginn College of Engineering  
 Auburn, AL 36849  
 Website: <http://www.eng.auburn.edu/txen>

#### **Clemson University**

School of Materials Science and Engineering  
 Clemson, SC 29634  
 Website: <http://www.clemson.edu/majors/materials-science-and-engineering>

#### **Georgia Institute of Technology**

School of Materials Science and Engineering  
 771 Ferst Drive  
 J. Erskine Love Building  
 Atlanta, GA 30332-0245  
 Website: <http://www.mse.gatech.edu>

#### **Institute of Textile Technology**

Box 8301  
 Raleigh, NC 27695-8301  
 Website: <http://www.itt.edu>

#### **North Carolina State University**

College of Textiles  
 Raleigh, NC 27695-8301  
 Website: <http://www.tx.ncsu.edu>

#### **Philadelphia University**

School of Design and Engineering  
 4201 Henry Ave.  
 Philadelphia, PA 19144  
 Website: <http://www.philau.edu/designandengineering>

#### **Southern Polytechnic State University**

Apparel Textile Technology  
 1100 S. Marietta Parkway  
 Marietta, GA 30060-2896  
 Website: [http://spsu.edu/iet/iet\\_att](http://spsu.edu/iet/iet_att)

#### **University of Massachusetts, Dartmouth**

Materials and Textiles  
 285 Old Westport Road  
 North Dartmouth, MA 02747-2300  
 Website: <http://www.umassd.edu/engineering/mtx>

### **Research Centers**

#### **Clemson Apparel Research**

500 Lebanon Road  
 Pendleton, SC 29670  
 Website: <http://car.clemson.edu>

#### **Fiber and Biopolymer Research Institute (formerly International Textile Center)**

Texas Tech University  
 1001 East Loop 289  
 Lubbock, TX 79403  
 Website: <http://www.pssc.ttu.edu/fbri>

#### **Navy Clothing and Textile Research Facility**

Building #86 DSN 256-4172  
 Kansas Street  
 Natick, MA 01760

**Texas A&M AgriLife Research and Extension Center**

Texas A&M University  
7887 U.S. Highway 87 North  
San Angelo, TX 76901  
Website: <http://sanangelo.tamu.edu>

**TRI/Princeton**

601 Prospect Ave.  
Princeton, NJ 08540  
Website: <http://www.triprinceton.org>

**Yocom-McColl Testing Laboratories Inc.**

540 W. Elk Place  
Denver, CO 80216-1823  
Website: <http://www.ymccoll.com>

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Lubbock, Texas; in particular, textile engineer James L. Simonton, communications coordinators Mike Stephens (*present*) and Scott Irlbeck (*past*), and analytical chemist Bobby G. Wyatt

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