TEXTILE

“Enhancing our youths’ competitive edge through merit badges”
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:
   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


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


Textile Resources

**DVDs**
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/SPChinchero.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
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

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
Acknowledgments

The Boy Scouts of America gratefully acknowledges the following textile educators and industry professionals who contributed generously to this revised edition of the Textile merit badge pamphlet:

- Kay Caddel, former national executive secretary/treasurer, Phi Psi Fraternity, a textile fraternity emphasizing scholastic achievement, professional ethics, and leadership
- College of Textiles, North Carolina State University; in particular, Wade Carter, extension specialist and In-Plant Program director, and Kent Hester, director, Student and Career Services
- International Textile Center (now the Fiber and Biopolymer Research Institute), Texas Tech University, Lubbock, Texas; in particular, textile engineer James L. Simonton, communications coordinators Mike Stephens (present) and Scott Irlbeck (past), and analytical chemist Bobby G. Wyatt
- Dr. Christopher J. Lupton, professor, Wool and Mohair Fiber Research, Agricultural Research and Extension Center at San Angelo, The Texas A&M University System
- Ted Settle, Sportswear Graphics, Fort Worth, Texas, for assistance with photography
- Sunshine au Naturel Mill Inc., O’Donnell, Texas; in particular, Maria C. Jamieson and Bryant Rayngay
- Emerson Tucker, Plains Cotton Cooperative Association, Lubbock, Texas
- Dave Williams, National Space Science Data Center, NASA Goddard Space Flight Center, Greenbelt, Maryland, for information about textiles on board the Mars Pathfinder
- Tommy Woolam, Woolam Gin, O’Donnell, Texas

The Boy Scouts of America is grateful to the men and women serving on the Merit Badge Maintenance Task Force for the improvements made in updating this pamphlet.

Portions of the 2003 edition were adapted from the 1972 edition written by John Hayward.