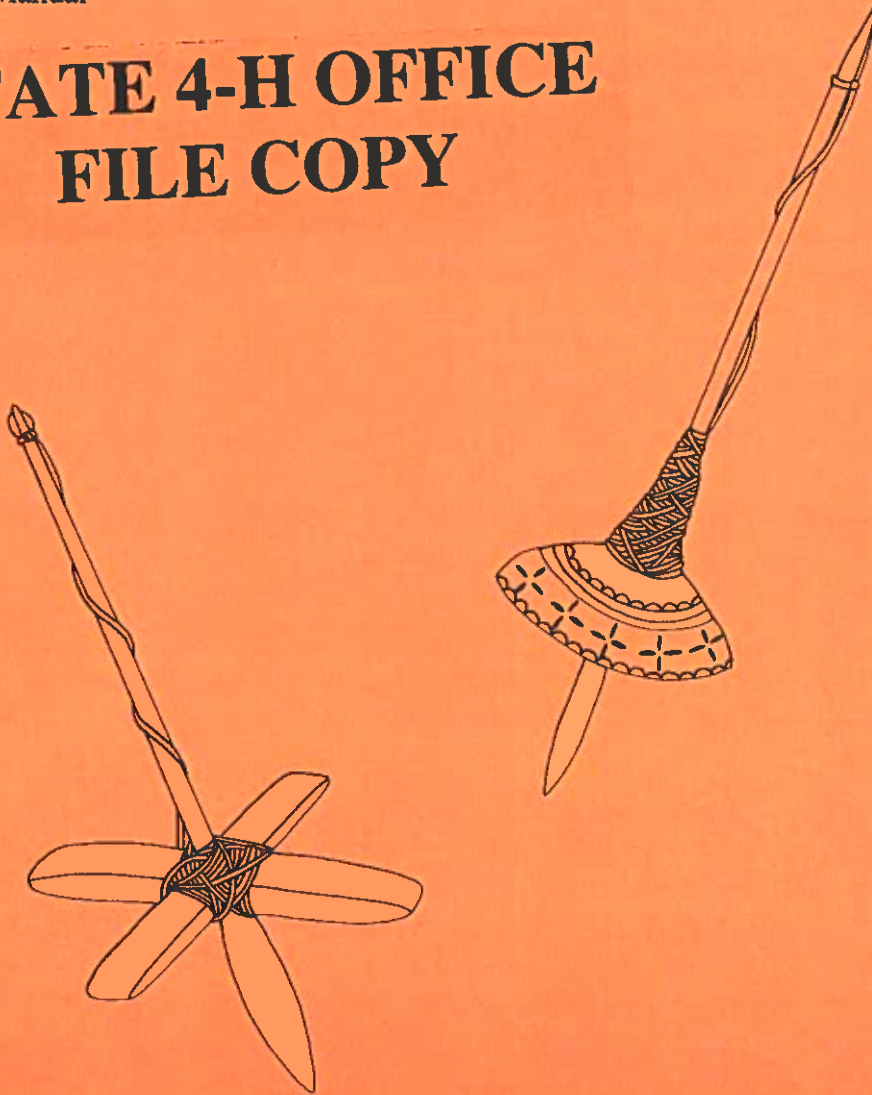


**STATE 4-H OFFICE  
FILE COPY**

# 4-H Heritage Arts: Spinning

MJ0706  
Member's Manual

**STATE 4-H OFFICE  
FILE COPY**



**Colorado  
State**  
University  
Cooperative  
Extension

## ACKNOWLEDGMENTS

The Colorado State 4-H Heritage Arts committee prepared the 4-H Heritage Arts series. The committee includes: Linda Carlson, curator and lecturer, Historic Costume and Textiles, and Kathleen Williams, Extension specialist and lecturer, Design, Merchandising and Consumer Sciences Department, College of Applied Human Sciences; Carol Schneider, 4-H Extension agent, Weld County; and Sue Cummings, Extension specialist, 4-H Youth Development, Colorado State University.

Edited by Dell Rae Moellenberg, Public Relations Department, Colorado State University, layout and design by Karen Cagle, 4-H Youth Development Program, Colorado State Cooperative Extension, and illustrations by Ruth Orton. Graphics courtesy of ClickArt® 125,000 Deluxe Image Pak™; © 1997, T/Maker Co.

## PERMISSION TO REPRODUCE PUBLICATION

Requests for permission to reproduce any parts or all of this Colorado 4-H Youth-Development publication should be directed to

Publications Liaison  
State 4-H Office  
Colorado State University Cooperative Extension  
140 Aylesworth, N.W.  
Fort Collins, CO 80523-4050



Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Milan A. Rewerts, Director of Cooperative Extension, Colorado State University, Fort Collins, Colorado. Cooperative Extension programs are available to all without discrimination. To simplify technical terminology, trade names of products and equipment occasionally will be used. No endorsement of products named is intended nor is criticism implied of products not mentioned.

# Introduction

Welcome to the 4-H Heritage Arts project. Without interested individuals, such as yourself, many historic arts and crafts would be lost with the passing of generations.

You will be given the opportunity, through the Heritage Arts project, to choose from a variety of fiber, fabric, yarn arts and crafts. The projects and activities you experience depend upon your enthusiasm and the availability of resources within your home and community.

*Heritage Arts* is defined as the practical skills passed down from preceding generations that were developed to provide basic family needs, such as apparel, home furnishings, or decorations. It also is defined as a traditional craft and the methods that have been maintained throughout history and passed on to others, often by observation and example.

Classes on traditional crafts are available in many communities, taught by skilled local artisans. The techniques taught often incorporate new techniques and materials with the old, traditional methods to enhance the craft.



## P roject Objectives

The Heritage Arts project is designed to help you:

- Learn about a variety of historic arts and crafts.
- Create a craft that connects you to the past.
- Learn about historic influences on arts and crafts.
- Have fun learning.
- Gain skills that might lead to a home-based business.

## P roject Expectations

Members are encouraged to learn about and try a variety of different historic crafts. Think of fun places in your community where you can learn more. Ask about interesting, creative artisans who are willing to share their skills with you. Take a field trip to local museums that feature historic fabric and yarn displays. Take a trip to the library and look up interesting facts about a craft that is of particular interest to you. Evaluate or judge fabric and yarn crafts and do a demonstration to share your skills with others. The more activities you do, the more you learn.

To complete your project, respond to all questions on the Heritage Arts Record. Check with your Cooperative Extension office for county fair requirements *if* you want to exhibit your project.

# Textile Crafts

What is a textile craft? It is defined as any method of creating a unique design with fiber, fabric or yarn. Patchwork and applique quilting are examples of textile crafts that use fabric as the main design ingredient. Needlepoint, embroidery, crochet and weaving are textile crafts that use yarns as the design tool. All textile crafts have one thing in common—they use fibers, fabric or yarn to create a design.

With some textile crafts, it means making the fabric, such as weaving, crochet or needlepoint. With other textile crafts, an already existing fabric is changed into something quite different. Quilting and embroidery can change the appearance of a fabric to create an exciting, imaginative design.

## Creating a Design

Once you decide on a heritage craft, it's time to think about the design. Many books show how to create a pleasing design. There also are many printed patterns that can be purchased. There's no better way to enjoy and understand design than to try it! Designing, like most activities, can come naturally once you understand what you are doing.

A design is really a plan—a plan for using all materials so that they look good together. To begin planning the design, examine your materials—whether they are yarns or fabrics or some other material—in a special way. For example, regardless of what materials are used, these basic ingredients are the design:

- line
- shape
- space
- texture
- color

These ingredients are called the *elements of design* and they are important to your plan because they are the visible details of a design. Without a design plan, these elements may seem haphazard or clash. Let's take a closer look at each of these elements of design.

- *Line*

Line is an element that's found everywhere around us. In a garment, lines are created by a seamline, a hem, a dart, a row of trim, a plaid or stripe. A row of embroidery stitches creates a line, as does a row of crochet stitches or the pattern in a quilt square. Some lines are straight and angular, others are curved. Some are thick and sturdy, others fine and delicate. The kind of lines used in a design will affect the character of that design.

- *Shape*

When lines are connected and overlapped, they create shapes: squares, circles, triangles, any shape imaginable. The outline of an applique is a shape, the pieces in a patchwork quilt are shapes, the outline of a garment is a shape, and so on. Just as lines create feelings, so can shapes.

- *Space*

When we talk of space, we mean the actual space an object or a design occupies. When we design, we work within a specific space; so not only must the design itself be well thought, out but so must the space around it. That space might be an individual quilt square or entire quilt.

- *Texture*

Texture is the surface characteristic of an object; it may be smooth, fuzzy, soft, pebbly, scratchy, or one of many other textures. Sometimes we don't have to touch an object to know its texture—we can *see* the texture. In planning a design, texture is important to think about because each one we see has a character or feeling, just as lines and shapes do.

- *Color*

When we think of colors, we usually think of color names (or hues) like red, green, yellow or blue. We can create different feelings in a design on the colors we use together. For instance, a design in yellow and green will give you a different feeling from the same design in purple and blue. But, there are other ways we use colors to give a design the feeling we want. The way we use color *values* also can affect a design (value refers to the lightness or darkness of a hue). The same hue can have lots of different values.

Think about all the different kinds of blue (baby blue, light blue, sky blue, peacock blue, navy blue and royal blue). Value can affect the feeling of a design too. Try to visualize a design in all light colors (like lime green, pink, light blue, lemon yellow). Now visualize that same design in dark green, navy blue, dark red, and gold. Does it seem different? How about the same design in lime green and navy blue? Does it seem different in style? The *intensity* of the hues we use in a design also affect the feeling we get from it. Intensity refers to the brightness or dullness of a color. Imagine a design in all bright colors—usually a design made of bright colors is more than our eyes can take! So, use bright colors sparingly!

## Evaluate Your Plan—Pattern to Follow

Take a look at the materials you plan to work with—fibers, yarns, fabrics, or threads. What kind of feeling do you want to create with your design? Do the materials create that feeling in their textures and colors? Can you create the kinds of lines and shapes you want with your materials? Are the materials suitable for the space in which you've chosen to create? If you can say "yes" to these questions, you're on your way to a well-designed piece.

But it doesn't stop there. Because even with all the right materials together, designers still need some guidelines on *how* to use them together. You can think of these guidelines as a recipe for deciding just how much of each ingredient (colors, textures, lines, and other elements) to use and where to add them. These guidelines are called principles of design.

## Principles of Design

- *Proportion*

Proportion is the relationship of all the parts of a design to each other and to the whole garment or article. Each part needs to be in proportion to the rest of the design. No part should overpower the others. If a garment does not have proportion, one part of the design might be too big for the rest of the design. Or, the design may be too big or too small to look good on the garment, or, there may be too much bright, shiny color that overpowers the other colors. Or, if the design is the entire garment or article, it may lack proportion because it is too overpowering for the person wearing it, or the decor in which it will be used.

- *Balance*

Balance is a feeling of steadiness, of everything in the design looking like it belongs. Balance can be formal (each side of the center is identical) or informal (the sides are different, but “weigh” the same).

- *Emphasis*

Emphasis is the creation of a center of interest. Without the center of interest, a design may seem cluttered and busy, or boring and uninteresting. If a design is not well-planned and is missing emphasis, it may be cluttered with too many colors, different textures, different lines, shapes or sizes. Or, there may not be sufficient contrast to attract attention.

- *Rhythm*

When we look at a design, the eye follows a certain route around the design. It notices differences in lines, shapes, textures, colors, and spaces. The route the eye follows is known as rhythm. In a well-planned design, the eye is led from one to another to the point of emphasis. That rhythm is created in a design by repeating something throughout the design—color, texture, shape, or size. If an item misses rhythm, it may have too many unrelated parts—too many unrelated colors or textures, shapes, lines or sizes. Or, the design may be placed so that it is spotty or scattered and doesn’t seem to fit together.

- *Unity*

When we say that a design has unity, we mean that it is complete. Unity is the all the materials fitting together in a pleasing combination. If unity is missing, the characters of colors, textures, lines, shapes and spaces are not compatible, or there may not be a central theme.

## Inspiration Sources

Now that you have learned something about a well-planned design, it’s time to begin thinking about developing your *own* designs. How do you start?

Actually, there are several ways to begin. One of them is to become aware of the design of the objects around us. Take a good look; there are examples everywhere! Look at the grain of the wood on a table top. What kind of lines or shapes are created? How does the rhythm in the grain move your eye over the design? Can you create a similar design—perhaps with weaving or needlepoint or with embroidery?

There are many places to get ideas. Look outside at the patches of grass for ideas on shapes and colors, look at the sunsets and clouds for shapes and colors, or the cracks in sidewalks, the frost on windows, the bark on trees. Everywhere you look, there are ideas for colors and textures, shapes and lines. Design examples aren't limited to nature. Look at designs in things around the house like baskets or pictures. Perhaps there's a design on pottery that you'd like to try in embroidery, or the shape of an old bottle gives you an idea for an applique. You can find ideas in magazines, wallpaper and comic books. There are ideas everywhere if you'll just use a little imagination!

Doodle on paper to develop and crystallize a design, or try arranging yarns or scraps of fabric. Try cutting out shapes from construction paper to experiment with a design. It does not matter how, but it is important to plan a design first!

The designer whose work shows fine quality, adapts and stylizes a design to suit the materials used. A designer does not attempt to imitate real objects, such as flowers using thread. Instead, if a flower idea is chosen as a theme for the design, the designer alters it to suit the shape of the article, its purpose and the limitations of materials and tools.

## Resources

There are lots of good sources to help you with the "How-to's" of the textile crafts. Your Cooperative Extension agent can help you locate commercial leaflets available for 4-H members on specific textile crafts. You may want to supplement the leaflets with films and slides. Some are available through your county Cooperative Extension office.

Your talents are an excellent resource for the club. Share your know-how and special interests to help others. Bring the tools and let everyone experiment. Bring in others from the community to share their craft knowledge. A local craft or fabric store may work with you or help you contact someone with an interest in a specific textile craft. Members may decide to make a sampler, shawl, handkerchiefs, or monograms utilizing the various techniques.

Libraries can be an excellent source of information. You can broaden your knowledge of why and how heritage crafts began by reading through historic publications. Magazines are also a terrific source of ideas. Internet web pages provide lots of interesting information as well. Perhaps you will want to clip and file ideas to share and talk about. There also are many craft magazines and pattern books that can be good sources too. Craft Organizations and Councils often provide specific information that may be helpful. Check with your county Cooperative Extension office, library or craft store for contact information.

## Sharing What You Have Learned

Now that you have learned many new things about a heritage craft, why not share? This helps you learn more about the topic and become more comfortable teaching others. Making an exhibit to show at the county fair is another way to share with others. You also may share your knowledge by giving a demonstration and show how to do something.

### Demonstration

Select a topic that relates to something you learned about your project and plan a demonstration. Some ideas include:

- Use of design principles and elements
- Selecting fabric or yarn for a project
- Sharing the history of a craft
- Purchasing supplies
- Steps to complete a craft item
- Can you think of others?

### Evaluation or Judging

Learn the standards of quality for your craft. The exhibit item will be compared to these standards at a fair or during craft competitions. Standards are printed in the 4-H craft project guidelines, or may be found in craft publications or fair judge's guides available through your county Cooperative Extension office. When you apply the standards to a craft item, you judge or evaluate that item against the standard of quality. Evaluating your project yourself will enable you to see how well you applied the skills you learned. How well did your item compare to the standards? What did you do well? Where can you improve? Answers to these questions will help you do a better job next time.

### Community Service

You can learn a great deal about your community when you get involved to help others. You can:

- Make lap robes for elderly people or AIDS victims
- Make quilts for a homeless shelter
- Work on a fund raiser for a local cause
- Go to a local nursing home and visit residents
- Help an elderly or lonely neighbor with household chores
- Help younger members with their projects
- Can you think of others?



## Fair Exhibit

Remember to record all of your activities during this year. It's easier to write them down as soon as you do them rather than wait until the end of the year and try to remember them. Be sure to include in your story not only the things you made, but the experiences you had, special things you learned and how you felt about them.

You must complete the History Page of the record. Plan early to begin your search for historic information. You have several options as to what you can learn about and share. You can find historic information on:

- the craft itself,
- tools used,
- new techniques developed,
- special uses of the finished items,
- influences of wars or trade,
- interesting artisans within the community, or
- any other related topic.

The key is that the information you provide is directly related to the craft you are exhibiting.

Two photos of your finished product(s) are optional. However, photos of Heritage Arts exhibits enable judges to see how well the items fit your intended use.

Projects will be divided into three age categories for exhibit based on age of the exhibitor as of December 31 of the year prior to the show. Age categories are:

*Junior— 8 to 10 years of age*

*Intermediate— 11 to 13 years of age*

*Senior— 14 to 18 years of age*

All exhibit items are to be fiber-, fabric- or yarn-based arts and crafts. Crafts exhibited must be those traditional crafts which have been passed down through generations. For a complete listing of Fair Exhibit Requirements, see 2-3 of your *Heritage Arts Record Book*, RJ0700.

# Introduction

Through spinning you will learn to express your creativity in a constructive way while developing a skill that is relaxing and fun. You will also have the opportunity to learn more about the history of spinning, when and where it originated, how it has passed down through the ages, and more.

You may want to experiment with different fibers and techniques as you learn the basics of spinning. Visit with spinners in your community to discover how they learned to spin, what projects they have made and what suggestions they would give to a beginner. Check for additional resources in your local Cooperative Extension office, the Internet, library or yarn shops to get new ideas. Most importantly, have fun!



## Project Evaluation

Skeins of yarn will be evaluated on:

### *Overall Appearance*

- Fleece is clean
- Skein is tied evenly
- Skein is balanced

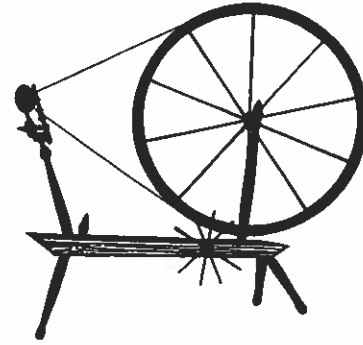
### *Workmanship*

- Twist is even and consistent
- Fleece is properly carded
- Fleece is appropriate for yarn type
- Yarn is appropriate for intended use
- *Joins* are strong and even

# History of Spinning

Spinning fiber into yarn is an ancient process. No one really knows when spinning began, but fragments of fabrics from as early as 6300 BC show that early spinners possessed remarkable skill. Ancient cultures used animal and plant fibers to make yarn for weaving cloth and twining sandals.

The spinning process consisted of drawing out fibers, which were held on a stick called a distaff, and twisting them with a spindle, which could be spun like a top, to make yarn. The yarn was wound onto the spindle. The spinning wheel, which increased the speed and efficiency of yarn production, was invented in India and was introduced into Europe in the 14th century.



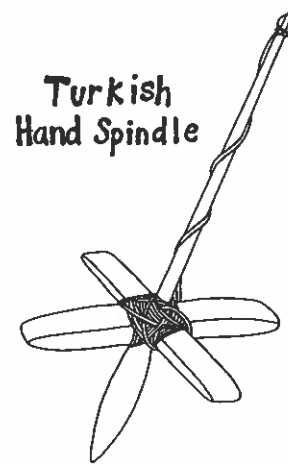
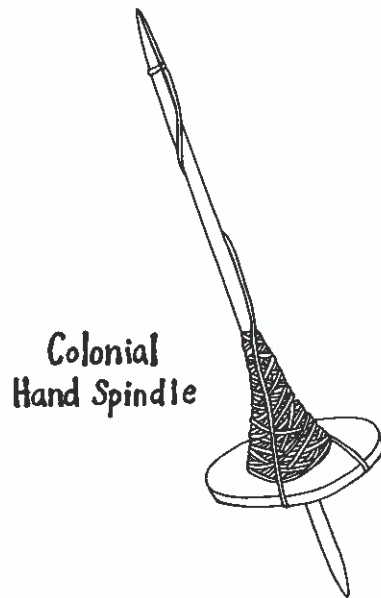
In order for fibers to be spun into yarn, they must be strong, flexible enough to be twisted and long enough to stay together when spun. Fibers used for handspinning usually come from animals, or protein, or plants called cellulosic fibers. Wool, alpaca, mohair, dog or rabbit are examples of protein fibers. Cotton and flax are common plant fibers used for spinning.

Yarn is made when fibers are twisted together under tension. The function of the hand spindle and spinning wheel is to twist prepared fibers while the spinner holds the fibers under tension. This manual will give you instructions for spinning fibers only on a hand spindle, not a spinning wheel. Hand spindles are easy to make or can be purchased for a low cost from a yarn or weaving store. Spinning wheels are expensive and are not as available as spindles.

# Spinning Wool Using a Hand Spindle

## Spindles

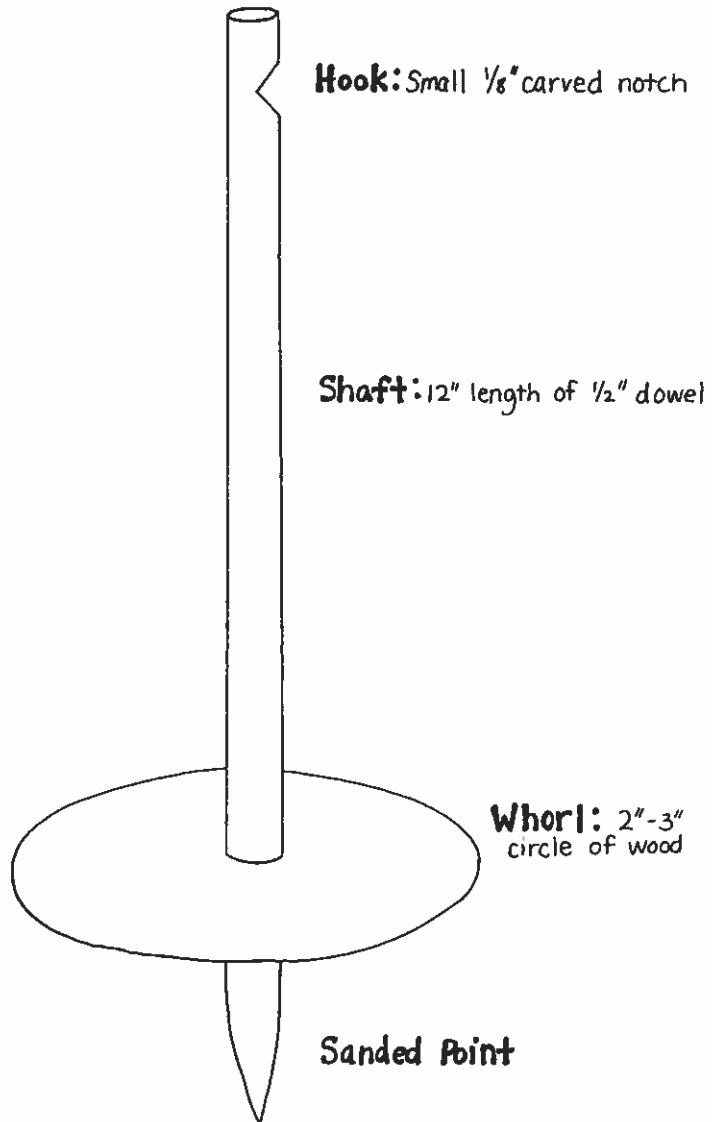
The basic parts of the hand spindle are the shaft and the whorl. Spun yarn is stored on the shaft. The whorl weights the spindle and provides tension for spinning. Some hand spindles have a small hook on the unweighted end of the shaft to control the yarn while spinning. There are many examples of hand spindles.



## Making Your Own Spindle

You can make your own spindle using materials available at hardware, hobby or craft shops. Use a 12-inch long, one-half inch diameter dowel for the shaft. Sand one end to a point. Carve a small notch, about one-eighth inch, in the shaft 1 inch from the blunt end to make a hook.

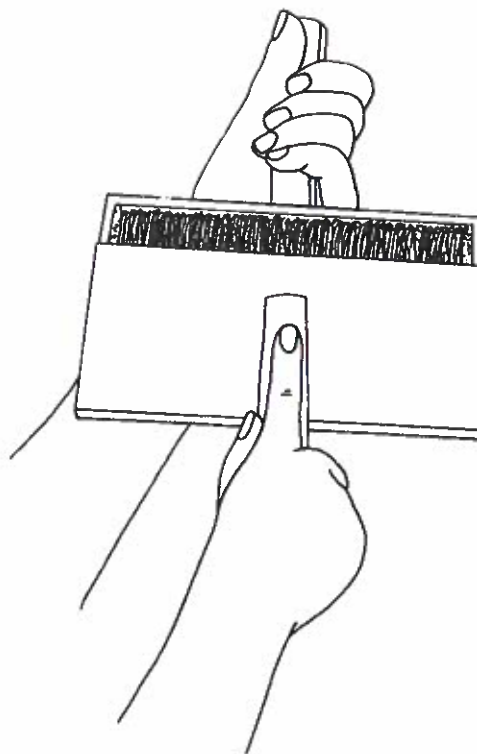
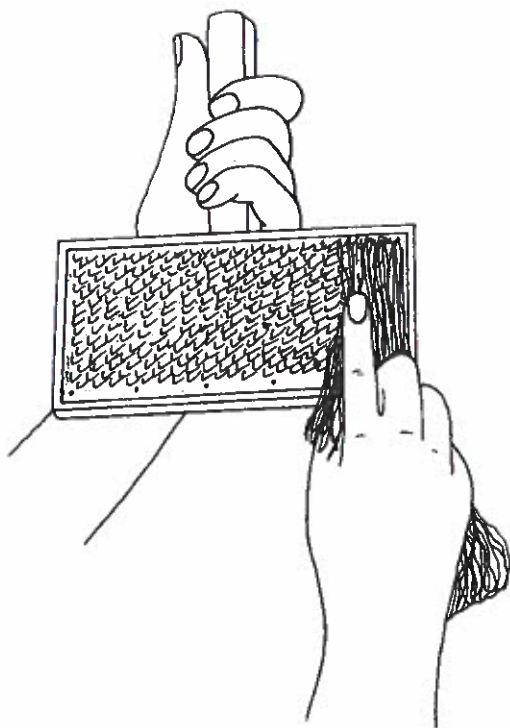
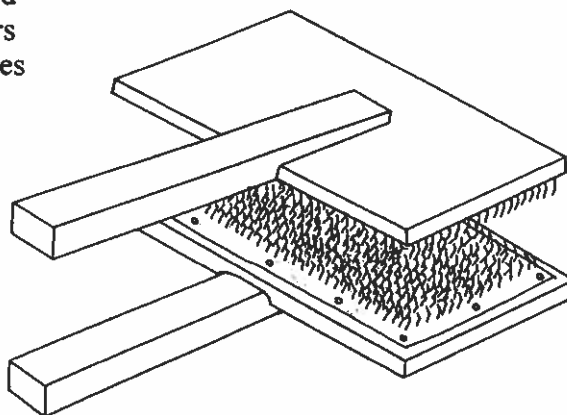
The whorl can be made from a 2- to 3-inch circle of solid wood, such as a coaster or wheel from a hobby shop. Drill a hole in the exact center of the wooden circle and insert the shaft so that the whorl is about 1½ inches from the pointed end. The shaft needs to fit tightly, so apply wood glue to secure the whorl. Test the balance and rotation of your spindle by spinning it on the pointed end like a top. If the whorl is not centered the spindle will wobble and making yarn will be more difficult.



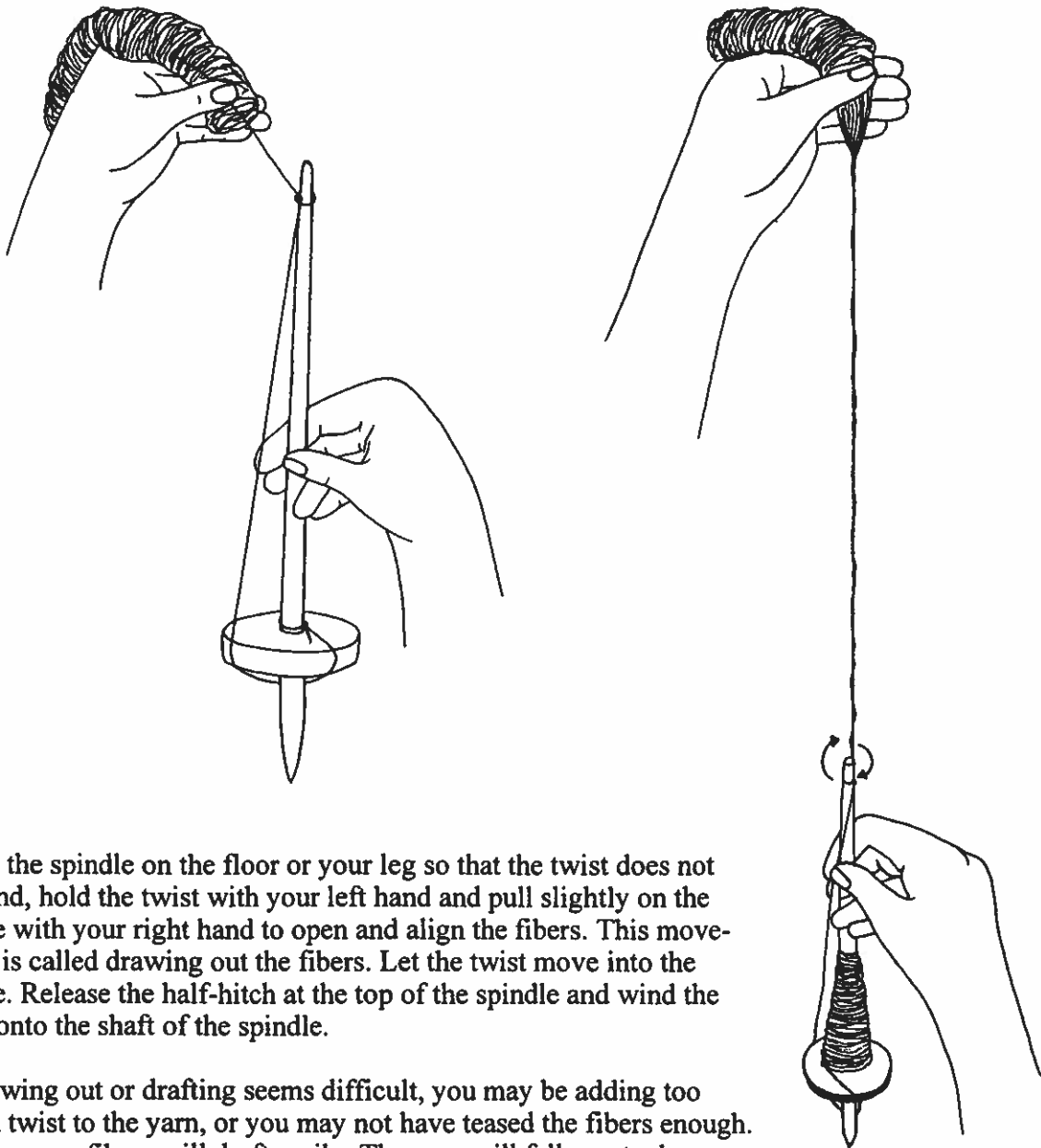
## P reparing Fibers for Spinning

Choose a clean, unmatted fleece. You may spin the fleece in its natural grease or wash it first. To wash fleece, run warm water into a tub and add a small amount of mild dishwashing detergent. Gently place several ounces of wet fleece into the tub and let it soak for about half an hour. Do not agitate the fleece or it will felt. Lift the fleece from the now cooled water and place it in clean water of the same temperature to rinse. Rinse several times if necessary.

To prepare fibers for spinning they must be carded or combed. Carding separates and fluffs the fibers using a brush-like tool with metal bristles. It makes the fibers easier to spin. Carded yarns, called woolen yarns, are usually soft and fuzzy. Combed fibers produce smoother, more tightly twisted worsted yarn. Combing with a metal dog comb can straighten the fibers. If you do not have hand cards to open and separate the fibers, tease them apart with your fingers.



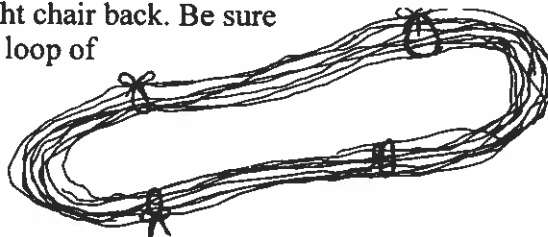
To make spinning easier, tie an 18-inch piece of commercial yarn to the spindle next to the whorl and wind it onto the shaft. Loop the yarn over the top of the spindle in a half-hitch at the hook, and take a handful of teased or carded fiber and place it next to the yarn. Twist the spindle away from you with your right hand while holding onto the fiber and yarn with the left hand. You should see and feel the fibers twisting together in your fingers. The small triangular area between the yarn and fiber is the drafting triangle or the drafting zone. It is where the drafted fibers meet the twist, and is the place where yarn is made.



Place the spindle on the floor or your leg so that the twist does not unwind, hold the twist with your left hand and pull slightly on the fleece with your right hand to open and align the fibers. This movement is called drawing out the fibers. Let the twist move into the fleece. Release the half-hitch at the top of the spindle and wind the yarn onto the shaft of the spindle.

If drawing out or drafting seems difficult, you may be adding too much twist to the yarn, or you may not have teased the fibers enough. Loose, open fibers will draft easily. The yarn will fall apart when you try to wind it on the spindle if you have not added enough twist.

When you have spun enough yarn to fill the spindle, make the yarn into a skein. Wind yarn from the spindle around a straight chair back. Be sure to tie the skein in at least four places with a small loop of extra yarn to keep it from becoming tangled.



To set the twist in yarn, soak the skein in warm water for about twenty minutes. Lift the skein out of the water and gently squeeze the yarn to remove excess water. Hang the yarn in a warm dry place with a weight on the end to straighten the yarn and allow the twist to be evenly distributed along the yarn. When the yarn is dry it will be ready to use.

After the skein is finished, hold it up to see if it drifts to the left or the right. A skein that hangs straight is called a balanced yarn.

## S standards for judging handspun yarn

### *General appearance*

- Yarn should be clean
- Properly skeined and tied
- Skein should hang straight (balanced)

### *Characteristics of the yarn*

- Uniform diameter (except in the case of fancy yarns).
- Evenly distributed twist
- Adequate strength for intended use
- Appropriate fiber selection and processing method for intended use

## References and Resources

Interweave Press, 201 East Fourth Street, Loveland, CO 80537-5655, publishes books about spinning, weaving and a broad range of textile arts including these spinning resources:

*Fleece in Your Hands: Spinning with a Purpose, Notes and Projects*; by Beverly Horne: Interweave Press, Inc., Loveland, Colorado (1986).

*Hands On Spinning*; by Lee Raven: Interweave Press, Inc., Loveland, Colorado (1987).

*In Sheep's Clothing: A Handspinners Guide to Wool*; by Nola Fournier and Jane Fournier: Interweave Press, Inc., Loveland, Colorado (1995).

*Spin-Off: The Magazine for Handspinners*. Published quarterly by Interweave Press, Inc., Loveland, Colorado.