

felt fashion

JENNE GILES

COUTURE PROJECTS FROM GARMENTS TO ACCESSORIES

QUARRY



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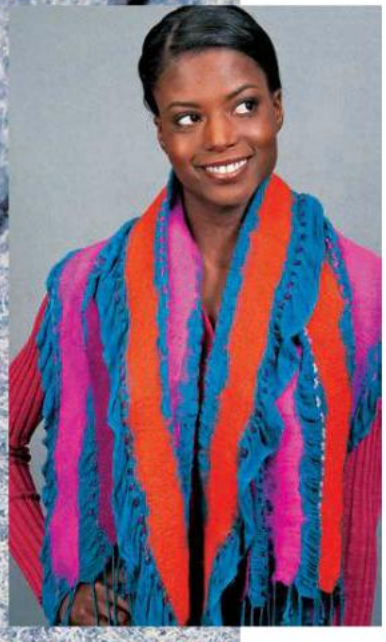

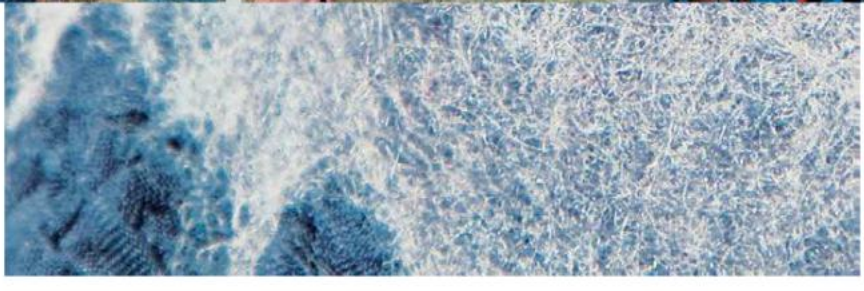

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INTRODUCTION

FELTING is one of the oldest ways of making textiles. Its traditional roots go back to a time when people were just learning to fashion protective clothing from leather and plant fibers, and it has been with us ever since. A felt renaissance is afoot in the world of contemporary arts as creative souls reawaken to the importance of handmade things and organic processes.

Felt's contribution to design is internationally recognized in museums and galleries, and on theatre stages and the runways of the fashion world. In recent years, the groundbreaking *Fashioning Felt* 2009 exhibition at the Cooper-Hewitt Design Museum in New York City reminded the world of felt's importance. It dazzled with felt's possibilities for architecture and interior design, and introduced us to contemporary artists working in different ways toward the common goal of felt fashion. American artists Andrea Zittel's conceptual felt dresses and Janice Arnold's theatrical textiles for Cirque du Soleil, as well as Germany's Hut Up's felt clothing designs, illustrate the remarkable range of expression for wearable artisan felt.

Increasingly, felt is finding its way to the very pinnacle of the fashion realm. World-renowned designers such as Japan's Yohji Yamamoto and Issey Miyake have used industrial pressed felts to create dramatic gowns, and Italy's Miuccia Prada has been known to embellish her garments with needle-felted wool. A newly emerging trend among contemporary fashion designers is to commission artisan felt makers to create custom felts for their couture collections. Fashion and felt have a similar spirit of creativity and improvisation.

Angelika Werth's felted garments exemplify the possibilities for couture fashion and hand-worked wet-felting techniques.

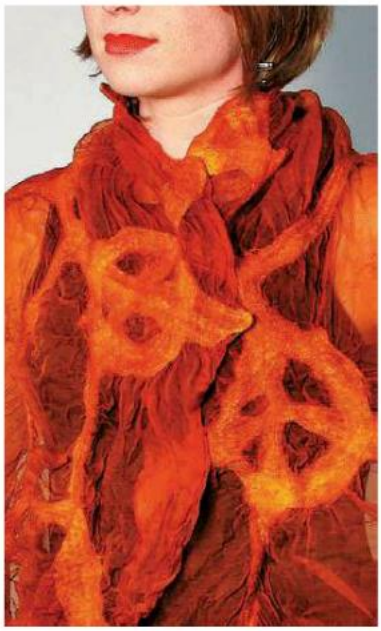
Keeping up with the latest fashion requires ingenuity. When we look at our wardrobes in the morning to put together the perfect outfit, or as we prepare for a special occasion, we see what we have to work with and discover new and inventive ways to combine our clothes to convey personal statements. Felting, too, requires ingenuity and invention. No matter how well we plan, the wool can have a will of its own, changing in ways that are sometimes different than what we expect. By listening to the wool, we'll never just make something—it will always be a discovery; the process requires us to be on our toes.

This book combines the intersecting worlds of felt and fashion. It guides you through the basic felting skills you need to make your own favorite fabrics. It also introduces you to garment construction, hand-sewing techniques, embellishment and dyeing, and methods for simple pattern making. It is a handy resource to help untangle the world of non-woven textiles, illustrating the variety of materials available to work with and describing the tools felt makers have discovered along the way.

Barbara de Jounge explores the playful possibilities of fulled wool felt.

DEFINING FELT

Felt is typically associated with wool felt, with its excellent breathing and insulation qualities, but not always. Felt also refers to a great number of fabrics used in the textile industry. It is important to know whether they are artisan felts or industrial felts, fulled felts or needle felts, since each is particularly suited to making functional, fashionable items.



FELT AS FABRIC

Felt is a unique material, a non-woven textile very different from woven fabrics that are common in everyday use. Woven fabrics are made with a warp and a weft, interlocking at a 90-degree angle. Most of these fabrics are strongest in their warp and weft direction; this means that if you cut them at a diagonal 45-degree angle called the bias, they get floppy and can stretch easily out of shape. Felt does not have this orientation and will be equally strong in all directions, meaning that it can be cut in any way and still hold its shape. A cut edge of felt material will not fray like woven fabrics, which makes felt a versatile choice for artists, designers, fashion, and even industrial uses. That being said, the word "felt" is used very liberally to describe a wide range of non-woven products, not all of which have been made by hand and not all of which are made with wool.

Lauri Chambers makes her friendly hand-felted hats by combining otherworldly shapes and simple blocked forms. (Photographer: David Conklin)

wool. (Photographer: Dan Kvitka)

ARTISAN FELT

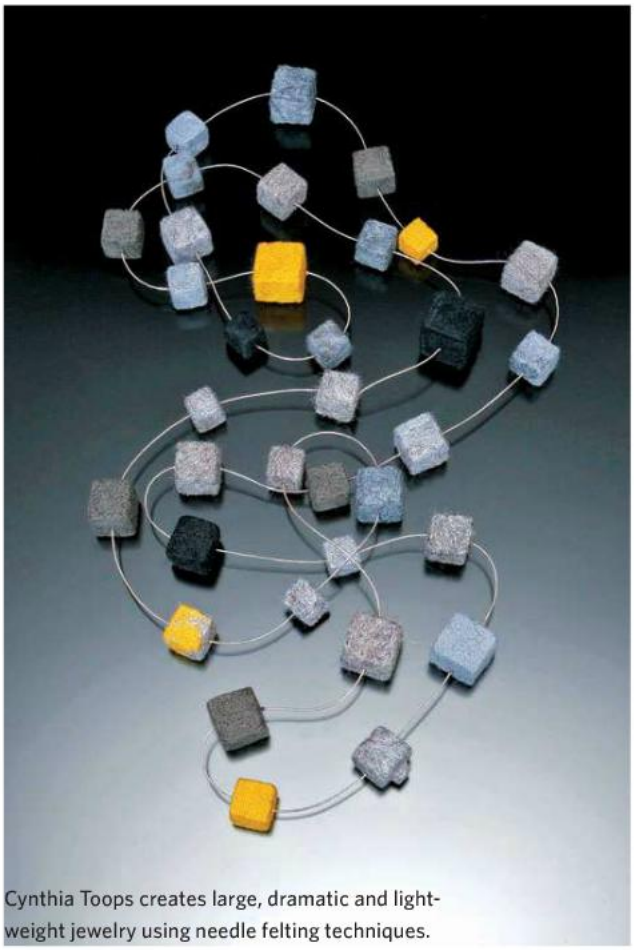
Artisan felt, or true felt, refers to felt made by hand from loose wool fibers. It covers many of the hand-felting techniques described in chapters 4, 5, and 6. Following is a list of types of artisan felt.

Wet-felted wool is the oldest form of felting going back to the Neolithic era of man (9,500-5,000 BCE). Because of the availability of wool and the relative ease of manufacturing, felt would have been a good alternative to animal skins for the making of clothing and shelter. In fact, techniques similar to felting were used to soak and beat plant materials to form

matted cloth around the same time, so it stands to reason that felted wool has been around a long time. To this day, felt is still made with the same techniques: heat, moisture, and agitation that turn loose wool fibers into densely matted felt materials. This method is popular historically for making shoes, vessels, clothing, hats, and even houses.

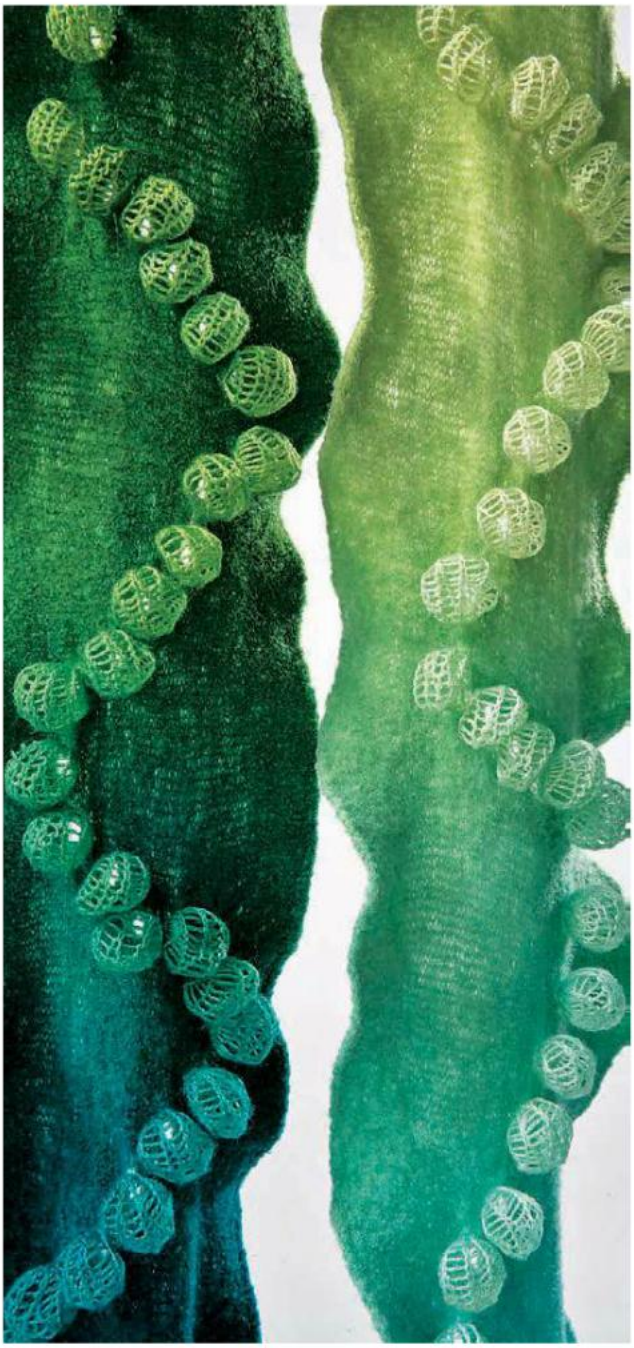
Nuno felting is a variation of wet felting in which wool is felted through woven fabric. There is some archeological evidence of nuno felt, also called "laminate" or "embedded" felt, from the eighth century BCE. Nuno techniques allow for interesting texture effects and unique surface designs. It can also be made much lighter in weight than traditional all-wool felt, lending it engaging movement and drape. It is often used for scarves and shawls, and is especially suited to making fashionable fabrics because of the range of weights possible.

Author Jenne Giles explores the expressive possibilities of nuno felting.



Cynthia Toops creates large, dramatic and lightweight jewelry using needle felting techniques.
(Photographer: Doug Yaple)

Needle felting is a popular dry-felting technique in which a long, barbed needle is used to tangle wool fibers together. The felting needle, typically a thin needle with several barbs near its point, was originally invented in 1866 to mimic traditional wet-felting techniques without the use of soap and water. In fashion, it is primarily used for embellishment or small projects since the technique is quite time consuming.



Jeung-Hwa Park's fulled wool knitted felts combine a delicate sensibility of color and texture with the exuberance of contemporary form.

Fulling describes woven or knitted wool fabrics pounded in hot water to shrink them into a material similar to true wet-felted wool. The term stems from the Medieval Latin word fullare, meaning "to walk on or trample." Fulled wool is an excellent material for jackets and bags because of the enhanced strength of the weave.

Boiled wool is a variation of fulled wool specific to knits that have been shrunk. Boiled wool is often used for making berets, scarves, vests, cardigans, coats, and jackets. Fulled and boiled wool are the felts most often found in commercially produced clothing, though they can also be created using artisan methods by spinning, weaving, and fulling wool to make lovely textured garments.

COMMERCIAL FELT

Commercial felt describes felted wool that has been created by industry, not handcrafted by individual artisans, for specific uses and of a consistent and uniform quality. Traditionally, the greater the wool content of the commercial felt, the better its quality. Following is a list of types of commercial felt.

Craft felt is the non-woven material sold at craft and fabric stores often used for children's projects. It is usually produced from acrylic fibers, a synthetic, plastic fiber, and is punched with needle-felting machines to form fabric. Craft felt can be used for felt appliqué as it was on the poodle skirt popular in the 1950s.

Designer felt refers to flat pieces of pressed felt often made from better-quality wool in various uniform thicknesses. Designer felt is frequently used in fashion and interior design.

Hat bodies, also called hoods, flares, or capelines, are commercially produced and made specifically for the hat-making industry. Professional hat makers work with various hat bodies to block specific hat styles. Modern hat bodies are available in different weights and surface finishes, the most common being flat, sueded, velour, and beaver. Hat body felt is so dense that it can be shaved with a knife or smoothed with sandpaper.

DeAnna Gibbons transforms hat bodies into chic hats using traditional millinery techniques. (Photographer: Michelle Blioux)

Danielle Gori-Montanelli combines designer felt with the precision of jewelry making to create her exuberant pieces.

INDUSTRIAL FELT

Industrial felts are made for specific applications in manufacturing and industry. It can be made of all wool, but is more often constructed from animal, plant, and synthetic fibers. If less than 50 percent of the fibers are wool, it will not have sufficient strength from felting alone, and binders and adhesives are used to reinforce the material. Industrial felts can be die-cut to stamp out shapes or can be tooled with woodworking lathes and grinders. Many commercial felts are made with industrial methods, so it is worthwhile to know the differences and techniques used in their production. Following is a list of types of industrial felts.

Feltlike synthetics use adhesives or the melting capabilities of certain materials to produce non-woven textiles. Examples include polypropylene, Teflon, Kevlar, and rayon.

Josh Jakus' remarkable Um Tote captures the flexibility of design possible with industrial pressed felt.

Needle felt is produced industrially using machines that have thousands of needles that move up and down to interlock the fibers. This type of industrial felting uses the least wool content. Needle marks are usually visible on the surface and the felt appears corrugated when cut.

Pressed felt relies on wool's felting strength to hold the interlocking material together. It is also produced with steam and pressure to make thick, homogenous pads measuring up to 3" (7.6 cm) thick.

Woven felts are made from woven yarns that are felted with steam and pressure to make the material more durable. The felt fabric used for covering billiard tables is woven felt.

Felt is an amazing material. Its colors, shapes, and forms offer many opportunities for unique self-expression. Chances are you already know this or are on the road to discovery.

One of the things that makes felt so exciting to work with is its versatility. Clothing, toys, curtains, and cushions are some of the infinite possibilities from which to choose. From the bottom of your shoes to the tip of your hat, just about any clothing item or accessory can be made from felt. You can even make a lovely yurt to store your felt creations.

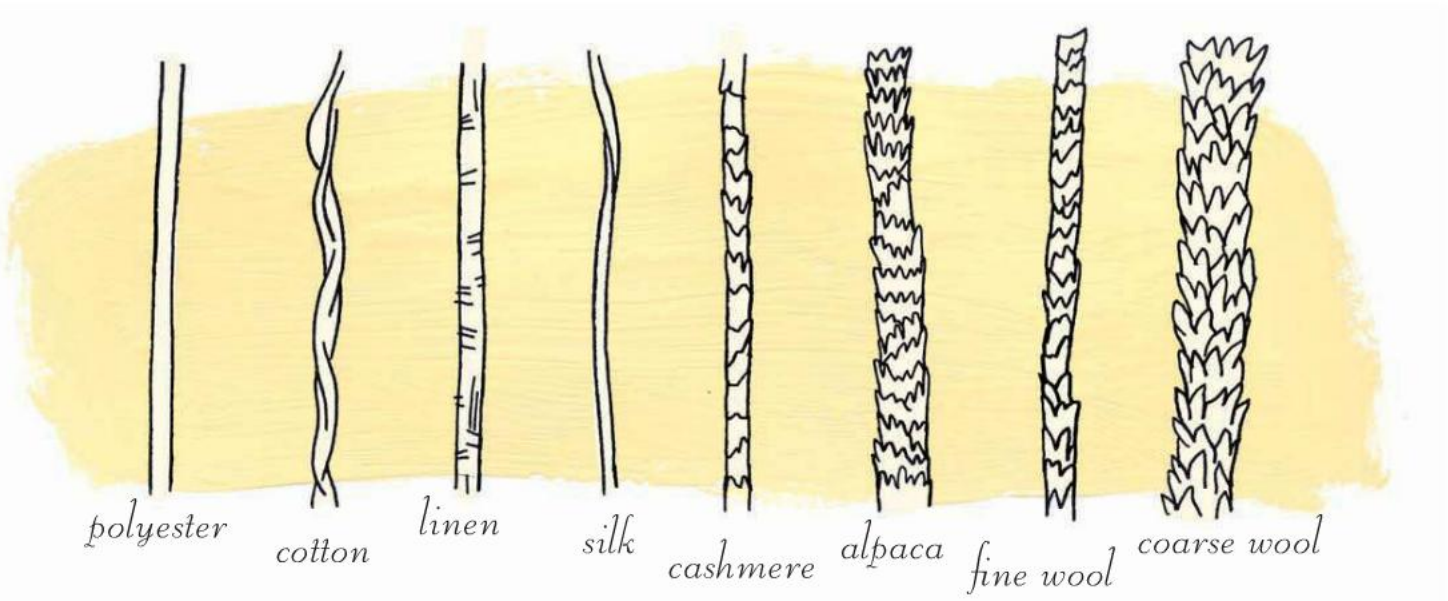
Felt is chic, it is contemporary, and it is fashion forward. Many modern-day designers have collaborated with felt makers to create the latest fashions, and contemporary felt makers have begun venturing into the exciting realm of fashion design. Premium-quality wool is readily available, relatively inexpensive, and just waiting to be transformed into sumptuous felted fabric.

For those concerned about the ethical issues, take heart; felting can be a great "green" way to produce textiles at home and complement your desire to follow organic, renewable, and sustainable practices. It's also full of challenging surprises, inspiring the felt maker to learn and improvise. This makes felting a good exercise for the mind and, with its hands-on techniques, invigorating for the body.

Felt is an organic, hands-on process that doesn't require a great deal of experience to get started. In fact, its recipe is sublimely simple: a combination of wool, heat, and agitation, some hot, soapy water, wool, and a table you can get wet.

MATERIALS

Part of the joy of working with felt, and with garment-making in general, is the affinity for textiles and the materials they are made from, so it's a good idea to know a bit about the nature of these materials. This way, you can make informed decisions about the materials you might find when working in the world of felt fashion.



FIBERS

Felting has everything to do with fibers. Fibers are like natural threads—either long, continuous strands called filament, like silk, or smaller bits called staples, like wool and cotton. The fibers are harvested, spun, twisted, woven, and treated in a variety of ways to form cloth. Felting opens the door to working with the raw materials, making our own combinations and creating our own "weaves."

There are many animal fibers that will felt to some degree, sheep's wool being the very best, but other exotic fibers like yak and camel will felt, too. Wool can also be combined with other non-felting fibers like silk, cotton, or rayon, as long as there is enough wool to felt around the non-felting fibers. The fact that wool can felt through all sorts of porous fabrics means there is a wide palette of materials to use for felting.

WOOL

Wool and animal fibers possess the unique qualities required to felt: scaly surface, natural elasticity, and the ability to move along the length of the fiber, called creep. All fibers felt a bit differently, from animal to animal. Even the wool from the same sheep can vary from season to season depending on the animal's health, nutrition, stress, and age. A good rule is to test the fiber by felting a small bit between your fingers to determine how promising the fiber (or fiber blend) will be for felting.

Wool's scales are responsible for felt's staying power. The scales are attached to the base of the fiber's core and the ends are jagged and rough. When they are opened up by heat and moisture, they act like a million little grappling hooks that help work the wool into a dense mesh. Once the fibers are enmeshed, they do not come apart easily. Not only do the scales allow wool to felt, but they also give wool fabric their unique ability to resist dirt, wick water, and insulate, which makes wool such a respected material for jackets. Following is a list of terms relating to other unique properties of wool fibers.

Creep is a colorful term that describes wool's ability to move along the length of the fiber. When pressure is applied to the tip of the wool fiber, it shrinks back toward the root, making wool shrink, or full. Creep is what happens when your favorite wool sweater goes through the hot cycle.

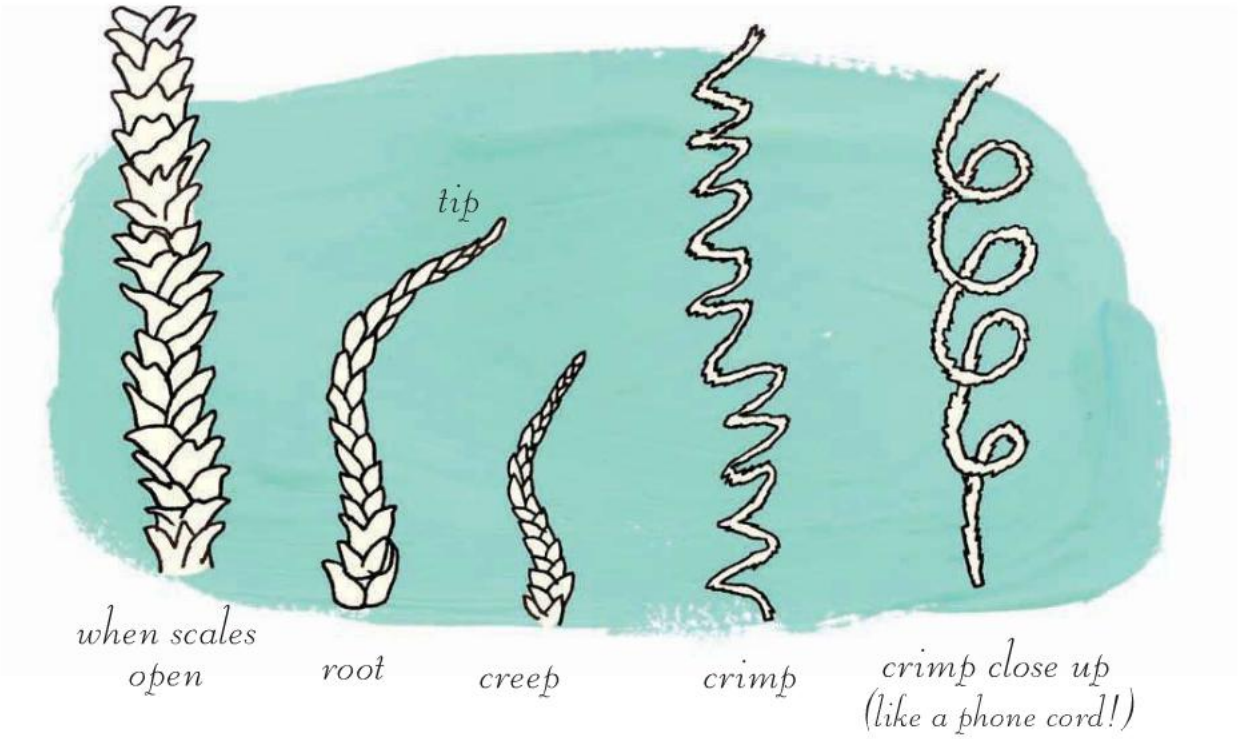
Crimp refers to the wavy undulations of wool fiber and also refers to its natural spiral curling. Better-quality wool has a finer and higher crimp. The fineness allows the wool to work its way into much smaller spaces and the crimps to twine around other fibers, making the felt more dense and difficult to pull apart. The crimp is what makes good felting wool so soft and fluffy.

Elasticity describes the ability of the wool fiber to elongate when extended and retract when released, a bit like a rubber band. This elasticity makes wool tough and wool felt flexible.

The quality of the wool varies according where the wool comes from on the sheep's body. For example, the wool from the sheep's back is finer than its belly wool and there can be long, stiff hairs in a sheep's coat, called kemp, which do not felt well at all. The quality of the wool is determined by the fiber's thickness, measured in microns, and the length of the fiber, called staple length. Fine wools, like merino, which has a small micron size and long staple length, produce smooth, pliable felt that makes luxurious felt fabric.

When the wool fleece is sheared from the sheep's back, it is washed to remove dirt and debris. This process is called scouring and it also removes the sheep's natural protective grease, called lanolin. The wool is then carded, which is done by a machine that combs out and separates the individual fibers. A well-carded wool will allow the wool fibers to act individually, move freely, and intermesh, which enhances the wool's potential to make a fine-quality felt. Longer fibers are separated and combed into wool tops. The carded wool is then laid out in thick pads, called batts, or is drawn and spun into long strips or rope-like bundles, called roving or sliver.

Roving or batts of wool can be found at many knitting stores or online. It varies according to the breed and the fineness and length of the staple, and is identified such as "Superfine Merino Top, 19 microns." Roving is also commonly available in blends of wool and other fibers, such as Merino-Tussah 80/20 (80 percent merino wool, 20 percent tussah silk blend).



WOOL VARIETIES

There are many varieties of wool and each produces a different quality of felt. Wool is graded as fine, medium, and coarse. Fine wool is measured at less than 22 microns, medium wool measures between 22 and 30 microns, and coarse wool measures 30 microns or more. Most wool between 11.5 and 24 microns is suitable for making clothing. The following is a list of popular breeds that produce fine to medium wool.

Cormo was first developed by crossing Corriedale and Merino breeds. The staple length of the wool measures 2½–4" (6.4–10.2 cm) and the fiber diameter measures 17–23 microns.

Corriedale refers to a breed that is a cross between Lincoln sheep, an English Longwool, and Merino sheep and originates from Australia and New Zealand. It has a staple length of 3.5–6" (8.9–15.2 cm) and a fiber diameter measuring 24.5–31.5 microns.

Finn, also called Finnish Landrace or Finnsheep, is a breed that belongs to a group of Northern European short-tailed landrace sheep, which also includes Shetland, Icelandic, Romanov, and Spælsau. Their staple length measures 3–6" (7.6–15.2 cm) and their fiber diameter measures 24–31 microns.

Merino is perhaps the most popular wool breed, especially prized for its soft, fine fibers. The fiber can measure as fine as 12.5–24 microns and has a staple length of approximately 2½" (6.4 cm).

Rambouillet is a cross between Spanish Merino and native French stock. The Rambouillet (or French Merino) produces a longer staple length ranging from 2–4" (5.1–10.2 cm) and a fiber diameter of 18.5–24.5 microns.

SPECIALTY FIBERS

Many animal fibers have some ability to felt, some more than others. Because of this, they are often combined with a highly felt-able wool to produce a blend that gives felt a distinctive look, feel, and exotic flavor. Following is a list of types of specialty fibers.

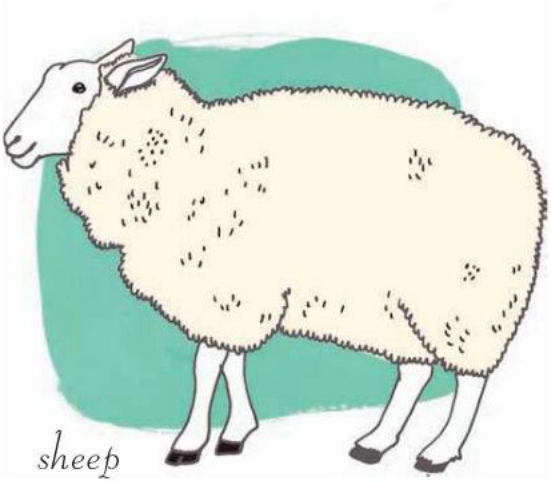
Alpaca are related to camels and their fiber is rich and silky with considerable luster. The fiber diameter of alpaca measures from 22.5 microns (baby alpaca) up to 34 microns (adults). The staple length measures approximately 4–6" (10.2–15.2 cm).

Angora comes from the Angora rabbit, which produces this exceptionally soft and fluffy fiber. The angora fiber can measure as fine as 12–13 microns and has a staple length of approximately 2" (5.1 cm).

getting WOOL-WISE

Wool loves water; it animates the fiber and gives it spirit. Wool fibers are constantly regulating the water they have—giving water vapor off if the air in the environment is too dry or taking water in if the environment is too wet. Wool can even absorb up to 30 percent of its weight in moisture without feeling the least bit damp.

Wool fiber also reacts to changes in acidity or alkalinity by opening outward in a strong acid or alkaline bath. Wool is naturally slightly acidic, having a pH value of 4.9. Soap is a moderate base, measuring around pH 10, and vinegar is a moderate acid with a pH value of 2.4. This is why soap and vinegar are used to manipulate wool fibers when felting by hand.



sheep

Shown here (by row, left to right) are rovings of mohair, camel and bombyx silk (see page 24) blend, angora/merino/silk, black alpaca, cashmere, gray alpaca, suri alpaca, and a hand-dyed skein of merino/bombyx 50/50.

Camel fiber is from the soft and fine hair usually from the camel's undercoat. Camel hair has a fiber diameter of 15–22 microns and a short staple length of 1–3" (2.5–7.6 cm).

Cashmere is from the soft, downy underbelly of 68 different breeds of goats. It has a fiber diameter measuring 11–18 microns and a staple length of 1–3" (2.5–7.6 cm).

Guanaco animals originate in the Andes Mountains in South America and are most closely related to llamas. They are exceptionally rare and produce a highly valued fiber that is soft like cashmere. Guanaco has a short staple length of less than 1" (2.5 cm) and the fiber diameter ranges from 14–18 microns.

Llamas produce a long, fine fiber. The diameter can measure from 20 microns (baby) to 30–40 microns (adults). The staple length can measure 5–7" (12.7–17.8 cm).

Mohair is the silk-like hair of the Angora goat, named, like the Angora rabbit, after the city of Ankara in Turkey. The mohair fiber has a high luster and sheen, its diameter measures 25–25 microns depending on the age of the animal, and the staple length measures 5–6" (12.7–15.2 cm).

Vicuña is considered the finest animal fiber in the world. It is known as "the bearer of the golden fleece." It is a small, usually wild animal that produces a small amount of coppery brown hair that often sells for five times the price of pure silver. It is an exceptionally fine material, with a fiber diameter of 6–13 microns and a staple length less than 1" (2.5 cm).

Yaks grow a long coat of hair that is remarkably soft and smooth. Yak fiber has a staple length of 1¼" (3.2 cm) and a fiber diameter of 15–22 microns.

SILK FIBERS

Silk is a luscious material, full of light and texture and surprisingly strong. It is made from the fibrous secretion that a silkworm spins to build his cocoon. It is a highly prized material for garment making. Following is a list of types of silk fibers.

Mulberry/Bombyx silk refers to the silk made from the cocoons of mulberry silkworms, *Bombyx mori*, that eat an exclusive diet of mulberry leaves. The careful cultivation of the worm produces a bright, light-reflective and continuous silk filament.

Tussah silk is among the "wild silks" produced by giant silk moths called *Antheraea*. These moths are raised outdoors on a variety of different leaves, and emit natural beige or tan colorations in the silk that the silkworms produce. Tussah silk is about twice as thick as *Bombyx* silk and can often be much shorter in length as the cocoon can be damaged when the moth emerges.

PLANT FIBERS

The main ingredient in all vegetable fibers is a natural polymer called cellulose. Cellulose is mainly obtained from cotton and wood pulp and can be mechanically processed into fabrics such as rayon. Following is a list of fabrics made with plant fibers that are biodegradable and generally earth-friendly.

Bamboo is made from the pulp of the bamboo grass, and is growing in popularity as a sustainable fiber. Bamboo is light, strong, luxuriously soft, and naturally smooth, so it's less irritating to sensitive skin.

Cotton is renowned for its softness, and makes very breathable fabrics. It is a staple fiber that grows around the seeds of a cotton plant, a native shrub to tropical and subtropical regions.

Flax fibers are soft, lustrous, and flexible. They are stronger but less elastic than cotton. Flax is used for making linen.

Hemp is one of the strongest and most durable natural plant fibers, and is remarkably sustainable. Hemp fabric often looks and behaves like linen. It breathes well, softens with time, and naturally resists mildew.

Lyocell (also known as **Tencel**) is made from wood pulp cellulose. The fiber is long and silk-like, producing soft, luxurious, breathable, and naturally wrinkle-resistant fabrics.

Ramie comes from the bark of a nettle plant *Boehmeria nivea*, native to eastern Asia. Ramie is one of the strongest natural fibers, with a silky luster and wrinkle-resistance, though it is not quite as durable as other fiber alternatives.

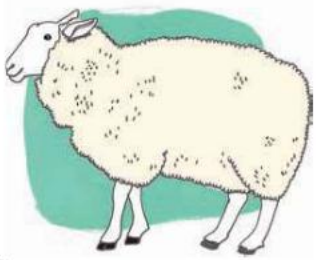
SYNTHETIC FIBERS

The first synthetic fibers were actually artificial fibers like rayon, manufactured from wood pulp cellulose. Increasingly, the use of plastic or petrochemicals has replaced natural wood pulp, producing truly synthetic nylons and polyester fabrics.

FABRICS FOR NUNO FELTING

Fibers are twisted or spun into yarns and threads and then combined to form textiles or fabrics. There are particular fabrics well suited to nuno felting. Among these, light silks with a porous weave are very popular. However, any material with an open weave will do, provided it is loose enough to allow the wool fibers to migrate though. The best way to tell if a fabric will felt well with wool is to blow on the fabric. If you can feel your breath passing through the fabric to the other side, it should work well.

Silk materials are measured in mommes (mm or mme), a unit of weight that measures the density of the silk, similar to thread count in cottons. Silk with a higher density can be felted through with fine wool that has a smaller micron size. Following is a list of fabrics ideal for nuno felting.



getting WOOL-WISE

Understanding the fibers you work with extends to how they take to the dyeing process. Wool, silk, and nylon can be dyed with the same family of dye products. Cellulose fibers, from plants such as cotton, rayon, hemp, linen, tencel, and bamboo, require different dye products for effective dyeing and fast color. When you start to work with fiber combinations (like wool and bamboo), be prepared for some interesting dye results before getting the color you want.

Chiffon is a soft, thin, sheer fabric with a crepe-like (crinkled) texture. It is sometimes called voile, the French word for "veil," and is often used for clothing or curtains. Cotton and rayon varieties differ substantially in feel from silk chiffon. Silk chiffon is available is a variety of weights ranging from 6–8mm, and in a double thickness of 12–15mm. Chiffon is provides an exceptionally strong backing for nuno felting.

Devore satin originates from the technique of selectively removing fibers from a mixed-fiber material, in this case a rayon fabric with a silk mesh backing. When the rayon is removed using a fabric etch, called burning out, an open silk mesh is revealed that is perfect for nuno felting. Velvet fabrics made with a similar combination of plush rayon on silk backing can be etched as well using the devoré technique.

Gauze is an extremely sheer and delicate fabric with a floating, almost ephemeral drape. In silk, it is one of the lightest fabrics available in 3–5mm with a porous weave well suited to felting.

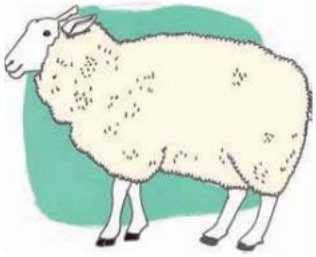
Georgette is similar to chiffon but with a more substantial hand, a slightly stiffer drape, a flat, opaque appearance, and a grainy texture. It can be made from silk or polyester fibers and ranges in weight from 8–12mm.

Habotai, also known as china silk, means "soft as down" in Japanese. This light and smooth silk is often used for lining jackets and is often painted with dyes. It has a lustrous sheen and a supple hand (or feel). Habotai is available in weights ranging from 5–16mm, with lighter weights more suited to nuno felting. It takes a bit more patience to felt through the tight weave, but the results can be worth it.

Organza, traditionally found in silk, can also be found in synthetic nylon and polyester fibers. It is a thin, sheer fabric with a crisp, natural stiffness that makes it a fun choice for sculptural felts. Organza is sometimes called organdy, mousseline, or silk muslin and is available in weights of 4-6mm.

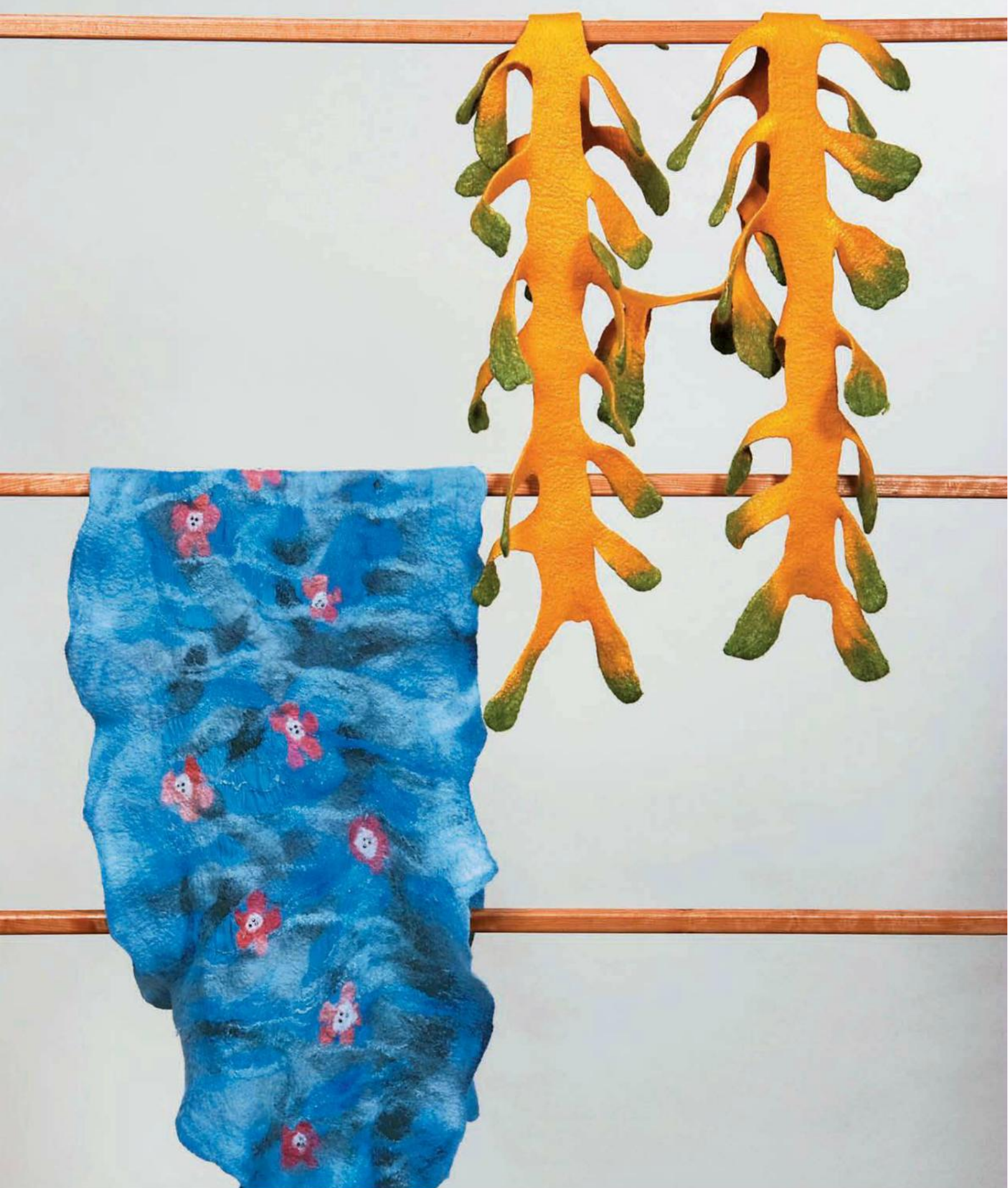
Other fabrics that make excellent foundations for felting include buckram, mesh, tulle, scrim, lace, and netting.

getting WOOL-WISE



Just about any other natural fiber can be felted with wool, provided that wool makes up 50 percent of the blend. This opens the doors to mixing and matching non-feltable fibers into our felts. These natural fibers are also those that we might encounter in the world of fashion textiles, so it is good to know something about them.

Facing page: An array of silk fabrics including organza, habotai, and chiffon, dyed for future use.



CHAPTER 3

TOOLS & TECHNIQUES

The best tool for making felt is a pair of hard-working, sensitive hands. Hands feel the wool as it changes from spongy fibers to a densely matted material. In addition, manual dexterity is required for sewing. Any project in this book can be made from start to finish by hand, given enough patience, sensitivity, and creative problem solving. That being said, there are a number of nifty tools for both felting and sewing that can make things faster and easier.

TOOLS

BASIC SETUP

The principles of felting are very simple: Wool plus water and a dash of soap is worked by hand until hardened, then rinsed and dried. The following information covers the basic tools that are essential to felt making. We also take a close look at basic household items that can be used as tools to help out in the process.

People are always inventing new tools for felt making and there are many times I discover a few of my own simply by looking around the house. Felt-making tools can be found in the kitchen, bathroom, and laundry room, or at hardware or restaurant supply stores. There is no telling when, or where, you will discover the next perfect tool.

BASIC *felting tools*

The following tools are used in nearly all of the projects in the following chapters:

- bucket of hot water
- dry felting table
- liquid soap
- marker
- nylon netting
- rubber gloves
- sponge
- towel
- vinegar
- washboard

SUCCESSFUL FELTING: LOOKING AT THE DETAILS

Felting is messy. Even though it uses water and soap, which are very clean, working with these elements means taking some precautions and preparing ahead of time. Taking the time to felt-proof your space and having the correct tools handy can allow you to get into the process without fear of unexpected splashes and spills. You only need a few basic things to begin felting. First is a good place to work and a waterproof table to work on. Felt can be a very wet medium, and it's best to be prepared for things to get a little sudsy.

A **workspace** with a ready supply of water such as a kitchen, laundry room, garage, or even outdoors is a great place to make felt; just about any area that can be cleaned easily if water gets on the floor will work. It is important that there is no breeze or draft in the felt-making space since a sudden draft can upset the wool fibers in the delicate layout stage.

Your **felting table** should be flat and waterproof. The size of your table will determine how big your projects can be; a small table will work fine for hats and small accessories, but to create nuno pieces, a bigger table is preferred. Waterproof your table by putting down a sheet of plastic. A thick, plastic dropcloth available at hardware stores does a great job if secured at the edges. A heavy-duty plastic table can also work well. Your working table should ideally be 3" (7.6 cm) beneath your elbow to minimize strain on your back. It is also very helpful to have a second table, or shelf, nearby for dry materials.

Personally, I like to interact with the water, which makes for a soggy environment, but it is certainly possible to felt with less water by applying water slowly, and in smaller amounts, to avoid excess. A **water or drip pan** can also help limit water mess. How you work with water and how much water you work with depends on your environment and personal preference.

The felting table should be completely moisture-free to start, so use a **dry towel** to wipe down the table surface and allow it a couple minutes to dry. A **squeegee**, sold at hardware stores, is another way to remove water from the tabletop.

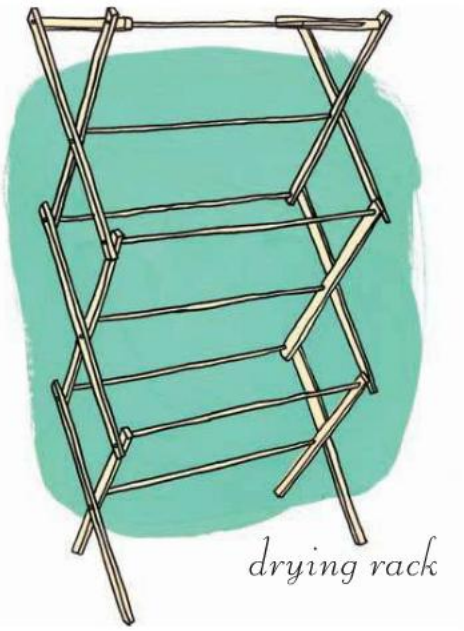
OPTIONAL TOOLS

While they are not required for felting your wool, the following items can help make the process a bit easier.

Blue plastic bubble wrap is a thick plastic used for spa and pool covers. Similar to plastic bubble shipping wrap, only thicker and blue in color, one side of the plastic is smooth and flat while the other side is covered with blue bubbles. This material is especially helpful in the rolling process when the flattened, wet wool is rolled (often over a **foam swimming noodle**) and worked with both arms, or put in a rolling machine to start the felting. It is necessary to stretch the bubble wrap so the working surface is as flat as possible. This can be done by securing the edges of the plastic to the felting table with **steel spring clamps**, available at hardware stores.

Some felt makers prefer the resistance of hard, plastic **PVC poles** to help full the wool, however, it never hurts to have both, as they are quite inexpensive and can be useful in a variety of ways. Alternatives to the bubble wrap include a **bamboo mat** (found commonly as a bamboo window screen; use with the fasteners removed), a large piece of **industrial felt** (used as a "mother felt"), or a piece of thick **canvas** (ideal for creating thick rugs on the ground).

Drying racks help felt dry quickly if allowed to drip dry in a low-humidity environment. A drying rack is a clean designated place to let your pieces naturally "wick" the water out of the wool. This will dry the wool much faster than if it is lying flat. A clothesline or similar device works equally as well.



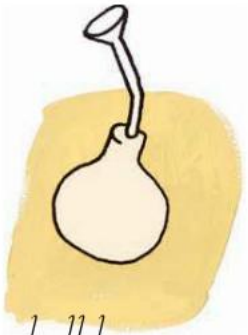
Felting needles are long, barbed needles made of carbon steel. The needle's barbs catch fibers and tangle them together though a process of *stabbing* and *jiggling*. A felt needle can be used individually or can be combined in a small jig, where many needles can be used together at once. Because felting needles can break easily it is helpful to place a foam pad behind the piece you are working on. It is also advisable to have a number of needles on hand just in case one or more bends or suddenly snaps. Felting needles are excellent for embellishment, sculptural detail, and small repairs.

Nylon/polyester netting, commonly used for mosquito netting and shower curtains, is used to protect the layout of the wool fibers when felting a flat piece. After the wool design is laid out on the table, a piece of netting is placed on top. The piece is then wetted with hot soap and water and pressed flat to remove excess water and air pockets. An excellent way to place the netting on larger pieces is to roll it over a tube, then unroll it over the piece from one end to the other. The netting does not mold and will not readily felt to the wool.

Plastic sheeting is any flat sheet of flexible plastic that can be cut to make resists. Resists are shapes or patterns of the final felt design cut from the plastic sheeting, and are used to prevent felting between layers. When choosing your plastic sheeting, consider its thickness. Plastic that is too thin will move easily and might become dislodged in the felting process, while plastic that is too thick or rigid will be overly harsh at the edges and fray the felt forming around it.

Rolling pins are excellent felt tools because they are easy on the hands and tough on felting. A selection of dowels (round wooden poles, cut to various sizes) and a traditional rolling pin with handles are helpful for rolling out excess water. They also work well when scrubbing thicker pieces on a washboard, or rolling small projects in combination with plastic sheeting or bubble wrap.

Washboards are especially helpful in the scrubbing stage thanks to their ridges. This method makes the wool full (shrink) and accelerates the felting process, producing a fine-quality hardened felt. A sturdy glass washboard provides stiff resistance to repeated scrubbing, and though any waterproof item with a ridged surface can be used to help agitate (scrub) the surface of a felt, I have found that a washboard works best.



SPECIALTY FELTING TOOLS

The following items are special tools that can help enhance your felting process.

Ball brause, also called ball browser, is a tool that gently sprinkles water over your felt without disturbing its fibers. It works faster than using a spray bottle and is gentler than using a sponge.

Battery-powered random orbit sander, normally found in a woodworking studio, has proven a powerful ally in the felt-making arena. Its jitterbug motion sands down the surface of wood in all directions, creating a soft and fuzzy uniform surface. The sander is especially adaptable to felting wool,

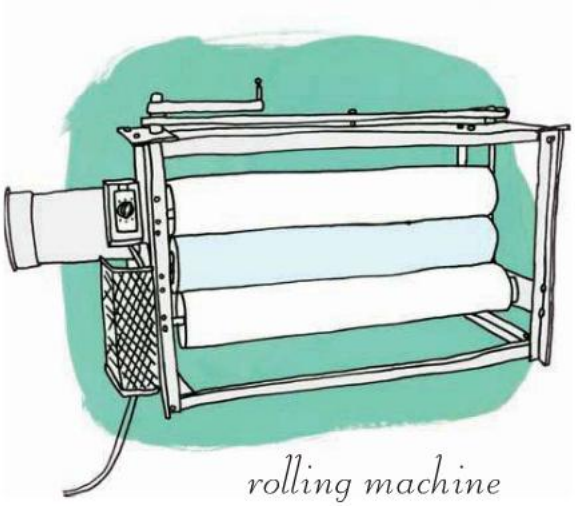
working the fibers in the same way to create a stronger, denser felt. Specific models of orbit sanders can be adapted to felting by covering the sanding pad with specialty-made fitted plastic "shoes"; just make sure your sander is a battery-powered, cordless model to avoid any risk of electrocution when working with water.

Centrifuge is an upright machine that uses gravity and centrifugal spin, at many times the speed of a commercial washing machine, to push water out of fabrics. The energy-efficient tool quickly removes water from felt, speeding up the drying time.

Electric kettle is an energy-efficient tool that delivers boiling hot water in a jiffy. Just make sure to cool the water to a workable temperature with cold water especially if you are working with bare hands.

Hand-carder is a wooden paddle with wire faces (small bed of nails). Fibers are combed by these small metal teeth as two paddles are brushed against each other. By transferring the wool fiber back and forth from the left-hand carder to the right-hand carder, the fibers are blended together. Hand-carders for wool have wide paddles and are curved. Two new slicker brushes, often used for grooming dogs, are good alternatives.

Needle embellisher is a machine that looks and acts like a sewing machine, except, instead of a needle and thread, the piece is fitted with felting needles to mesh fibers together.



Rolling machines are the modern version of a timeless Mongolian technique: rolling with horsepower. The Mongols would tie rolls of felt behind their horses and drive them for miles across the rough ground to help agitate wool fleece into thick felts. Today, the mechanical horsepower of an engine has replaced the Mongolian pony, substantially improving the time it takes to roll a felt piece by hand.

Rubber kitchen mats, available at restaurant supply stores and online, are used in commercial kitchens to drain liquid spills. They also ensure that there is enough traction on the floor to safely move around without slipping, and provide a spongy shock absorber that makes it possible to stand and work for long periods of time.

Wet/dry vacuums quickly and easily clean up excess water once the filter is removed. Another alternative is a standard kitchen mop, which is more labor intensive but works just as well.

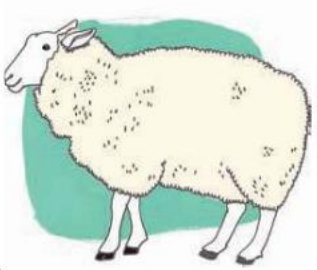
SAFETY EQUIPMENT

Wet-felting means working with water, often very hot water, and good safety gear can prevent water-related injuries like burns or discomforts like wet clothing. Following is a list of must-haves to keep the process fun and safe.

Apron, especially one that is waterproof, protects the front of your clothing from getting wet. You can use a commercially produced apron, or make your own using plastic-coated fabric.

Galoshes keep your feet dry. Add inserts to make yours more comfortable.

Gloves help protect hands that can get damaged by overexposure to water or the light abrasion of wool. It is ideal to have a couple different pairs to choose from: a light pair of dishwashing gloves retains sensitivity and mobility, but will not protect from very hot water and can tear easily. Thick neoprene/latex gloves are extremely durable and work well for scrubbing and working with very hot water, but can be clumsy for doing the more sensitive work. Switching between the two should meet your specific needs.



getting WOOL-WISE

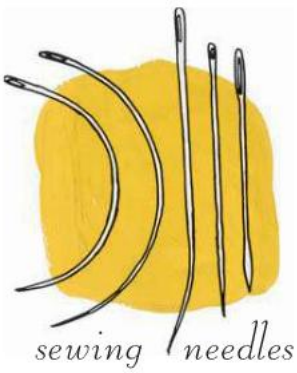
It is important to be extra careful when using electrical equipment near water, so be sure that your outlets are equipped with an inexpensive electrical device called a ground fault circuit interrupter (GFCI). These are standard in many kitchens and bathrooms, where electrical equipment is used near water and acts as a tiny circuit breaker.

BASIC SEWING TOOLS

Sewing is the craft of fastening materials together with needle and thread. It can be used to make clothing, to embellish surfaces through embroidery, or to add functional elements like buttons and snaps. It can be something used to quickly attach things together or can be the element that makes or breaks a fashionable piece.

Fabric scissors are preferred when working with felt. To keep scissors sharp, use them only to cut fabric and not paper or other materials, as this can dull their cutting edge.

Ironing boards are typically long and covered in padding and fabric for ironing. Often the legs are collapsible for easy storage. Ideally, it is somewhat firm, very smooth, and clean.

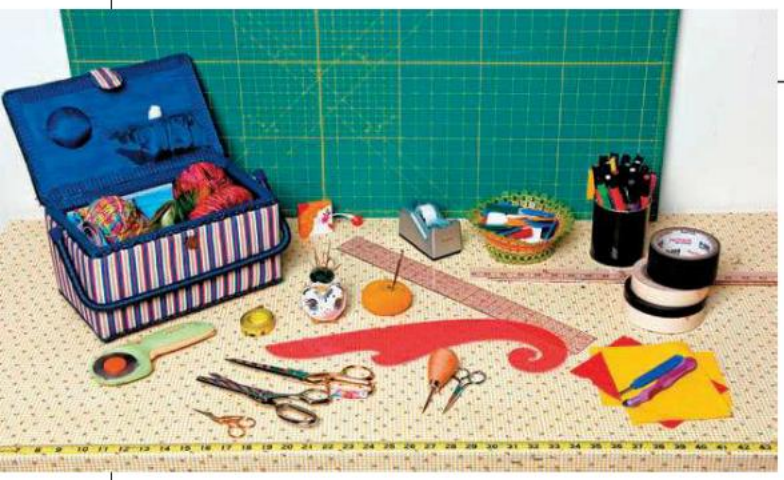

sewing needles

Needles come in all sizes. There are long needles, short needles, strong needles, soft needles, needles with big eyes, curved needles, and embroidery needles. Luckily, there is a **universal needle** that works well for most jobs; start with this one and build a collection of various needles over time.

Sewing table should be dry and flat so you can spread out your materials and felted fabrics. It is possible to use the felting table, provided that it is first cleaned, toweled off, and allowed to dry.

Steam iron produces lots of steam and is a very versatile tool. Wool responds well to steam smoothing its surface, and makes the wool more elastic for stretching. Steaming is also a great way to flatten a felt piece, making it more visually pleasing.

Thread can either disappear or be a highly decorative addition to a project. Polyester thread is strong and versatile and can handle most jobs. It is also possible to wax cotton thread or cotton-covered polyester thread to make them stronger and less likely to fray and tangle; they can then be set with a steam iron for a slick professional look. Other specialty threads such as silk, embroidery floss, and perle cotton have a lovely luster well suited for adding a decorative touch. When a felt piece is ready for dying, it is important to remember that silk or cotton thread will dye to match the wool, whereas synthetic polyester thread will not.



Useful tools for design, pattern-making, and sewing include (left to right) rotary cutter, sewing scissors, tape measure, French curve, awl, felting needles, transparent ruler, tracing paper, seam ripper, tracing wheel, and rotary cutter mat (in back).

SPECIALTY SEWING AND PATTERN-MAKING TOOLS

The following items are useful for sewing and pattern making, improving the quality of finished garments.

Awl is a tool that has a long, pointed spike. It is used in pattern making to mark the apex of darts and other important points. It is also used in leatherworking to pierce holes in leather.

Dress form is a modeled version of the human body, made to fit standard measurements (dress sizes). This form makes it easier to visualize an article of clothing from a three-dimensional perspective, allowing the felt fashion-maker to experiment with drape and design. Alternatives to a traditional dress form include adjustable dress forms, suitable for fitting but not conducive to pinning fabric, and creating custom dress forms from duct tape (online instructions are available). There are also companies that can make dress forms to your specific measurements.

dress form

French curves are tools with curved edges that help to shape curves on a pattern such as the armhole or neckline.

Garment steamer is a device that rapidly creates steam. It holds a tank of water that creates the steam, which is carried through a hose to a nozzle. When a garment or piece of fabric is steamed, gravity and heat help to pull out wrinkles. It is faster than ironing and will not scorch or damage most fabrics. A garment steamer is especially useful for silk, wool, and lighter weight fabrics.

rotary cutter

Press cloth is a piece of natural, undyed cloth that can be ironed through, protecting your felt and fabric from the unexpected staining and scorching. Silk organza makes an excellent press cloth.

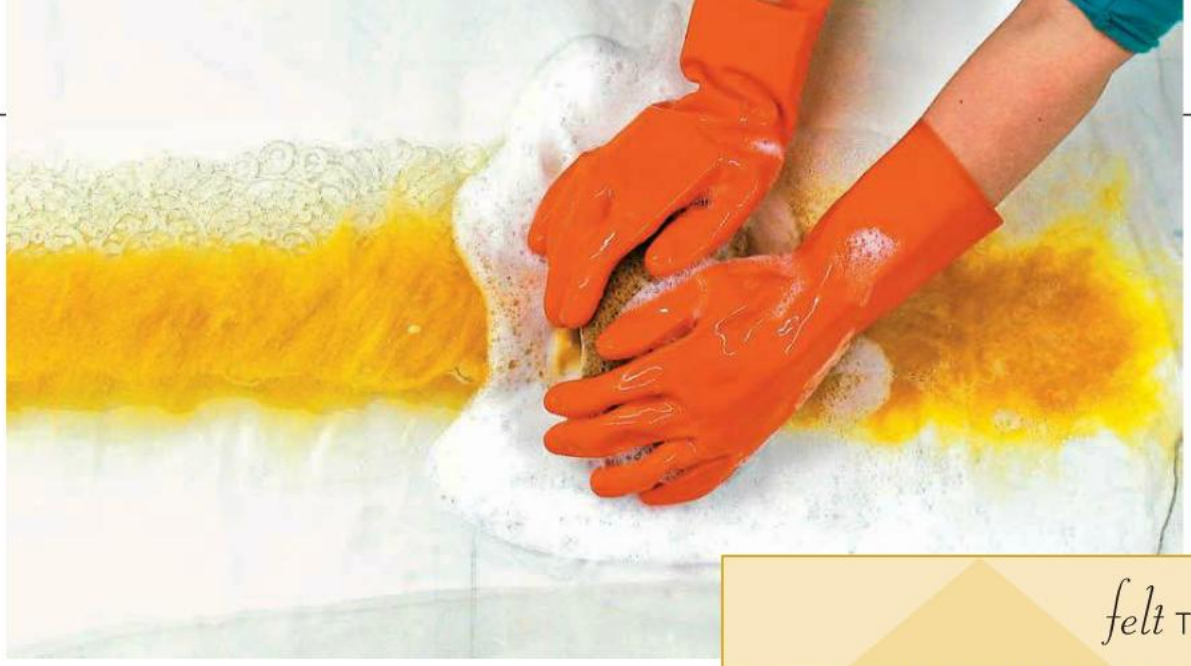
Rotary cutter is a razor-sharp tool that looks like a pizza cutter, cuts a beautiful, continuous line through thick fabrics, and is a fantastic alternative to the repetitive action of cutting with fabric scissors. It should always be used with a cutting mat and handled with extreme caution.

Serger, or overlock sewing machine, was once described to me as "the microwave of sewing machines" because it is so much faster than a standard sewing machine. A serger sews, trims, and finishes the edge of fabric all at the same time. It can be used to seam up the inside of a skirt without fuss or can be used to create a decorative finished edge, giving projects a more professional look.

Sewing machine, especially a durable choice, is an excellent investment. Because felt can be very dense, it is wise to consider a machine that can handle a varying degree of thickness. A number of modern sewing machines are equipped with a walking foot, a device that helps pull fabric through evenly and can keep stitches straight on thick fabrics.

Tailor's ham is used to press curves in a finished piece. Commercial hams have one stiff side and one slightly softer side. Similarly, a **seam roll** works well for ironing narrow areas such as sleeves.

Transparent rulers are clear plastic rulers with a straight edge. The grid on the surface marks inches and fractions of inches.



felt TIP

The water in our homes can be hard or soft water. Hard water is high in mineral content such as calcium. Hard water not only prevents the soap from lathering properly, resulting in an icky scum and lots of wasted soap, but it can also be detrimental to one's health and bad for felting. If the water supply is hard it can be treated with a water softener available at most grocery stores.

TECHNIQUES

BASIC FELTING RECIPE

Part of the fun of felting is that it requires very simple ingredients: hot water, soap, and vinegar.

It does not take much **soap** to felt wool; a little dab will do. To create the ideal lubrication that allows the wool fibers to interact and enmesh, the water should be just soapy enough to allow your hands to easily slide across the surface. If the water is too soapy, it will create copious amounts of lather with little air bubbles that get in the way of the fibers felting.

A soap that has a minimum of dyes and perfume is ideal; the rest is personal preference. Renowned felt makers such as Chad Alice Hagen and Jorie Johnson recommend creating your own liquid soap solution from bars of olive oil soap, which is especially gentle on bare hands. I prefer to use a highly concentrated, lavender-scented organic Castile oil soap, although prolonged exposure can be harsh if used without gloves. Most dishwashing liquids work fine, too.

I prefer **buckets and sponges** when working with hot, soapy water. This is based on how expedient it is to deliver very hot water to a piece, especially if it is a larger piece that can then be worked more quickly. Be careful when using a sponge to avoid wetting the piece too aggressively. Forceful splashes of water can move the fibers apart, creating uneven spots and holes. A **contractor's sponge** sold at local hardware stores is quite absorbent and can hold a lot of water. Also, its brick-like shape is excellent for pressing water into the wool and it can be rolled easily and evenly.

A **spray bottle** is a good alternative for smaller projects, providing a fine, even mist that minimizes the water used (meaning less water on the table, on the floor, and on you).

For general cutting and snipping of materials, including wool when it is wet, a good set of **utility scissors** is an essential piece of hardware.

Distilled white vinegar, a natural acid, is used in felt making to neutralize the alkalinity of the soap. If soap is left in the felt, it could break down the wool fiber over time. It is also a necessary component of dying wool with acid dyes; here, "acid" refers to vinegar.

GENERAL FELTING TECHNIQUE

To create an even felt, it is important to use light, even shingles to make equally light but even layers in a manner similar to putting shingles on the roof of a house. If the shingles are uneven, they can produce thin spots in the felt or thick, uneven bumps. Each shingle should overlap with the others at the ends and on the sides to create strong layers.

INSTRUCTIONS

1. When the layout of fibers is complete, cover the project with nylon netting. (A)
2. Use a sponge to wet the wool down with hot, soapy water. Do this by starting at one end and rolling the sponge down to the other end. Wet the piece completely. (B)
3. Use your hands to press the wool flat through the nylon netting and push air and excess water out of the piece. (C)
4. Remove the nylon netting before the wool felts through it. Pull the nylon netting up at one edge and gently pull it back from the surface of the wool. Be careful that the nylon netting does not lift the wool up as it is removed. If it does, use one hand to press the wool as you lift the netting, slowly working down the piece. (D)
5. Use your flat hands to pat the surface of the wool. The wool will begin to feel more matted—a good sign that it is felting. (E)
6. Apply more pressure and press the wool flat. Continue to pat and press, adding hot, soapy water and pressure as needed until the wool feels felted enough to run your hand gently over the surface without disturbing the fibers.


A

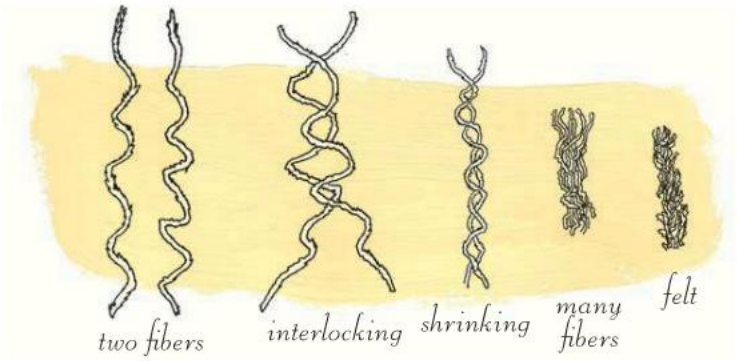

B


C

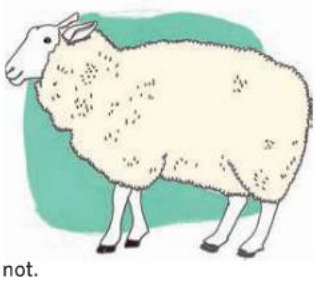

D

getting WOOL-WISE

As the wool felts together, you will notice how the wool fibers are migrating from top to bottom and bottom to top. If you look at the top, you will see the colors blending, and on the bottom, you will see a light shadow from the surface design. This indicates that the wool is felting well.



7. When the wool feels firmly felted, work the piece in a circular motion. Start gently at first to encourage the surface to felt, adding more pressure as needed to work the layers beneath. Work the wool until the piece begins to noticeably shrink. (F)
8. To help the wool to shrink (or full), it is necessary to apply more heat and agitation. Use the washboard to full the wool, adding hot, soapy water as needed. (G)
9. Alternate scrubbing on the washboard with working the piece by hand with a circular motion flat on the table, feeling for any unevenness in the felt. Work the piece so that it is evenly felted on both sides.
10. When the piece is densely felted, rinse out the soap with fresh water and soak in a light vinegar bath to remove soap residue.
11. Rinse thoroughly with fresh water and wring out the piece in the sink. (H)
12. Stretch the piece out as desired and allow to air dry.



getting WOOL-WISE

Test the felt by rubbing the wool between two fingers. If it moves between your fingers, continue to rub and work by hand until it does not. If the wool does not move, this is a good sign that the felt is ready to be rinsed. You will also be able to pull on a rectangular piece in any direction without much stretch. A good felt will appear densely matted and it will be difficult to see individual wool fibers.


E


F


G


H

FELT ROLLING TECHNIQUE

Another way to approach felting is by rolling wool. This is especially good for large, flat projects because it felts many parts of the piece at once and produces a smooth, even felt. It can also be used for light nuno projects, which require a very delicate touch.

Felt can be rolled with blue plastic bubble wrap and a foam noodle. For small projects, plastic bubble wrap such as the kind used for shipping can be substituted for the blue bubble wrap; use a wooden dowel or rolling pin instead of the foam noodle.

INSTRUCTIONS

1. Cover the piece with nylon netting. (A)
2. Using a sponge, wet the piece down with hot, soapy water. Start at the bottom and roll the sponge over the piece from one end to the other, replenishing the sponge with hot water and soap as needed. (B)
3. Using your flat hands, press out air and excess water. (C)
4. Remove the nylon netting, taking care not to lift the wool from the fabric.


A


B


C

5. Using a foam swimming noodle, roll the piece up from one direction. (D)
6. Using string, tie the rolled piece at both ends and lightly in the middle to secure.
7. Keeping your arms straight from the elbow to your fists, and with your fists facing inward, bend from your waist and roll the piece backward and forward along the tabletop using the meaty part of your forearms. Be sure to apply pressure at different positions on the roll to help the wool to felt. *Note:* It is a good idea to stretch before, during, and after rolling. It is also important to stand with your feet apart and firmly planted on the ground and to keep your knees slightly bent. (E)
8. After 5 minutes of rolling, unroll the piece and check the felt.
9. Roll the piece on the swimming noodle from the opposite direction. Tie and roll for 5 minutes.
10. Unroll and check the piece, and then re-roll from the opposite direction. Continue to alternate directions and to check the felt's progress as you go. *Note:* As the piece begins to felt, it can be rolled for longer periods of time.
11. When the wool begins to shrink noticeably and when you can touch the wool without moving the fibers, use your flat fingertips to rub along the wool in the direction of the fiber.
12. When the wool feels firmly felted to the touch, use a washboard and sponge to accelerate the felting. Be careful to scrub only the wool as the fabric will not felt and scrubbing risks damaging the weave. Scrub until the wool is densely felted and the woven fabric gathers where the wool is felted. (F)
13. Rinse out the soap and soak in a light vinegar bath.
14. Rinse thoroughly and wring out excess water.
15. Stretch and allow to dry.

felt TIP

As the wool meshes with the fabric you will notice the wool felting on the wrong side. This is a good way to determine if the felt is ready for scrubbing.


D


E

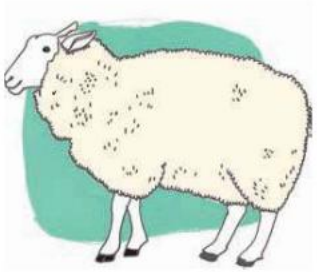
F

NEEDLE FELTING

Needle-felt is a simple process of stabbing and jiggling wool with a felting needle. Hold the hook end of the needle and stab in up-and-down motions then jiggle the needle up and down several times before withdrawing it to make the wool mesh. Avoid a sideways motion, as that can break the needle.

INSTRUCTIONS

1. Place a foam pad behind the area that will be felted.
2. Use a felting needle to tack down wool roving to the wool of the garment. (AA)
3. Add new wool as needed and stab and jiggle the felting needle to enmesh the wool roving firmly to the wool of the garment.



getting WOOL-WISE

Felting is a labor-intensive project and it's a good idea to stretch before starting. Think about how you are using your body: Are you scrubbing with your shoulder or with your arm? Are you putting too much pressure on your wrist? Are you fluid in your actions, or stiff? When doing repetitive motion, try to use your body in an even way, by rolling with both sides of your body or alternating sides when scrubbing. The vigorous activity involved in felting can be good exercise if done with presence of mind.

DYEING

Acid dyes are made for dyeing wool, silk, and other protein fibers. They are bright, economical, and they exhaust well. Wool garments, roving, or batts can be dyed on a stovetop (immersion dyeing) or hand painted. The results are lightfast and the colors will survive repeated washing.

Natural dyes made from marigold, indigo, or madder can produce lovely nuanced colors, and are made from naturally renewable resources. Note that using natural dyes involves great care and precaution.

Metallic salts such as tin, alum, chrome, tannic acid, iron, and copper act as mordants, which prepare the wool to receive the dyes. The use of mordants enhances color depth, improves the durability of the dye through washing, and improves lightfastness. Exposure to even minute amounts of certain mordants, such as chrome, can be extremely detrimental to one's health. Be sure to follow manufacturer's instructions very carefully.

Wool can be dyed before it is felted, in which case you'll want to follow these instructions for carefully dyeing to prevent felting. Wool can also be dyed after felting, which helps to harden the felt.

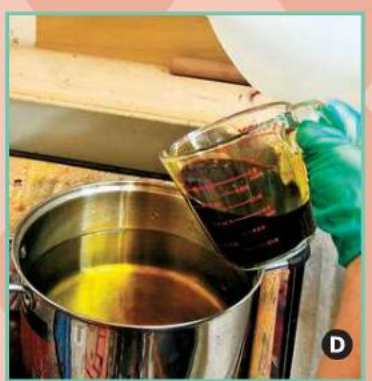
AA

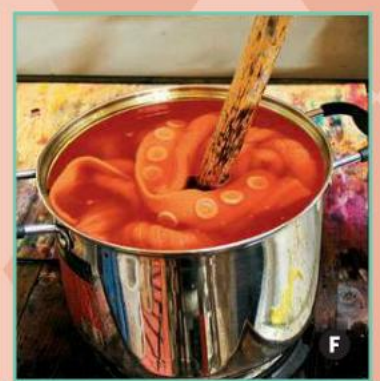
A

B

INSTRUCTIONS

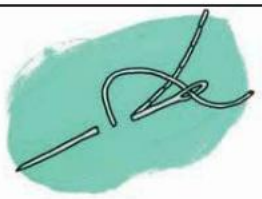
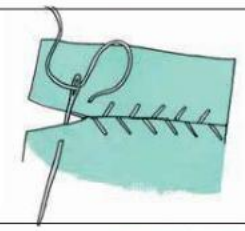
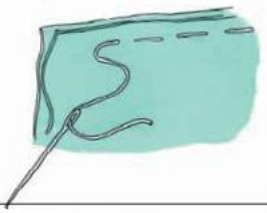
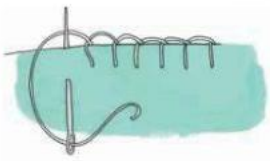
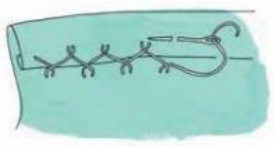
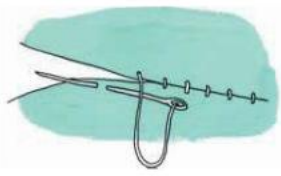
1. Weigh the wool (in this case a wool sweater) to be dyed on a scale. Note weight. (A)
2. Fill a bucket with moderately hot water and a dash of soap.
3. Gently submerge the wool in the bath and allow it to soak undisturbed for 30 minutes. (B)
4. Fill a large stainless steel pot with enough water to cover the wool.
5. Add dye powder to a plastic bowl (approximately 3 teaspoons [14.8 ml] per pound [454 g] of wool or follow individual dye instructions) and mix with hot water until completely dissolved. Be sure to wear a face mask to prevent breathing dye dust. (C)
6. Pour this solution into dye pot and stir well. (D)
7. Add ¼ cup (59.1 ml) of distilled white vinegar per pound (454 g) of wool.
8. Set the range burner on high and bring water to a boil, then reduce to a simmer.
9. Gently lift the wool from the hot bath and allow most of the water to drain from the wool. (E)
10. Transfer the wool to the dye pot and submerge into the dye.
11. Use a wooden stick to stir the wool gently, making sure that the dye is getting to all the different areas. *Note:* Do not overstir as this could agitate the wool, causing it to felt. Most of the dyeing will take in the first 4 minutes. (F)
12. Allow the wool to simmer for 30 minutes.
13. Turn the burner off and allow the water to cool completely.
14. When the water is cool, remove the wool from the bath and rinse thoroughly in the sink.
15. Wring out excess water and allow to air dry.

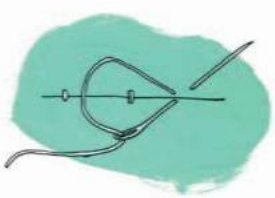
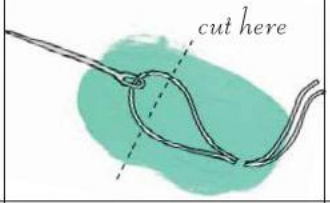


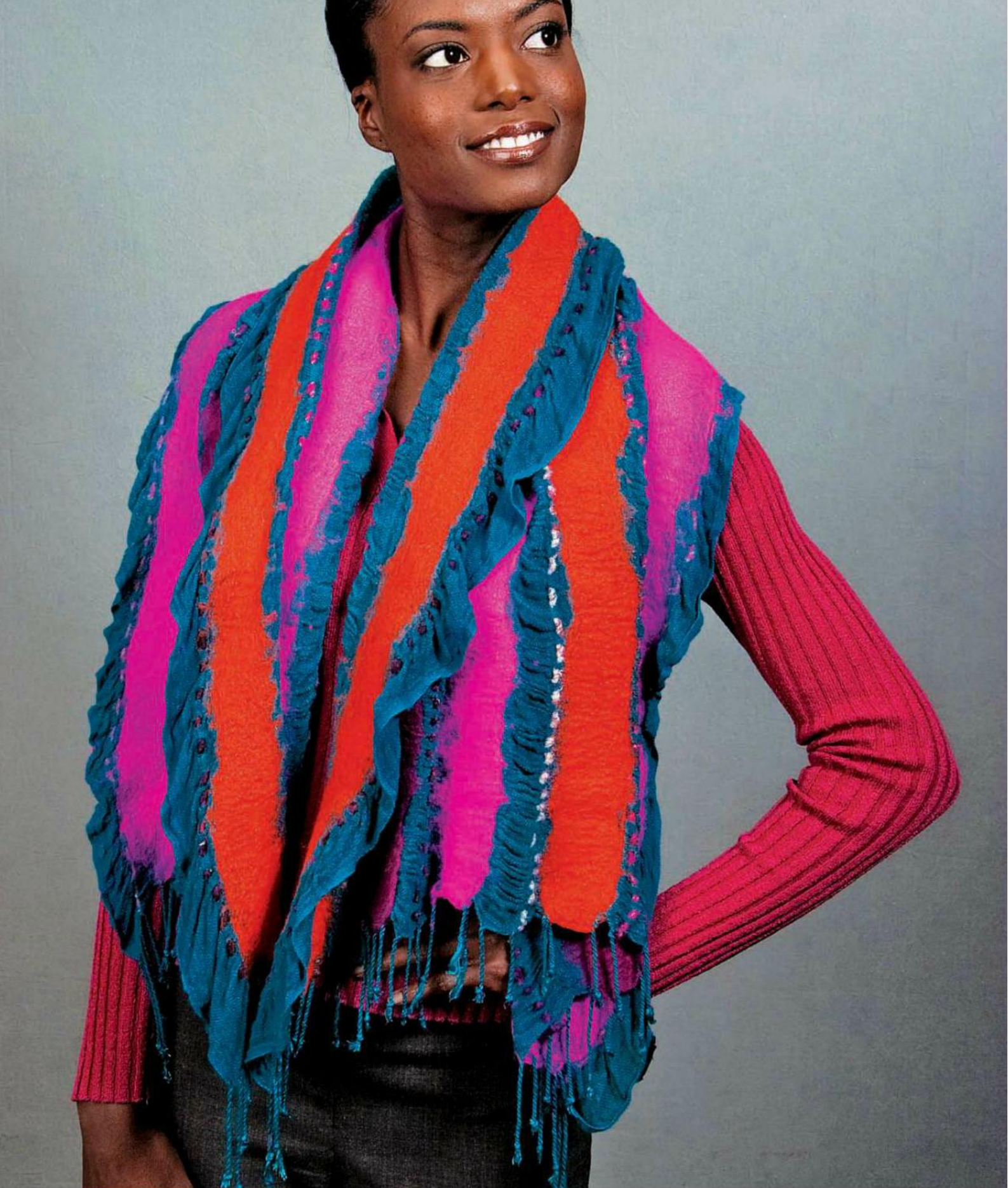


STITCHING GUIDE

While some felting projects are free of any sewing, many garments will require hand finishing. The following stitches are the basic building blocks of couture sewing. With a basic understanding of hand sewing, you can accomplish a limitless range of fashionable projects.

backstitch		A backstitch is one of the strongest permanent stitches for joining two pieces of material because the thread doubles back on the wrong side before taking the next stitch. On the right side, a full backstitch looks like an even row of machine topstitching. A partial backstitch looks like a line of running stitches with spaces between stitches.
baseball stitch		The baseball stitch (or "figure 8" stitch) is a decorative stitch used to join two abutted edges end to end. Insert the needle between the edges, bring it out from one edge, insert between the edges again, and bring it out from the other edge. Work stitches closely together for a secure seam and close to the edge for a less visible stitch.
basting stitch		A basting stitch is an extra long sewing stitch for temporarily holding two pieces of fabric together, attaching pieces quickly and easily.
blanket stitch		A blanket stitch is often used to reinforce the edges of blankets and other thick materials because it prevents stretching and fraying. A smaller version of this stitch can be used for finishing buttonholes and making thread loops. It is also a cute decorative stitch for the edges of appliqué.
catch stitch		A catch stitch looks like a row of Xs on the wrong side of the fabric and parallel rows of short dashes on the right side. This stitch is good for joining abutted edges or on skirt hems or setting cuffs on sleeves.
drawing stitch		A drawing stitch is used to invisibly join two layers of fabric by "drawing" or pulling the two fabrics together. Anchor the thread in the fabric, take a small stitch in the item to be attached, and then another small stitch in the fabric again. Pull the thread tight to draw the pieces together.

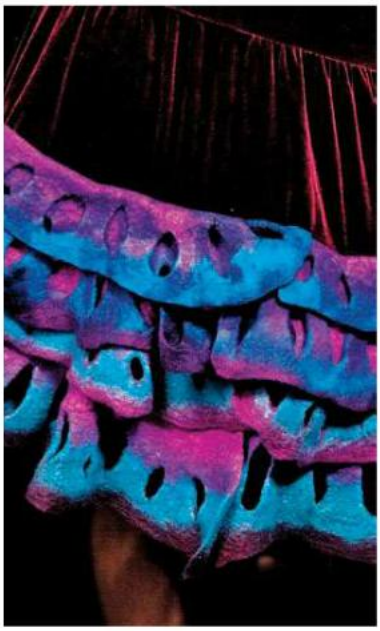
fell stitch		A fell stitch is used to secure flat-felled seams, finish narrow and rolled hems, and to attach pockets or trims on a garment. The finished stitch is perpendicular to the seam and invisible on the right side. On the wrong side, it looks like a row of diagonal stitches.
prick stitch		A prick (or "pick") stitch is used to attach two pieces of fabric together and is similar to a running stitch: It is a straight row of even stitches on the wrong side of the fabric. On the right side of the fabric, the top stitch is reduced to a small "prick," in which only a few threads of the material are sewn, looking like a row of small points or brief dashes. This stitch is useful for securing skirt hems and can be a lovely decorative stitch with perle cotton or embroidery thread.
running stitch		A running stitch is the simplest stitch that might come to mind when using a needle a thread to join fabric. It runs in a straight line of even stitches and looks like an even row of dashes on the right side of the fabric and the same on the wrong side. It can be done with small, even stitches (knotted periodically for strength) for a permanent seam, or it can be done in long stitches for basting pieces together or setting zippers temporarily.
stabstitch		A stabstitch is used for especially thick fabrics or padding, making it a useful technique for working with thicker felt. It is a version of the running stitch, differing in that the needle is "stabbed" vertically through the fabric layers.
tailor's tacks		Tailor's tacks are a great way to mark important points on a piece of fabric when an awl will not work. They are useful for marking such things as dart points and legs, and are easy to remove when no longer needed. To make them, double thread a needle with a brightly colored, unknotted thread. Stabstitch through the pattern and felt fabric. Bring the thread back through in a small stitch and snip the thread to leave two long tails.
thread loop		A thread loop is a small bunch of long stitches covered with a row of blanket stitches. It can be used for fastening collars, cuffs, or buttons on a shirt. To make a thread loop, take a small stitch and leave the thread loose before taking a second stitch. Repeat until there is a small bunch of threads forming a thread bar. Using a blanket stitch, finish the thread loop by passing the needle under the thread bar and over the thread. Pull tight and push the blanket stitches close together.
whipstitch		A whipstitch is used as a temporary stitch to join two pieces of fabric. The finished stitch looks like a row of parallel stitches on the right side of the fabric and a row of diagonal stitches on the wrong side of the fabric. The whipstitch can also be used to secure the rolled edge of a lighter fabric such as silk chiffon.



UPCYCLED CLOTHING

Perhaps you have a favorite skirt that needs more flair or you've found a great thrift-store sweater that needs refreshing. What to do? Add some felt!

The following projects will guide you through the specific ways that you can reinvent clothing with felt. They also will walk you through a set of basic felt-making skills, as well as introduce you to simple pattern making and sewing techniques.



ADDING A COLLAR

Adding a collar is an easy way to reinvent a shirt, dress, or jacket. You can also use this basic technique for adding trim or cuffs.

MATERIALS

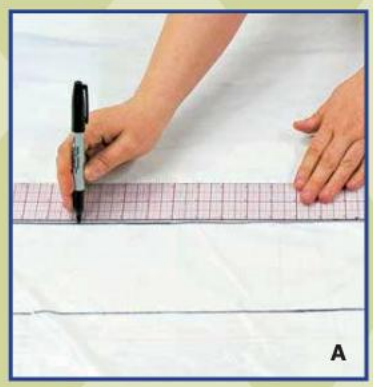
- jacket, collar removed
- wool, three colors of wool roving
- measuring tape
- needle and thread
- ruler, long
- scissors, fabric
- steam iron and pressing surface
- tailor's chalk

TOOLS

- Basic Felting Tools (page 30)

LAYOUT

1. Using a measuring tape, measure the collar of the jacket. Divide this measurement in half and add it to the original collar measurement. For example: 8" (20.3 cm) + 4" (10.2 cm) (half of 8" [20.3 cm]) = 12" (30.5 cm).
2. Estimate how wide the collar will be. Divide this measurement in half and add it to the estimated collar width. For example: 3" (7.6 cm) + 1½" (3.8 cm) (half of 3" [7.6 cm] = 4½" (11.4 cm).
3. Using a long ruler and marker, draw a rectangle on the dry felting table that corresponds to the length and width determined in steps 1 and 2. (A)
4. Select a color of wool roving for the inside of the collar. Use your fingers and palm to pull an even sheaf of wool shingles from the end of the roving and lay them out vertically in the rectangle you have marked on the table. Overlap the shingles by at least ½" (1.3 cm). Overlap the *rows* of shingles by at least ¼" (0.6 cm). Fill the rectangle with overlapping vertical rows of overlapping vertical shingles. (B)



5. Select a second roving color for the top layer of the collar and repeat step 4.
6. Use the third color of wool roving to create the surface design. Use thinner strips of roving to lay out vertical lines. Do this by pulling shingles from the thinner strips and overlapping them as you did for the other layers. This will help the surface design "stick" to the wool beneath. (C)

FELTING AND FINISHING

1. Felt the fabric using the General Felting Technique (page 38).
2. Using a steam iron, press the collar material flat.
3. Using fabric scissors, trim the collar along the bottom edge.
4. Fold the collar material in half and mark the center with tailor's chalk. This mark will represent the center back. (D)
5. Align the center back mark of the collar with the center back of the jacket and use a needle and thread to sew a wide whipstitch (page 45) from the center back to baste the collar along one side of the neckline. Do the same for the other side, working out from the center back to the front of the neckline. (E)
6. Using fabric scissors, trim the collar as desired.
7. Using a thread that blends well with your collar and jacket, attach the collar permanently with a baseball stitch (page 44), removing the basting stitches as necessary.

Taking it further: This elegant collar and cuffs set is made by combining natural Mongolian lambswool from a recycled scarf with a merino/silk blend hand dyed in gold and silver. The lambswool is inserted along the top edge, between the layers of felting wool, after which the collar material is felted around the curly locks. The new collar is sewn over the existing collar of the jacket.


C


D


E

ADDING TRIM

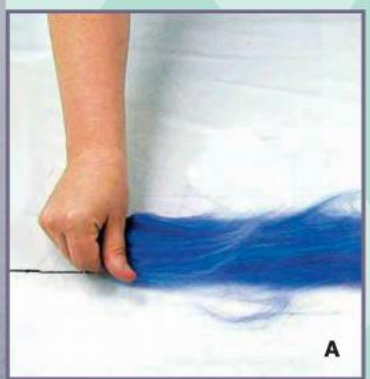
"Trim" simply means decoration, and may be added anywhere on a garment. In this case, a decorative and organic felt lace is added to embellish the edge of a skirt.

MATERIALS
skirt
wool
measuring tape
needle and thread
ruler, long
scissors, utility

TOOLS
Basic Felting Tools (page 30)

LAYOUT

1. Using a measuring tape, measure the circumference of the bottom edge of the skirt.
2. Using a long ruler and marker, mark this measurement on the dry felting table, 12" (30.5 cm) from the edge of the table. Extend the length by 20" (50.8 cm) to allow for shrinkage.
3. Lay out a horizontal row of overlapping horizontal shingles along the marked line. *Note:* This row is a reinforcement layer that provides extra strength to the finished trim. (A)
4. Lay out a layer of overlapping vertical shingles on top of the first layer of wool and extending down toward the bottom edge of the felting table. (B)
5. Cover with a field of overlapping horizontal shingles. These layers should completely cover the reinforcement layer (step 3), but can taper toward the bottom. (C)


A


B

FELTING

1. Felt the fabric using the General Felting Technique (page 38), steps 1–8.
2. When the wool begins to shrink, use utility scissors to cut small holes from the felt. (D)
3. Flatten the felt on the table and use your hand to work the holes in a circular motion, to heal the cut edges. (E)
4. When the wool feels firmly felted, scrub the piece on the washboard to accelerate felting. Start from one end and use the end to scrub the next section of wool. Use the next section of wool to scrub the section after that and so on until the entire piece has been evenly scrubbed. (F)
5. Turn the piece over and repeat step 4 to scrub the other side. Continue to alternate sides, scrubbing the piece evenly until the entire piece is densely felted. The wool will shrink noticeably.
6. Scrub the edge to shrink the extra wool of the reinforcement layer. This will make the felt trim flare.
7. Complete the felting process using the General Felting Technique (page 38), steps 10–12.

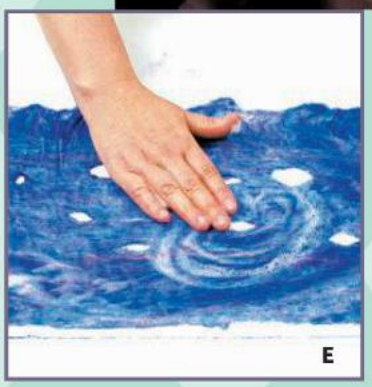
FINISHING

1. Using a needle and thread, baste the trim to the skirt's bottom edge with a temporary whipstitch (page 45).
2. Attach the trim permanently with a backstitch (page 44), removing the basting stitches as necessary.

Taking it further: This cha-cha skirt is made from multiple tiers of organic trim. The trim is made by combining merino top in various shades of purples, pinks, and blues, then over-dyeing them in a mottled purple after felting. The four layers of finished trim are then sewn to a velvet skirt to form an exuberant ruffle, and leftover pieces are fashioned into a hair barrette.


C


D


E


F

ADDING A MOSAIC POCKET

This project uses pre-felt and pattern making to create a crisp "mosaic" design for a felt pocket.

MATERIALS

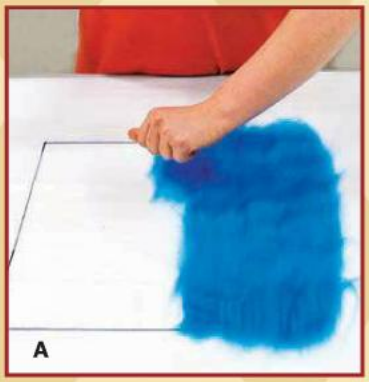
- dress or other garment
- wool, three colors of roving

TOOLS

- Basic Felting Tools (page 30)
- drafting paper
- needle and thread
- pins, straight
- plastic bubble wrap
- rolling pin
- rubber bands
- ruler, long
- scissors, utility
- steam iron and pressing surface

MAKING PRE-FELT

1. Using a marker and long ruler, draw a square on the dry felting table that measures 20" x 20" (50.8 x 50.8 cm).
2. Pull wool shingles from one color of roving and lay them out in overlapping vertical rows of overlapping vertical shingles. Fill the entire square with overlapping rows. (A)
3. Cover the first layer of wool with overlapping horizontal rows of overlapping horizontal shingles. (B)
4. Cover the piece with nylon netting. Use a sponge to wet the piece down with hot, soapy water, working from one end to the other to push out air and excess water. (C)
5. Press the wool flat with your hands through the nylon netting, and then work the surface of the wool in a circular motion.

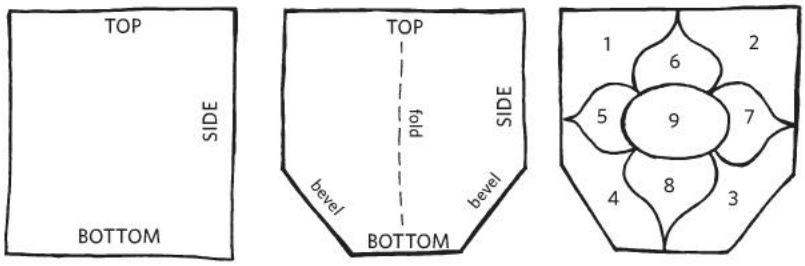

A

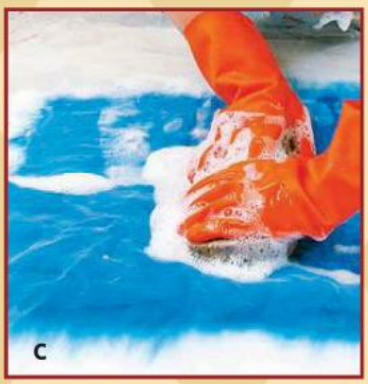

B

6. Remove the nylon netting.
7. Using your flattened hands, pat the surface of the wool. Use utility scissors to trim the edges of the wool if desired. (D)
8. Continue to pat and press, adding hot, soapy water and pressure as needed. When the wool feels lightly felted, work the piece by hand in a light, circular motion. (E)
9. Gently work the back of the pre-felt. *Note:* When the wool feels felted enough to hold together, but not yet firmly felted, it is at a pre-felt stage. You may notice that the wool is forming small bumps or ridges. This is a sign that it is time to stop and move to the next step.
10. Fold the piece to reduce the risk of damaging the pre-felt. Rinse out excess soap and soak in a light vinegar bath.
11. Rinse thoroughly and wring out excess water.
12. Stretch gently and allow to air dry.
13. Repeat steps 1–12 for each of the three colors of wool roving to make a piece of pre-felt in each color.

CREATING A PATTERN

1. On a piece of drafting paper, draw an 8½" (21.5 cm) square. Label as shown in the project diagram.
2. Using utility scissors, cut out the square pattern piece.
3. Fold the pattern in half and use utility scissors to bevel the edges as shown.
4. Choose a piece of pre-felt for the base layer (the inside of the finished pocket). Pin the pattern to the pre-felt and cut out using utility scissors.
5. Draw a geometric design on the pocket pattern. *Note:* It's helpful to draw a small diagram of your design, labeling the pieces, to use as reference later.
6. Using utility scissors, cut out the individual pattern shapes. Pin these smaller pattern pieces to the desired colors of pre-felt and cut out the shapes. (F)




C

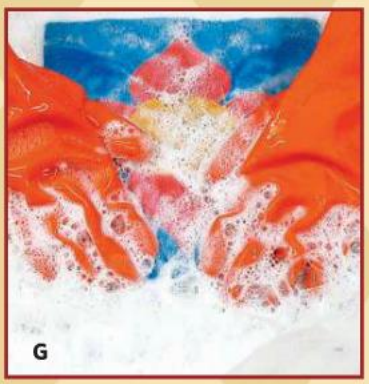

D


E


F

FELTING

1. Lay the base layer of pre-felt on the dry felting table.
2. Assemble the smaller pre-felt pieces to create the patterned geometric design.
3. Cover the entire piece with nylon netting. Use a sponge to wet the piece down with hot, soapy water. (G)
4. Push out air and excess water by pressing the wool flat with your hands. Work the surface of the wool in a circular motion through the nylon netting. (H)
5. Remove the nylon netting.
6. Gently pat and press the piece with your hands, adding water and pressure as needed. This will help felt the top layer to the bottom layer. (I)
7. Using utility scissors, cut a piece of bubble wrap into a square that is the approximate width of your rolling pin. Place the bubble-wrap square, smooth side up, on the table and place the piece on top of the bubble wrap. Roll the bubble wrap (with the felt inside) around the rolling pin and secure the ends and middle of the roll with rubber bands. (J)
8. Roll the piece on the table in one direction for a few minutes, and then unroll the bubble wrap and check the wool.
9. Move the rolling pin, and re-roll from the opposite end, securing the bubble wrap with rubber bands. Once again, roll the wrapped rolling pin for a few minutes. *Note:* For a thick piece like this, bounce the rolling pin on the table to felt the wool wrapped deeper in the roll.
10. Continue rolling, unrolling, and re-rolling the piece from each end, periodically checking the felting of the wool. *Note:* As the wool felts, it can be rolled for longer periods of time.
11. When the wool begins to felt at both ends, turn the pocket 90 degrees to felt the remaining ends.
12. When the felt begins to shrink noticeably, remove the felt from the rolling pin and bubble wrap and work by hand on a washboard until the felt shrinks to the desired size. *Note:* For thick pieces like this, use your knuckles to felt through the layers. (K)
13. Rinse out the soap and soak in a light vinegar bath. (L)
14. Rinse thoroughly and wring out excess water.
15. Stretch and allow to dry.
16. Using a steam iron, press the felt pocket flat. Trim the edges with fabric scissors if desired.
17. Pin the pocket to the garment. Using a needle and thread, attach with a fell stitch (page 45). (M)


G

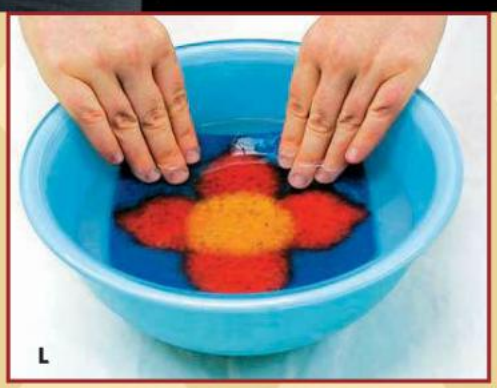

H


I


J

Taking it further: This mosaic pocket is made from multi-colored pre-felts cut out in a snowflake pattern. The project was then rolled with a rolling machine, which distorted the snowflake in interesting ways. The finished pocket is trimmed and sewn to a felt bag.


K


L


M

ADDING PASSEMENTERIE
(Appliqué 1)

Passementerie is a French word that means trimming. It often refers to raised trim, like the braids and cords added to the surface of a fabric for decoration

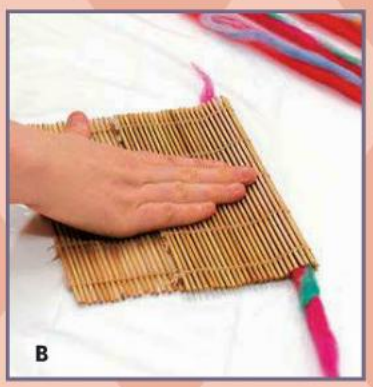
MATERIALS
garment, jacket
wool, assorted colors of roving

TOOLS
Basic Felting Tools (page 30)
bamboo mat, sushi
needle and thread

LAYOUT

1. Split the roving in half along its length. Split these smaller strips in half lengthwise again, and then again. You should now have eight strips of each original length of roving.
2. Place one strip on the bamboo mat.
3. Pull small bits of wool from the roving and place them on the strip to add color. (A)
4. Using the bamboo mat, roll the wool to condense the fibers. (B)
5. Repeat steps 2–4 for each strip.


A


B

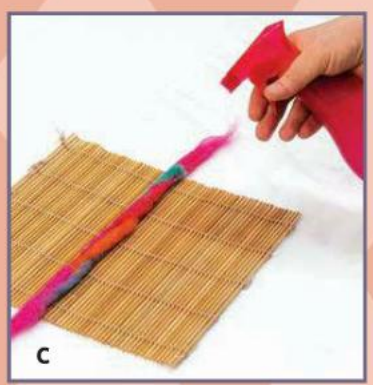
FELTING AND FINISHING

1. Lay the first strip on the bamboo mat.
2. Using a spray bottle, lightly spray the wool with hot, soapy water. (C)
3. Use the bamboo mat to roll the fibers together to make a felt rope of even thickness. Add water and pressure as needed. (D)
4. Roll the strips by hand on the ridged surface of the bamboo mat until the wool is firmly felted. (E)
5. Repeat steps 1–4 for each wool strip until all are firmly felted.
6. Rinse out the soap and soak the strips in a light vinegar bath.
7. Rinse thoroughly and shake out excess water.
8. Allow the strips to air dry.
9. Use a needle, thread, and drawing stitch (page 44) to sew the felt ropes to the right side of the garment in the desired design. (F)

Taking it further:
Passementerie is used to add cursive text to this shirt, made from boiled wool felt and painterly nuno felt.

felt TIP

If the wool strip is longer than the bamboo mat, roll the strip in sections, making sure to work it evenly down its entire length. Repeat these steps for each wool strip until they are all firmly felted.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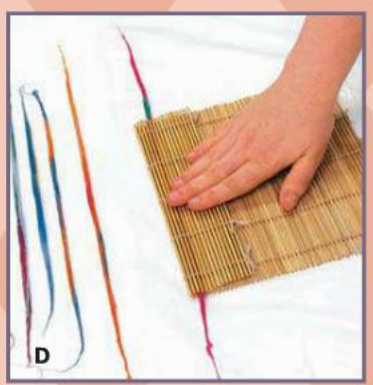
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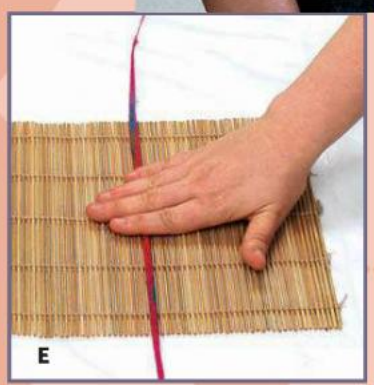
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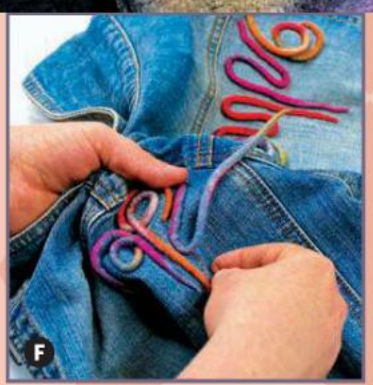

F

ADDING A PAINTERLY PATCH (Appliqué 2)

Felting with wool is very similar to painting. For example, pulling shingles from roving and applying them to the felting table is much like applying brushstrokes to the surface of a blank canvas. Once the shingles are felted together, the wool can look a lot like a watercolor. A patch is a great way to combine the painterly effect of felt technique with a favorite garment.

MATERIALS

- garment, jacket
- wool, wide variety of assorted colors

TOOLS

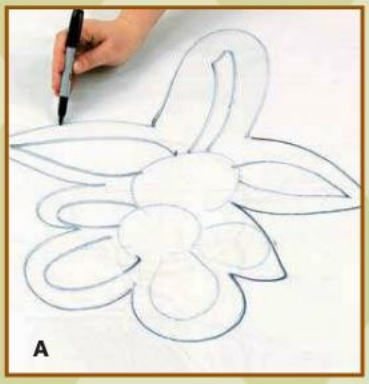
- Basic Felting Tools (page 30)
- needle, large eye
- needle and thread
- pins, straight
- steam iron and pressing surface
- thread, perle cotton

LAYOUT

1. Using a marker, draw the desired design on the dry felting table. *Note:* The finished piece will shrink by 40 percent, so plan accordingly. (A)
2. Fill in the design with wool shingles, taking care to overlap the edges and to alternate the direction of the wool. Continue to add different colors, much as you would apply brushstrokes of paint, until the design is covered with a puffy layer of wool at least a ½" (1.3 cm) thick. (B & C)

FELTING

1. Cover the wool with nylon netting.
2. Using a sponge, wet the wool with hot soapy water. Press out air and excess water.
3. Remove the nylon netting and pat the wool until it feels lightly felted to the touch. (D)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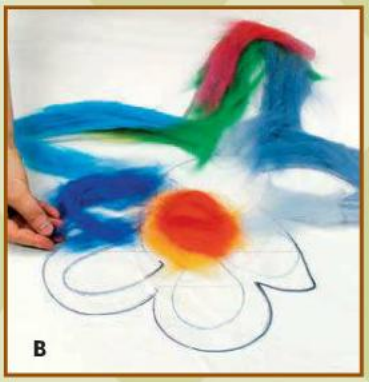
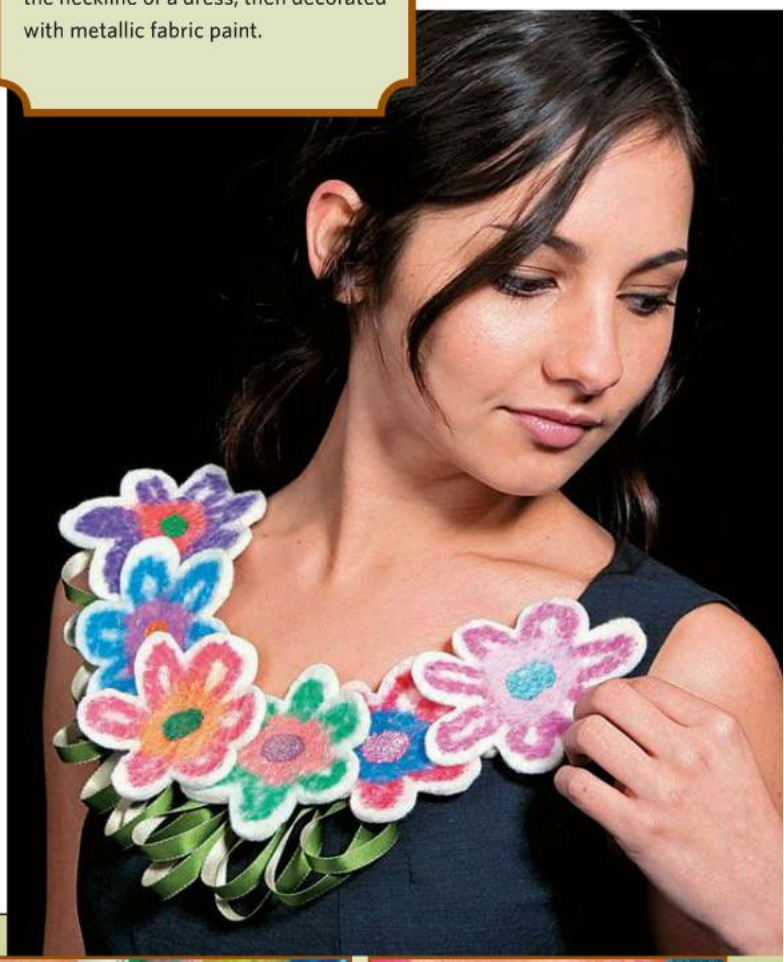

B

4. Pat and press the wool with your flat hands, adding water and pressure as needed, until the wool feels firmly felted.
5. Gently work the surface of the wool in a circular motion with your flat hand. (E)
6. When the piece feels densely matted, use a washboard to scrub both sides of the felt to accelerate felting. Alternate the scrubbing action with working the piece flat on the table by hand in a circular motion.
7. Rinse out the soap and soak in a light vinegar bath.
8. Rinse thoroughly and wring out excess water.
9. Stretch and allow to dry.
10. Using a steam iron, press the piece flat.

FINISHING

1. Using pins, secure the patch to the outside of the garment in the center and at the patch edges.
2. Using a needle and thread and using a permanent basting stitch (page 44), sew the patch to the jacket from the inside of the garment. Take care to hide the thread in the felt material, and to sew down the entire patch, so that it does not hang loose. The stitches should not be visible on the outside.
3. Using a permanent basting stitch, secure the edges of the patch to the garment fabric, hiding the stitches in the felt.
4. Thread a large-eye needle with perle cotton thread. Use the stabstitch method (page 45) to sew a prick stitch (page 45) around the edge of the felt patch. (F)

Taking it further: Make these painterly patches by using lines of colorful wool for the petals and small tufts to form the center of the flowers on a background of white wool. The patches are cut out, attached around the neckline of a dress, then decorated with metallic fabric paint.

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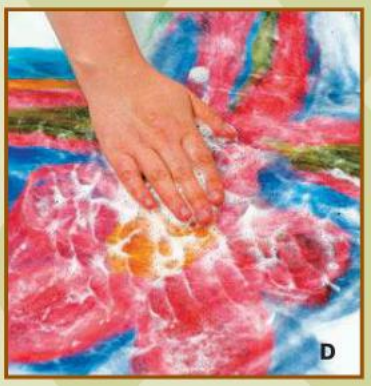
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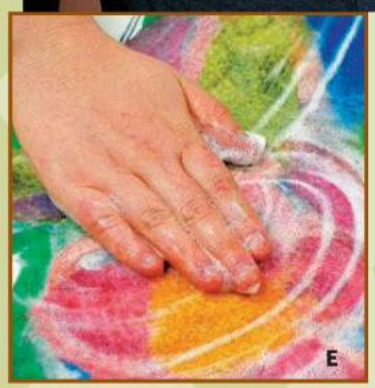
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F

SCARF RE-DO WITH NUNO FELTING

Felting through loosely woven fabric changes its shape and drape as it adds new and interesting surface designs to the cloth. This nuno technique is a fun way to renew a damaged scarf or a worn-out shawl made from loosely woven fabric.

MATERIALS

- scarf, woven non-wool material
- wool

TOOLS

- Basic Felting Tools (page 30)
- foam swimming noodle
- plastic bubble wrap
- rubber bands
- spring clamps
- steam iron and pressing surface
- string

LAYOUT

1. Stretch the bubble wrap taut, smooth side up, across the felting table and use spring clamps to secure the wrap at both ends. Dry the surface with a towel. (A & B)

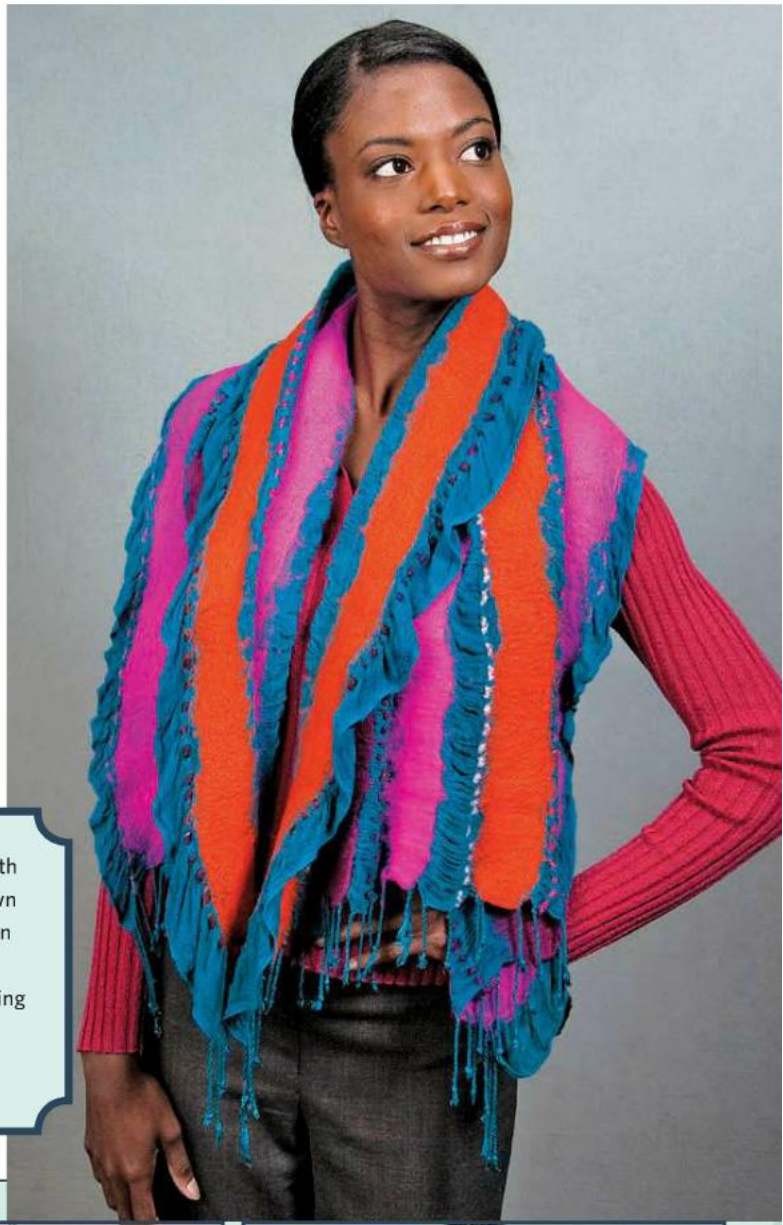
2. Using a steam iron, press the scarf so it is flat and without wrinkles. (C)
3. Center the scarf, flat and right side up, on the bubble wrap.
4. Lay out rows of overlapping vertical wool shingles to make stripes that run up and down the shawl (not side to side). This helps to prevent the scarf from shrinking in length, which might make it too small to wear. (D)

FELTING

1. Felt the wool and fabric together, using the Felt Rolling Technique (page 40)

FINISHING

1. After vinegar and water rinse, stretch and allow to dry.
2. Press carefully with a steam iron.



Taking it further: This long, teal linen shawl with a porous weave gets a felt makeover. First, it is sewn with wool yarn then felted with horizontal stripes in bright orange, magenta, and burgundy merino top wool. Notice how both the wool yarn and wool roving have shrunk in the felting process, gathering the fabric of the shawl.


B


C


D

SWEATER REFRESH WITH NEEDLE FELTING & DYEING

Sometimes sweaters need a makeover. Whether it's a thrift-store find, or a cherished gift, dyeing and adding needle felt embellishments are great ways to make your sweater look new again.

MATERIALS

- sweater, wool
- wool, roving
- wool dye

TOOLS

- bucket, for soaking garment
- face mask
- felting needle
- foam pad
- liquid soap
- measuring cups and spoons
- plastic bowl
- pot, stainless steel large kitchen
- rubber gloves
- scale
- thread
- vinegar, distilled white
- wooden stick


A


B

DYEING

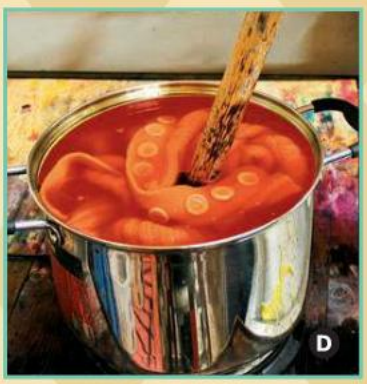
Refer to the Dyeing technique (page 42)

1. Gently submerge the sweater in hot, soapy water and allow it to soak for 30 minutes. (A)
2. Add the dye powder to a separate plastic bowl and mix with hot water until completely dissolved. Be sure to wear a face mask to prevent breathing in the dye powder. (B)
3. Add ¼ cup (59.1 ml) of distilled white vinegar per pound (454 g) of wool.
4. Pour the diluted dye solution into a stainless steel pot filled with water just under the boiling point. (C)
5. Transfer the sweater to the dye pot and submerge in the dye. (D)
6. Use a wooden stick to stir the wool gently, making sure that the dye is getting to all the different areas. *Note:* Do not over-stir as this could agitate the wool, causing it to felt.
7. Allow the wool to simmer for 30 minutes.
8. When the water is cool, remove the sweater from the dye bath and rinse thoroughly in the sink. (E)

NEEDLE FELTING

1. Place a foam pad behind the shoulder area of the sweater.
2. Using a felting needle and thread, tack wool roving to the wool of the sweater. (F)
3. Add new wool as desired, stabbing and jiggling the needle to enmesh the wool roving firmly into the garment wool.


C

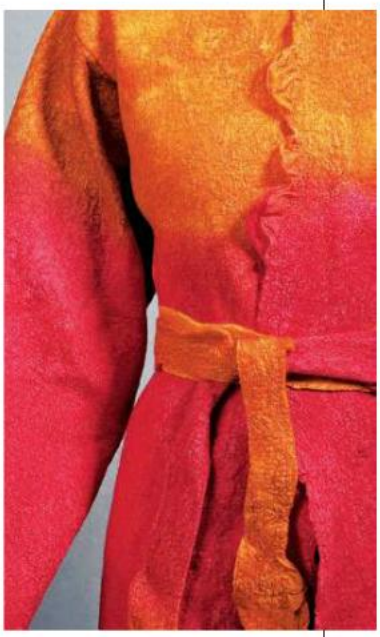

D


E


F

GARMENTS

Garments can be made completely with felt-making methods by using simple patterns to make plastic resists. Garments can also be made from detailed custom sewing patterns used to transform flat sheets of felted fabrics into fitted designs. Many projects described in this section are finished with hand-sewing techniques that include adding buttons and zippers and hemming edges. We also use a sewing machine to give garments a professional, finished look.



PEEKABOO PONCHO

A poncho is a type of garment worn over an outfit as a stylish alternative to a coat or sweater. Traditionally, ponchos are made from a rectangular piece of woven fabric, with an opening cut in the center for the head to go through. The finished garment is then worn draped over the shoulders. I thought it might be more flattering to make a poncho fitted at the shoulder, in the shape of a bell.

To do this, you will felt around a four-sided diamond-shaped resist. There is no need for a needle, thread, or any sewing for this garment; the poncho is constructed from a single piece of felt.

felt TIP

A general rule of thumb is that wool shrinks approximately 40 percent during the felting process, though, to be fair, shrink is never exact and will vary depending on the wool and the amount of time and effort spent scrubbing. To account for this shrinkage, the wool laid out must be about 60 percent larger than the desired finished size. There are a number of ways to add 60 percent. One of the simplest is to divide the original measurement by ten and then multiply by six to find 60 percent; or by adding half (50 percent) plus 10 percent more to find 60 percent.

MATERIALS

wool, in assorted colors

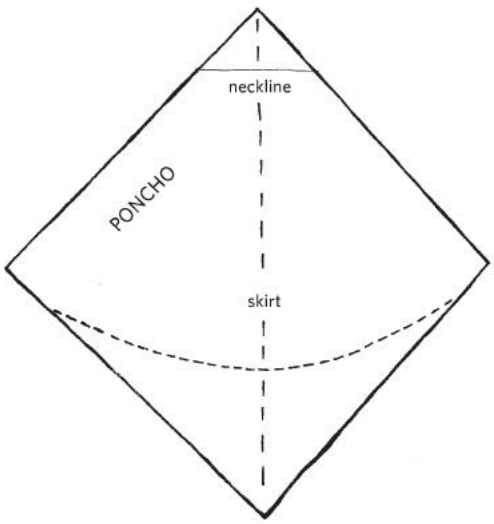
measuring tape
plastic sheeting
ruler, long
scissors, utility
steam iron and pressing surface

TOOLS

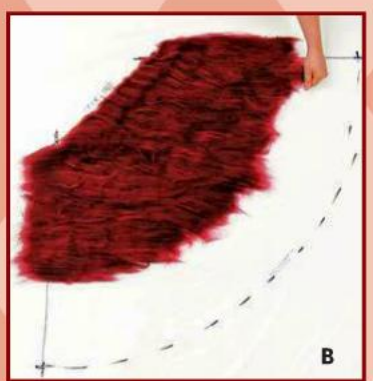
Basic Felting Tools (page 30)

LAYOUT

1. To determine the dimensions of the plastic resist, use a measuring tape to measure from the center of your throat down your sleeve to the poncho's desired length. Add 60 percent to this measurement to determine the length of one edge of your resist. This will be the *shoulder length*.
2. Measure from the center of your neck to the desired point on your shoulder where you would like the neckline to fall. Add 60 percent to this measurement to determine the *neckline length*.
3. Using a long ruler and utility scissors, measure and cut a square out of the plastic sheeting with sides equal to the shoulder length measurement. This will be your plastic resist.
4. Place the plastic resist on the dry felting table and trace with a marker. Draw the neckline and the skirt edge also. (A)
5. Lay out a layer of overlapping vertical shingles on the marked drawing, going diagonally from the upper-left shoulder to the lower-right edge of the skirt. (B)
6. Extend the wool over the shoulder line by 2–3" (5.1–7.6 cm) on both shoulders. Make sure the area around the shoulder and chest is completely and evenly covered. As the wool descends over the skirt, it can change color and/or be more irregular to create lacy patterns in the felt. (C)
7. Lay a second diagonal layer of overlapping vertical shingles, perpendicular to the first layer, this time starting at the upper-right shoulder and going to the lower-left edge of the skirt. (D)




A


B


C


D

8. Extend the wool 1½" (3.8 cm) past the shoulder line. Make sure this layer is even and solid around the shoulder and chest areas. As it descends over the skirt, it can become more irregular to create lacy patterns in the felt.
9. Add a light, third layer of wool radiating from the neck and tapering off at the skirt area. Do not extend this layer over the shoulder lines; leave the neckline clear of wool. (E)
10. Place the plastic resist square on the wool layers so the resist is aligned with the marked outline on the table. (F)
11. Lay out a layer of wool radiating from the neck down and tapering into the skirt. Do not extend over the shoulder. (G)
12. Gently fold the extensions of wool from the bottom layer over the shoulders of the plastic resist and pat them down to the top layer of wool using your flat hands. (H)
13. Lay out a second layer of overlapping vertical shingles going diagonally from the upper-left shoulder to the lower-right skirt edge.
14. Extend the wool over the shoulder line by 1½" (3.8 cm) on both shoulders. Make sure the area around the shoulder and chest is completely and evenly covered. As the wool descends over the skirt, it can be more irregular to create lacy patterns in the felt. (I)
15. Lay a third diagonal layer of overlapping vertical shingles, perpendicular to the previous layer, starting at the upper-right shoulder and going to the lower-left skirt edge.
16. Repeat step 6.
17. Gently fold the extensions of wool under at the shoulders, smoothing them to the wool under the resist. (J)

FELTING

1. Complete the General Felting Technique (page 38), steps 1–7.
2. Gently press and pat the surface with your flat hands. As the wool condenses, gently squeeze the wool around the shoulders. Add water and pressure as needed.
3. After gentle patting and pressing, the wool will begin to feel more lightly felted. Press the top layer firmly and add hot water to the sides of piece, working the bottom layer of wool, which will lag a little behind in the felting process.
4. Continue to squeeze and shape the shoulders.
5. Add hot water and soap and begin working the top surface by hand in a circular motion, gradually adding more pressure as the wool felts.
6. Fold over and check the bottom of the piece. Add hot, soapy water. (K)
7. When the wool is matted enough to be moved, carefully flip the piece over. *Note:* When moving a large piece such as this, it can be helpful to fold the piece over once or twice, flipping and then unfolding it. (L)
8. Work the under-felted wool from the back by patting and pressing.
9. Squeeze and shape the shoulders.
10. When the back feels lightly felted, work the surface by hand in a circular motion, adding water and pressure as needed.


E


F


G


H

11. When the wool begins to shrink noticeably and feels firmly felted, remove the plastic resist.
12. Scrub the felt on a washboard, evenly working the piece. Pay special attention to evening out the wool along the shoulder seam. Alternate scrubbing on the washboard with working flat on the table, moving your flat hands in a circular motion.
13. Squeeze out excess water and add new hot, soapy water as needed.
14. When the piece is completely felted, rinse out the soap and soak in a light vinegar bath.
15. Rinse thoroughly and wring out excess water.
16. Stretch and allow to dry.
17. Using a steam iron, press the poncho flat.

Taking it further: This poncho is made from a pattern shaped like an hourglass, with the narrow point representing the neck. A merino/silk blend is used to make three layers of diagonal and vertical rows overlapping in a loose weave with open spaces; when felted, the open spaces will form the open spots on the finished felt fabric. A row of feathery fringe has been added at the edge of the layout and the final felted piece is tie-dyed in red, purple, and black.


I


J


K


L

SHIRRED SKIRT

When I was a little girl, my mother made me dresses that were gathered at the top by parallel rows of elastic. This decorative gathering is called "shirring" and is a quick and easy way to add a comfy, functional waist to a skirt.

This project involves making a flat, rectangular sheet of light nuno felt with an interlacing surface design. Diagonal lines of wool helps the nuno felt to shrink evenly, producing a flattering fabric for the skirt. Once the initial felting process is completed, the skirt will be shirred and then seamed.

MATERIALS

silk gauze, 4.5mm, 45" (114.3 cm) wide x 75" (190.5 cm) long *Note*: If this is longer than your worktable, make smaller panels and sew together after felting.

wool, roving

TOOLS

Basic Felting Tools (page 30)

bobbin, empty

foam swimming noodle

pins, straight

plastic bubble wrap

ruler, long

scissors, fabric

sewing machine

spring clamps

steam iron and pressing surface

string

tailor's chalk

thread, elastic and sewing

LAYOUT

1. Stretch the bubble wrap taut, smooth side up, across the dry felting table and secure at both ends with spring clamps. Dry the surface with a towel.
2. Using a steam iron, carefully press the silk gauze fabric so it is flat and without wrinkles. Center the fabric flat on the bubble wrap, right side up. Do not remove the selvage edge.
3. Lay out thin pieces of roving across the surface of the fabric in a crosshatched diagonal pattern of overlapping vertical shingles. (A)
4. Use additional thin pieces of roving to add vertical rows. (B)

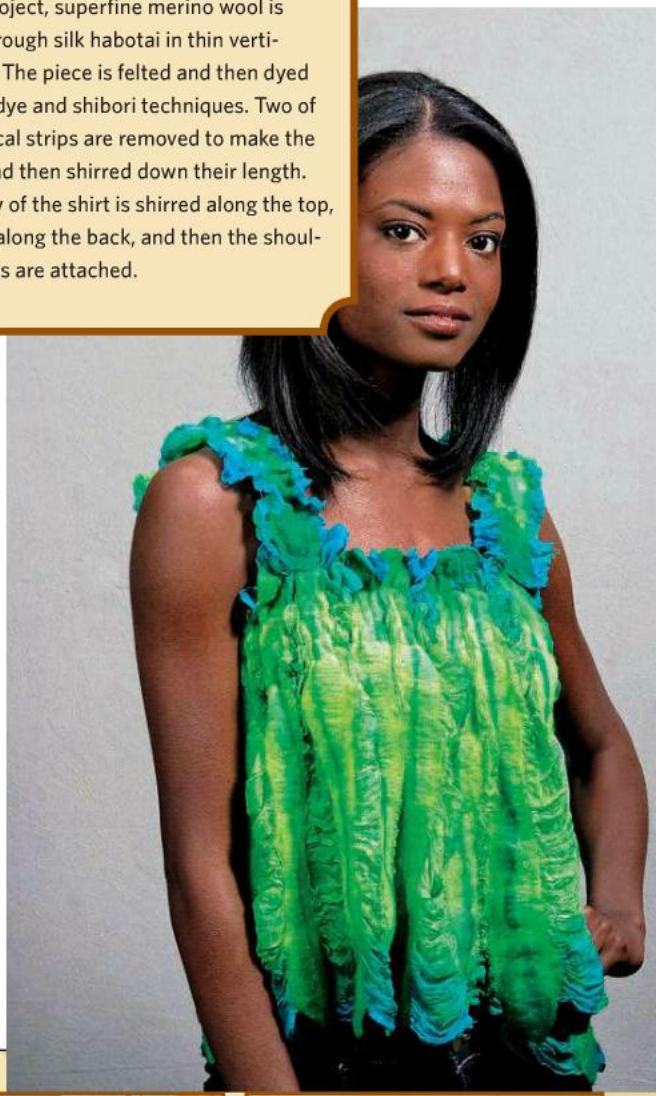
FELTING

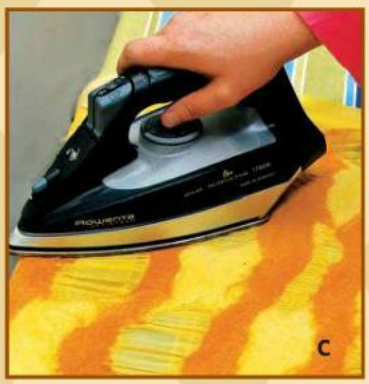
1. Felt the wool and fabric together, using the Felt Rolling Technique (page 40).

FINISHING

1. Using a steam iron, press the nuno fabric. (C)
2. Fold the top edge of the fabric over and use tailor's chalk and a long ruler to mark the first sewing line ½" (1.3 cm) from the edge. (D)
3. Wind elastic thread on an empty bobbin by hand, winding the thread tightly until the bobbin is almost full. Pop the bobbin in place on your sewing machine.
4. Thread the machine with regular sewing thread for topstitching.
5. Pull the elastic thread through until you feel the bobbin spin.
6. Set your machine for a long stitch (7 to 8 stitches per inch [2.5 cm]) and test the tension on a piece of scrap fabric. *Note*: You will not be backing up for a few stitches as you normally do to secure threads.
7. Hold the two threads (top thread and elastic bottom thread) taut in your left hand as you begin to sew the marked row. Knot the threads at the beginning and end of the row.
8. After stitching along the first chalked line, add a second chalked line ½" (1.3 cm) below the first. Stitch the new line, making sure to hold the fabric taut as you stitch. Continue marking and stitching additional lines. As you do each subsequent row, stretch out the elastic of the previous row so the shirring will be even as you work your way through the rows. (E)
9. Using pins, secure the shirred fabric, wrong side together, along the seam. (F)
10. Re-thread the bobbin with regular thread and sew the seam together ½" (1.3 cm) from the edge.

Taking it further: A shirred skirt easily becomes a shirt by adding shoulder straps. In this project, superfine merino wool is felted through silk habotai in thin vertical lines. The piece is felted and then dyed with tie-dye and shibori techniques. Two of the vertical strips are removed to make the straps and then shirred down their length. The body of the shirt is shirred along the top, seamed along the back, and then the shoulder straps are attached.

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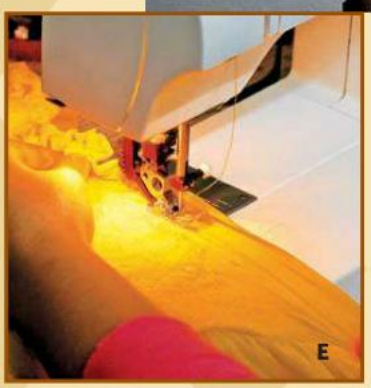
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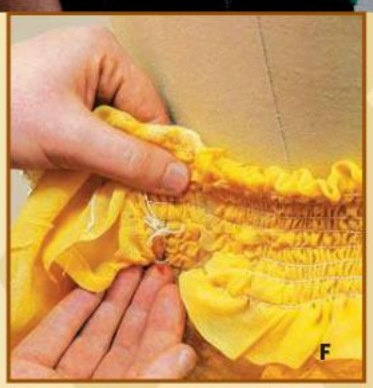

F

THE BEST VEST

Vests are often made from the same tough stuff used for making jackets; in this case, a medium-weight felt. With a splash of color or a more daring design, a vest can be transformed into a very expressive article of clothing, again perfectly suited for felt's exuberant colors and painterly appeal.

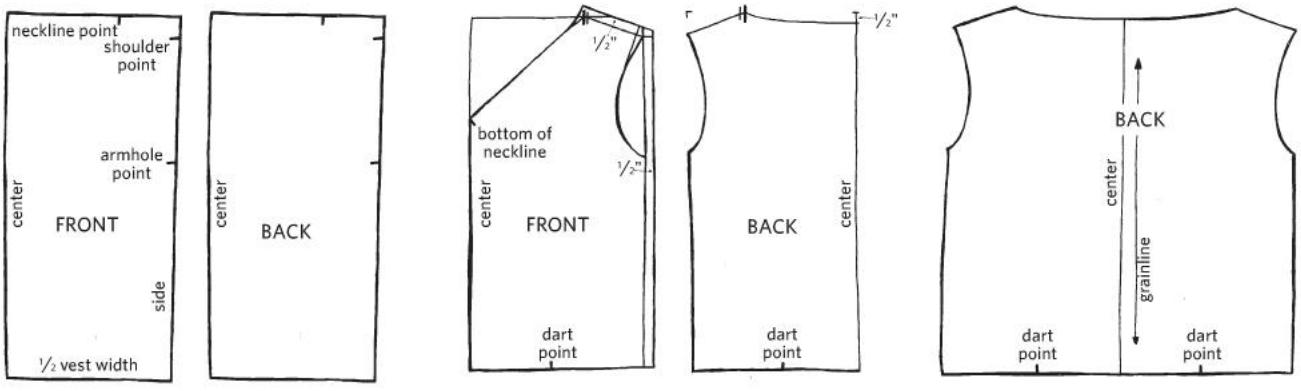
This project involves creating a custom sewing pattern, then fashioning a series of muslin "mock-ups" to perfect the fit. After the pattern is perfected, we will make a flat, rectangular piece of nuno felt fabric from which the pattern will be cut and sewn. The same pattern is used to cut a facing from fashion fabric. The two layers are then sewn together and finished with buttons and buttonholes.

MATERIALS

- buttons, 3/4" (1.9 cm), 2
- fashion fabric to accommodate final pattern (for facing)
- muslin, cotton, approximately 5 yards (4.58 m)
- silk chiffon to accommodate final pattern
- wool

TOOLS

- Basic Felting Tools (page 30)
- cellophane tape
- drafting paper
- foam swimming noodle
- measuring tape
- needle and thread
- pencil
- pins, straight
- plastic bubble wrap
- ruler(s), long and transparent
- scissors, fabric and utility
- sewing machine
- spring clamps
- steam iron and pressing surface
- string
- tailor's chalk
- tracing paper
- tracing wheel



MEASUREMENTS

1. Using a measuring tape, measure the widest part of your chest (or waist). Divide this number by four. This number will be the *vest width*. Add ½" (1.3 cm) for ease, and record this number in the proper space below.
2. Measure from your shoulder to the desired length of the vest, usually between your waist and hip. This number will be the *vest length*; record it below.
3. Measure from the top of your shoulder to the point beneath your arm where you would like the armhole to stop. This number will be the *armhole length*; record it below.
4. Measure from the neckline to the end of your shoulder. This number will be your *shoulder length*; record it below.

measurement divided by 4 + ½" (1.3 cm) = **vest width**: _____

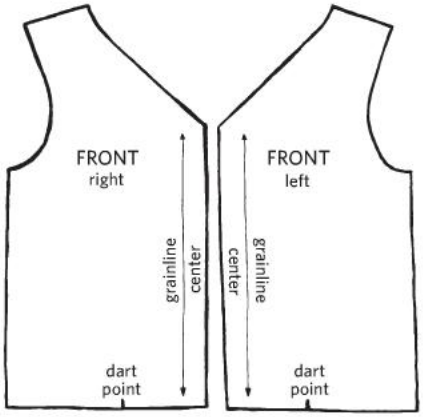
vest length: _____

armhole length: _____

shoulder length: _____

PATTERN

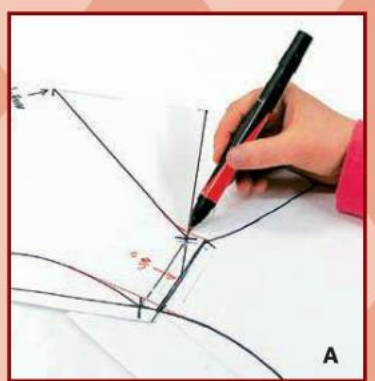
1. Using a marker and a long ruler, draw a rectangle that measures the vest width by the vest length on drafting paper. Label the left side *center*.
2. Measure 1" (2.5 cm) down from the upper-right corner and mark the *shoulder point*.
3. From the shoulder point, measure the armhole length on the side edge and mark the *armhole point*.
4. From the shoulder point to the center line, measure the shoulder length to mark the *neckline point*.
5. Copy the basic outline you drew in steps 5–8 onto a second piece of drafting paper. Label one drawing *front* and the other *back*.
6. On the *back* pattern, use a measuring tape to mark the bottom of the neckline ½" (1.3 cm) down on the center-back line. Connect this point in a shallow curve to the neckline point. This is the *back neckline*.
7. Connect the neckline point to the lowered shoulder point.
8. Draw a shallow curve between the armhole point and the shoulder point.
9. Mark a dart point 4" (10.2 cm) from the center-back line along the bottom edge of the pattern.
10. Fold the pattern in half on the center-back line and use utility scissors to cut out a complete back pattern. Be sure to mark the dart point on both the left and right sides of the pattern.
11. On the *front* pattern, mark the bottom of the neckline 5" (12.7 cm) down on the center front line. Draw a straight line to connect this point to the neckline point for a V neck.
12. Connect the neckline point to the lowered shoulder point.
13. Draw a deep curve between the armhole point and the shoulder point.



14. Mark a dart point 4" (10.2 cm) from the center-front line along the bottom edge of the pattern.
15. Extend the shoulder and side seam out ½" (1.3 cm) on the front pattern piece.
16. Place the shoulders of the front and back pattern piece together and adjust so that the two edges match. The shoulder should be at least 3" (7.6 cm) wide for this exercise. (A)
17. Place the sides of the front and back pattern pieces together and adjust so that the two edges match from the bottom of the armhole to the bottom of the vest. (B)
18. Trace the front pattern on drafting paper to make a *right* and *left* side. Mark the dart points on both front vest patterns. Cut these pattern pieces out with utility scissors.
19. Mark a grainline on the front-right, front-left, and back pattern pieces. The grainline corresponds to the center lines and helps to align the pattern with the grainline of the woven fabric.
20. Using a steam iron, press the muslin fabric and lay it out flat on your sewing table.
21. Align the grainlines of the pattern pieces with the selvage edge and pin the patterns to the muslin, leaving at least 1" (2.5 cm) between the pieces.
26. Using tracing paper and a tracing wheel, trace the pattern pieces onto the muslin. Mark a second outline for a ½" (1.3 cm) seam allowance around the each pattern piece. (C)
27. Mark the dart points on the front and back muslin pieces and draw a 4" (10.2 cm) line perpendicular to the bottom edge from the dart points.
28. Using fabric scissors, cut out the muslin pieces. Staystitch (a running stitch used to keep fabric from stretching) the neckline, armholes, center front, and bottom edge on all pattern pieces.
29. Pin the pieces together at the shoulder and sides. Sew the seams together with a ½" (1.3 cm) seam and press.
30. Using fabric scissors, cut the neckline and armholes close to the staystitching.

FITTING

1. Try the muslin vest on and pin the center-front pieces together along the staystitched line. Ideally, the front center line and side seam should hang straight.
2. Gather the material at the dart points on the front and back to fit the garment. Mark adjustments as necessary. (D)
3. Gather the fabric in the center of the front armhole and mark adjustment.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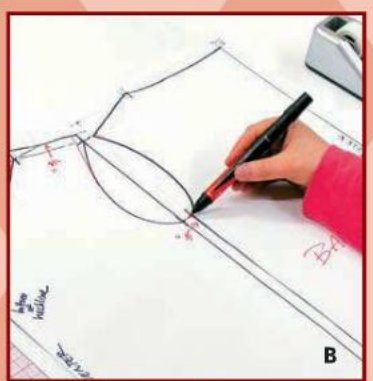

B

C

4. Check the neckline and armhole line. Draw corrected lines as needed. Use fabric scissors to cut away fabric, if necessary, to open the armholes. Be careful not to cut past the desired point.
5. Transfer all adjustments and markings to the pattern pieces, including new neckline and armhole lines and the front and back darts. (E)
6. Use the corrected pattern to make a second muslin mock-up. Follow the process for making the first mock-up, this time sewing the darts before sewing the side and shoulder seams. When the darts are sewn out, press the dart material flat with an iron.
7. Test for fit. If satisfactory, move on to step 8 to add French darts. If not, make adjustments to the mock-up and transfer them to the pattern pieces. Make a new mock-up and try the fit again. Repeat until you are satisfied with the fit of the vest.
8. On the mock-up, mark the chest point at the bust and mark a point along the side seam where you would like the French dart to start, usually 3–4" (7.2–10.2 cm) below the level of the chest point. Transfer these new points to the pattern.
9. Draw three sets of lines: one from each of the bottom dart leg ends to the chest point; one from the start of the French dart on the side seam to the chest point; and one from each of the armhole dart leg ends to the chest point. Use scissors to cut along these lines. (F)
10. Shift the pattern pieces so the bottom dart and the armhole dart are closed and the French dart is open.
11. Make both legs of the French dart equal in length.
12. Align the side of the front pattern piece with the side of the back pattern piece and check that the sides are equal. Adjust the side seams and bottom line as necessary. (G)

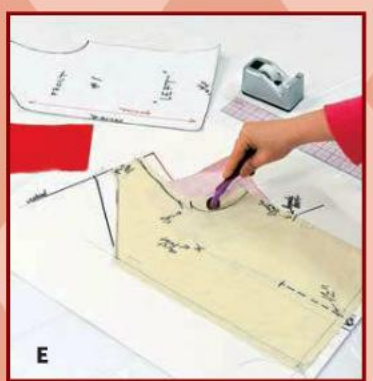
felt TIP

DARTS

Darts add shape to a garment, allowing the flat fabric to fit the human form. Darts for a vest are shaped like Vs. The top point is called the *dart point* and the lines are the *dart legs*. The dart legs are marked with small notches and the point typically is marked with an awl. A French dart is a seam that angles from the side seam up toward the bust.

When sewing a dart, sew along the legs of the dart to the point, to "sew out" material on the wrong side of the fabric. It is important to hand knot the threads at the dart point so they do not come loose.


D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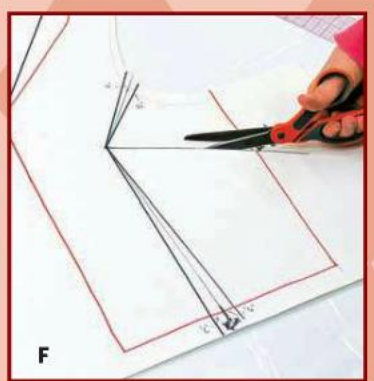
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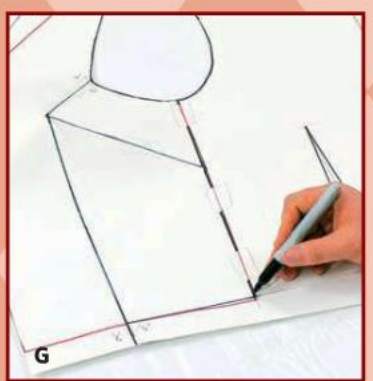
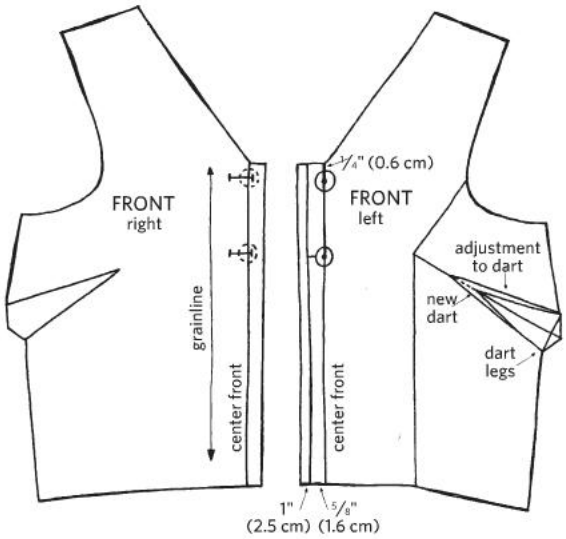

G

13. Check the shoulder seams to be sure they match up.
14. Move the point of the French dart back from the chest point and redraw the dart lines. (H)
15. Use the corrected pattern pieces to make a new muslin mock-up.
16. Try on the new mock-up for fit and mark adjustments if needed. Repeat to make a new pattern until you are satisfied with the fit. (I)

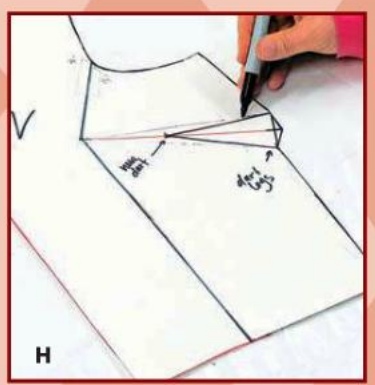
ADDING BUTTONS

1. To add a ¾" (1.9 cm) button to a woman's vest, mark ⅝" (1.6 cm) down the center line of both the left- and right-front pattern pieces. *Note:* A woman's vest opens right over left and a man's vest opens left over right.
2. Mark a second point 3" (7.6 cm) below the first.
3. Extend the front of both the left and right pattern pieces by 1" (2.5 cm) from the center line.
4. On the right-front pattern, use the guide points you marked in steps 1 and 2 to mark ⅞" (2.2 cm) buttonholes, extending them over the center front line by ⅛" (0.3 cm). Clearly mark the beginning and end of both buttonholes. *Note:* Buttonholes are usually ⅛" (0.3 cm) larger than the button.
5. Using the pattern with button placements, make a new muslin mock-up, checking for fit and button placement.



LAYOUT

1. Stretch the bubble wrap taut, smooth side up, across the felting table and use spring clamps to secure it at both ends. Dry the surface with a towel.
2. Using a steam iron, carefully press the silk chiffon fabric so it is flat and without wrinkles. Center the fabric flat on top of the bubble wrap, right side up.
3. Remove the selvage edge of the fabric.
4. Cover the fabric with an even layer of overlapping wool shingles in the desired surface design.


H


I


J


K

FELTING

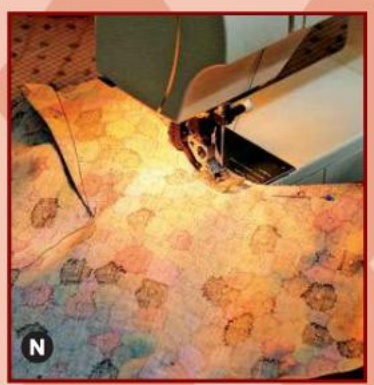
1. Felt the wool and fabric together, using the Felt Rolling Technique (page 40) (J)
2. Using a steam iron, press the felt fabric flat.

FINISHING

1. Lay the finished felt fabric face up on the sewing table. Align the final, correctly fitted pattern pieces with the surface design on the fabric. *Note:* Because the felt is equally strong in all directions, you do not need to be concerned about the grainline as you would with traditional woven fabric.
2. Using tailor's chalk and a transparent ruler, mark a ½" (1.3 cm) seam allowance along the side and shoulder seams.
3. Mark a ¼" (0.6 cm) seam allowance at the neckline, center, and bottom edges.
4. Mark the dart points and the end of the dart legs, the buttons, and the buttonholes with tailor's tacks.
5. Cut the pieces out of the felt fabric and use tailor's chalk to mark darts and buttonholes on the wrong side. Remove the tailor's tacks. (L)
6. Repeat steps 1–5 using the fashion fabric, taking care to align the grainline of the fabric with the grainline markings on the pattern pieces. You will now have two identical sets of fabric pieces, one in felt and one in fashion fabric, for the facing. (M)
7. Sew out the darts of each piece. Trim excess dart material on the felt pieces with fabric scissors. Use an iron to press down excess dart material on the fashion fabric pieces.
8. Sew the front and back felt pieces together at the shoulder with a ½" (1.3 cm) seam. Trim the seam with fabric scissors.
9. Sew the front and back facing pieces together at the shoulder with a ½" (1.3 cm) seam. Press the seam open.
10. With right sides together, align the edges of the felt fabric and the fashion fabric, and pin along the neckline and armholes.
11. Sew the neckline and armholes together with a ¼" (0.6 cm) seam. (N)
12. Turn the vest right side out by pulling the right side of the vest through the right shoulder and the left side of the vest through the left shoulder.
13. Sew the sides of the felt fabric together with a ½" (1.3 cm) seam.
14. Sew the sides of the facing fabric together with a ½" (1.3 cm) seam.
15. Sew the center fronts of the felt and facing together with a ¼" (0.6 cm) seam.
16. Using a steam iron, press the vest.
17. Turn under the fabric ½" (1.3 cm) along the bottom edge and press. Sew together with a fell stitch (page 45).
18. Using the sewing machine, create buttonholes. Sew on the buttons and open the buttonholes with fabric scissors. (O)


L


M


N


O

STARBURST SHIRT

A shirt can be made in any shape and size. It can be sleeved or sleeveless, dressed up or down, buttoned in the front or the back, or extended to form a dress. But one thing's for sure: A felted shirt is an excellent way to let your personality shine through.

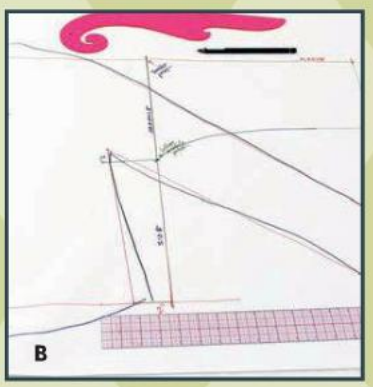
In this project, we create a pattern from a pre-existing shirt and adapt it to form a loose-fitting shirt with tapered sleeves. First, the shirt will be sewn together with French seams, and then wool will be felted at the neckline to shrink the garment strategically.

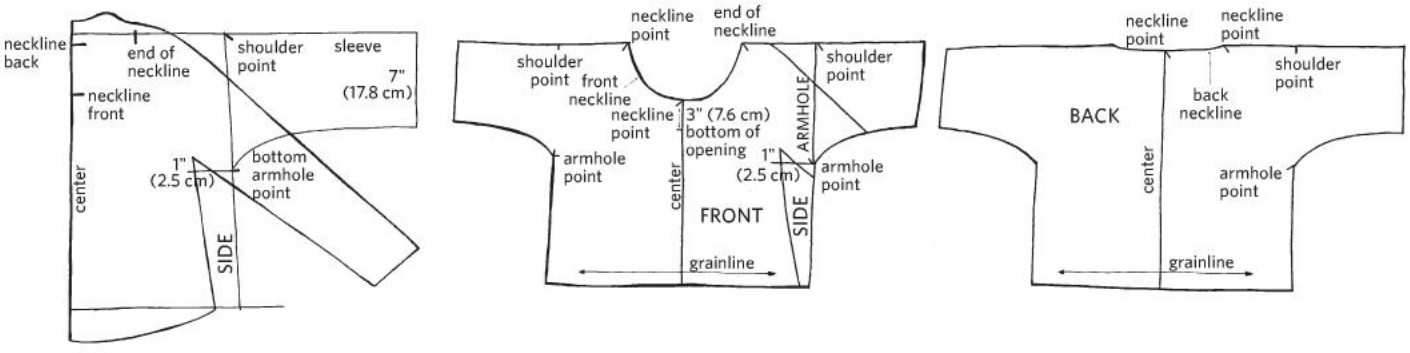
MATERIALS

- button, small pearl
- silk organza, approximately 1 1/2 yards (1.4 m)
- wool
- woven, non-stretch shirt that fits you well

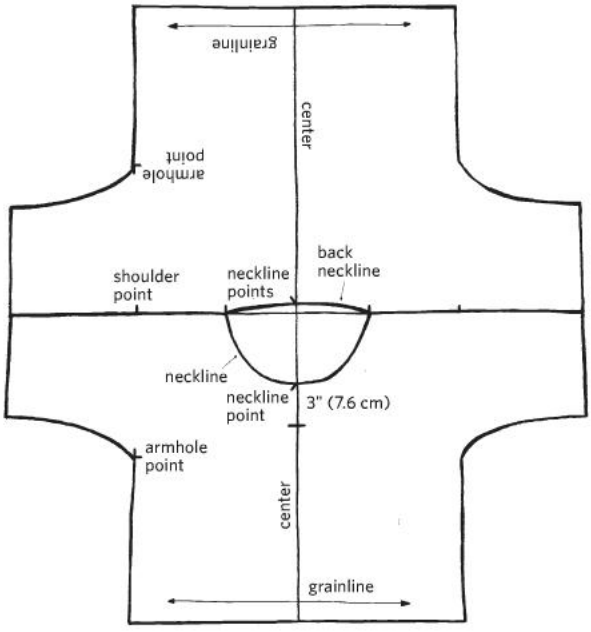
TOOLS

- awl
- Basic Felting Tools (page 30)
- drafting paper
- needle and thread
- pencil
- pins, straight
- plastic sheeting
- ruler(s), long and transparent
- scissors, fabric and utility
- sewing machine
- steam iron and pressing surface
- tailor's chalk
- thread, silk





1. Trace one half of the shirt on a piece of drafting paper. (A)
2. Use a ruler to tweak the outline so the lines are straight and the curves are simplified.
3. Extend the bottom of the shirt out 2" (5.1 cm) from the side to mark the new bottom low hip. (B)
4. Using the ruler, draw a straight line from the top of the neckline to the desired length of the sleeve.
5. Draw a perpendicular line from the bottom low hip point to the top sleeve line.
6. Working downward from the end of the top sleeve line, draw a perpendicular line 7" (17.8 cm) long.
7. Lower the armhole by 1" (2.5 cm) and draw a straight perpendicular line that extends from this new point and connects to the side line. Mark this point as the new bottom-armhole point.
8. Connect the bottom-armhole point to the end of the sleeve in a shallow curve that straightens as it approaches the end of the sleeve.
9. Mark the desired depth of the front and back center neckline.
10. Fold the drafting paper in half along the sleeve line and trace the shirt back. Mark the shoulder point and the bottom-armhole point on both the front and back halves.
11. Unfold and draw in the front and back neckline. Mark the neckline points on the shoulder line and center line.
12. Using utility scissors, cut along the sleeve line to produce two pattern pieces: the "front half shirt" and the "back half shirt."
13. Fold a piece of drafting paper in half and trace the front half shirt. Repeat to trace the back half shirt.
14. Using utility scissors, cut these pieces out of the folded paper. You now have a complete pattern piece for the front and back.
15. Using a ruler, mark a point 3" (7.6 cm) down the center-front line from the neckline. This will be for the front opening of the shirt.
16. Mark the important notches at the center front, center back, the bottom neckline point, and the shoulder and armhole points. Mark the grainline parallel to the bottom edge of the shirt pattern on both the front and back pieces.
17. Lay out a piece of silk organza on your sewing table.



18. Align and pin the front pattern piece with the organza, lining up the bottom edge of the shirt 2" (5.1 cm) from the selvage edge of the silk and parallel to the silk's grainline. (C)

19. Using a transparent ruler and tailor's chalk, mark a 3/4" (1.9 cm) seam allowance along the bottom edge and at the end of the sleeves. Mark a 1/2" (1.3 cm) seam allowance around the remaining edges of the pattern.

20. Using fabric scissors, cut the piece out of the silk.

21. Use 1/4" (0.6 cm) notches to mark the center front, center back, shoulder, and armhole points.

22. Using a brightly colored basting thread, mark the front opening on the neckline from the bottom neckline point to the center front of the neckline.

23. Using the back pattern, repeat steps 18–21 to cut out the shirt back from the silk organza.

24. Align the front and back organza, wrong sides together. Pin at the notches and the end points, and evenly distribute the fabric along the edges with pins.

25. Using the sewing machine, sew the sides and sleeves of the organza pieces together with a 1/4" seam (0.6 cm).

26. Trim the seams to 1/8" (0.3 cm).

27. Turn the piece wrong side out. Using a steam iron, press the edges and seams flat.

28. Pin the fabric together and using a sewing machine, sew a 1/2" (0.6 cm) seam along the sides and sleeves. This will produce a finished 1/4" (0.6 cm) French seam along the inside of the shirt.

29. Iron the French seam toward the back of the shirt.

30. Turn under the shirt bottom and sleeves 3/8" (0.9 cm) and press using a steam iron. Turn under a second 3/8" (0.9 cm) and press again. *Note:* Try pinning the fabric to the ironing board and ironing over the pins. Pins with glass heads work best for this method.

31. Using a needle and thread, finish these edges with a small catch stitch (page 44). The stitch should appear as a tiny prick stitch on the right side of the garment. (D)

LAYOUT

1. Pin the back pattern piece to a piece of plastic sheeting. Cut the shape from the plastic to form a resist, extending the neck section as you cut. This will add a plastic layer to prevent felting across the neckline. Trim 1/4" (0.6 cm) off the edge of the resist to ensure it will fit inside the shirt. (E)

2. Using a marker, trace the plastic resist on the dry felting table.

3. Using a steam iron, press the shirt flat. Fit the shirt over the plastic resist.

4. Arrange wool shingles in a starburst pattern around the neckline outlined on the felting table. Extend the wool 2" (5.1 cm) over the shoulders. (F)

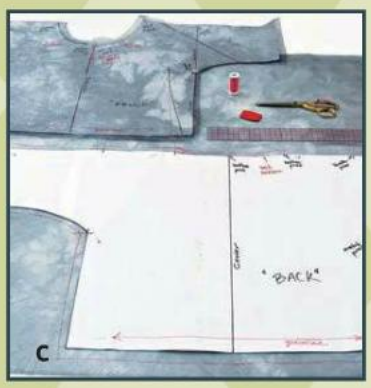
5. Place the shirt, with the plastic resist inside, over the wool layout, aligning it with the outline marked on the table.

6. Fold the wool over the shoulders and add more wool shingles to the front of the shirt in a starburst pattern. (G)

FELTING

1. Follow the General Felting Technique (page 38), steps 1–5.

2. Add hot, soapy water to the sides of the resist and use a sponge to press the water so it wets the wool on the back of the shirt.



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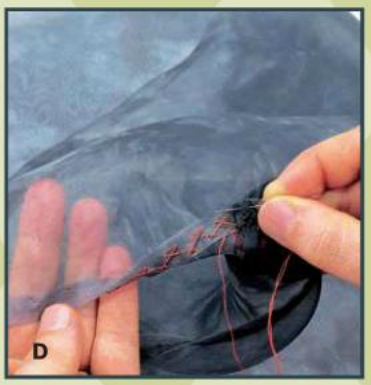

D


E


F

3. Pat the wool with your hands until it feels firmly matted. Apply water and pressure as needed.
4. Press to remove excess water and to encourage the back to felt. (I)
5. Squeeze the wool along the shoulder edge to encourage felting around the seam.
6. Check the felt at the back of the shirt.
7. Place a piece of plastic sheeting over the exposed silk at the bottom of the shirt. (J)
8. Fold the shirt over, revealing the back of the neckline.
9. Work the back wool by patting and pressing with your hands.
10. Once the wool feels firmly felted, work it by hand in a circular motion on both the front and back.
11. Remove the plastic and scrub the wool on a washboard to accelerate felting and to even out the felt around the shoulders.
12. Rinse out the soap and soak in a light vinegar bath.
13. Rinse thoroughly and wring out excess water.
14. Stretch and allow to dry.

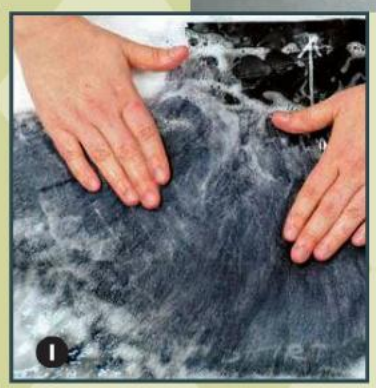
FINISHING

1. Using a steam iron, press the silk and shape the neckline.
2. Using fabric scissors, cut along the neckline opening marked on the inside with basting thread. Remove the thread.
3. Using a needle and thread, sew a line of decorative prick stitches (page 45) around the front neckline opening to prevent possible separation of the wool and silk along the cut edge.
4. Sew a button to the left side of the neckline.
5. Using silk thread, create a thread loop at the corresponding point on the right side of the neckline (page 45).

Taking it further: In this version of the Starburst Shirt, a second pattern is drafted with a gently sloping sleeve. It is then fabricated in an open-weave silver and silk material. Remnants of the material are felted back in at the collar to create an organic petal-like neckline.


G


H


I


J

FAIRY DRESS

A dress is an entire outfit in one piece. It complements the shape and is the most feminine of garments.

In this project, we felt directly onto a three-dimensional dress form. Loosely woven fabric is sewn together to make a basic gown, and wool is added and felted in patches to "sculpt" the final dress. It is finished with a zipper.

MATERIALS

- 7" invisible zipper
- silk chiffon, 3 to 5 yards (2.7 to 4.6 m), depending on your size
- wool

TOOLS

- awl
- Basic Felting Tools (page 30)
- dress form
- hair blow dryer
- needle and thread
- packing tape
- pins, straight
- plastic trash bags, 3
- ruler, transparent
- scissors, fabric and utility
- sewing machine
- spray bottle
- tailor's chalk
- zipper foot

PREPARATION

1. Using plastic bags and packing tape, completely cover the dress form.
2. Using a needle and thread, sew the chiffon together with large basting stitches (page 44) to form a simple fabric base for the dress on the dress form.
3. Using fabric scissors, create the shoulder bands (straps). Sew the material loosely around the chest. (A)
4. Sew the silk chiffon together past the low hip of the dress form.


A


B


C


D

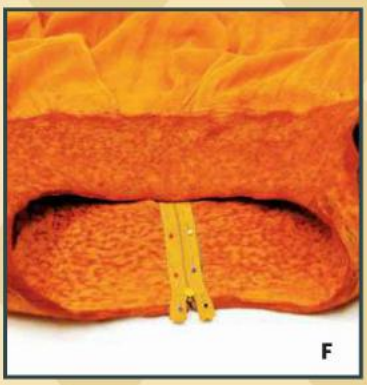
FELTING

1. Starting at the shoulders, cover the shoulder bands in a wide layer of wool shingles.
2. Tuck in the edges of the wool around the shoulder bands.
3. Using a spray bottle, wet the wool down with hot, soapy water. (B)
4. Pat and press the wool with your flat hands to encourage felting. Wet and work one shoulder at a time.
5. When the shoulder bands are felted to satisfaction, add wool to the chest area and back. Use a hair blow dryer to fully dry the new area to be felted. Do not overlap wet areas of freshly felted wool.
6. Add wool to the front neckline as desired, and then wet and work the wool until lightly felted. Repeat for the back neckline. (C)
7. Extend the wool layers downward by adding new wool to fully cover the chest on both the front and back. Wet and work the wool with your hands.
8. Add wool around the armholes.
9. Continue to add additional layers of wool to the back and front as desired. Wet and work the wool until lightly felted. (D)
10. Add additional layers of wool as desired and felt as fully as you can by hand, being especially gentle where the wool meets the exposed fabric.
11. Remove the garment from the dress form. Scrub the felted wool section of the garment on washboard. (E)
12. Rinse out the soap and soak in a light vinegar bath.
13. Rinse thoroughly and wring out excess water.
14. While the dress is still damp, fit the garment over the dress form and stretch by hand until the shape is satisfactory.
15. Allow to air dry or dry using the blow dryer.

ADDING A ZIPPER

1. Using a ruler and tailor's chalk, mark the placement of the zipper on the right side of the garment. Using an awl, mark the bottom of the zipper.
2. Using a ruler and tailor's chalk, mark the zipper opening on the wrong side of the felted dress.
3. Using a transparent ruler and tailor's chalk, mark half the zipper width on each side of the zipper opening on the wrong side of the garment.
4. Using fabric scissors, cut along the zipper opening.
5. Position and pin the zipper according to the guidelines you have marked. (F)
6. Outfit your sewing machine with a zipper foot and sew the zipper down on both sides of the zipper opening with a ¼" (0.6 cm) seam.
7. Sew the base of the zipper with a wide stitch across the zipper's teeth. Trim the bottom and top of the zipper as desired.


E


F

Taking it further: This Fairy Dress is made by using a pre-made felted piece of nuno fabric combining diagonal lines in a merino/silk blend over silk organza. This piece is attached around the bust of the top to form the body of the dress. The top is then felted on the form with natural ecru merino and extra material is added to the neck and arms, creating raised organic edging. The finished felt piece is dyed in shades of blue and trimmed with a red felt poppy flower.

KIMONO JACKET

The kimono, literally translated as "thing to wear," is a traditional robe worn in Japan. Its simple cut and easy construction make it a fun project that does not require a great deal of design or pattern-making experience.

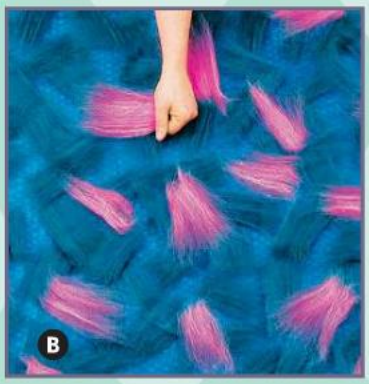
Making a kimono jacket is an exercise in geometry; the draped rectangles flatter the form without much tailoring. This kimono is constructed from two rectangular sheets of flat, light nuno felt fabric. One piece of nuno felt forms the jacket body and should be reinforced with a layer of wool around the center front and neckline so these areas can be cut open later. The other piece of nuno fabric is cut in half to make the sleeves. The jacket is finished with a traditional collar and belt.

MATERIALS

- silk gauze, 4.5mm, approximately 6 yards (5.5 m)
- wool (can be more than one color)

TOOLS

- Basic Felting Tools (page 30)
- foam swimming noodle
- pins, straight
- plastic bubble wrap
- rotary cutter and mat (optional)
- ruler(s), long and transparent
- scissors, fabric and utility
- sewing machine
- spring clamps
- steam iron and pressing surface
- string
- tailor's chalk



LAYOUT FOR PIECE 1

You will use this piece for the sleeves.

1. Stretch the bubble wrap taut, smooth side up, so it completely covers the dry felting table and secure with spring clamps. Dry the surface with a towel.
2. Divide the silk gauze across its width into two pieces of equal length.
3. Center one piece of the silk gauze on the bubble wrap.
4. Remove the selvage edge from the fabric.
5. Fold one edge of the fabric back on itself by 3–4" (7.6 – 10.2 cm) and lay out a thin horizontal row of overlapping horizontal shingles where the fabric edge would be. Do this on all four edges of the fabric.
6. Unfold the fabric so the edges rest on top of the wool.
7. Cover the edges of the silk fabric with a second row of overlapping horizontal shingles. (A)
8. Add a light, even layer of wool shingles in alternating directions to the surface of the fabric. You can use different colors of wool if you like. (B)
9. Create desired surface design.

FELTING FOR PIECE 1

1. Felt the wool and fabric together, using the Felt Rolling Technique (page 40)
2. Using a steam iron, press the rectangular piece of felted fabric flat.

LAYOUT AND FELTING FOR PIECE 2

You will use this piece for the jacket body. Repeat the steps in Layout for Piece 1 and Felting for Piece 1 using the second length of silk gauze. This time, add a reinforcement layer around the center and front neckline. (C)

MAKING THE BELT AND COLLAR

1. Re-cover the felting table with bubble wrap. Lay an overlapping horizontal row of overlapping horizontal shingles down the length of the felting table.
2. Cover the row from step 1 with an overlapping horizontal row of overlapping vertical shingles.
3. Cover the piece with nylon netting and use a sponge to wet the piece down with hot, soapy water, working from one end to the other to push out air and excess water.
4. Press the wool flat with your flattened hands and work the surface of the wool in a circular motion through the nylon netting.
5. Remove the nylon netting.
6. Use your flattened hand to push the fibers in to shape the edges of the row. The row should measure approximately 1½" (3.8 cm) wide. (D)
7. Continue using your flattened hands to pat the surface of the wool. As the wool felts, apply more pressure and press the wool flat.
8. Continue to pat and press, adding hot, soapy water and pressure as needed. When the wool feels firmly felted, use your hands to work the pieces in a circular motion. Start gently to encourage the surface to felt, adding more pressure as needed to work the layers beneath.

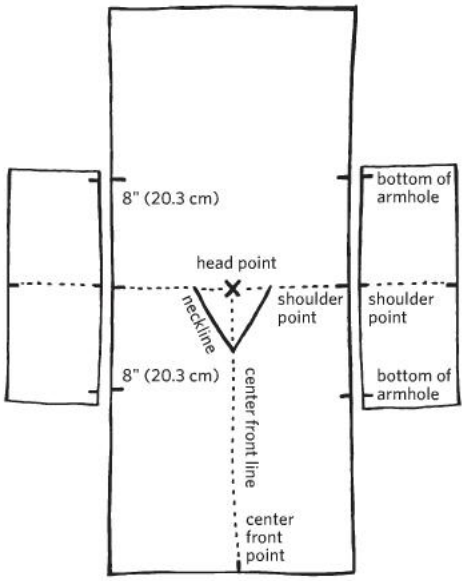

C


D

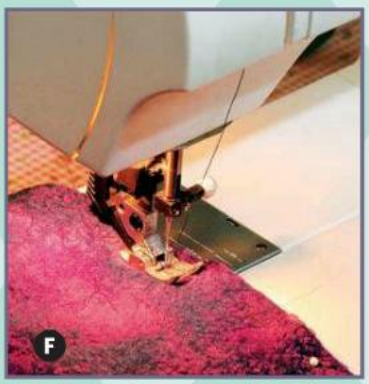
9. When the wool feels densely felted, scrub the piece on a washboard with a sponge to accelerate felting. Start from one end and use the end to scrub the next section of wool. Use the next section of wool to scrub the section after that and so on until the entire piece has been scrubbed.
10. Turn the piece over and repeat step 9 to scrub the other side. Continue to scrub the piece evenly on both sides until the entire piece is densely felted. The wool will shrink noticeably.
11. Rinse out the soap and soak in a light vinegar bath.
12. Rinse thoroughly and wring out excess water.
13. Stretch and allow to dry.
14. Using a steam iron, press the wool strip flat.

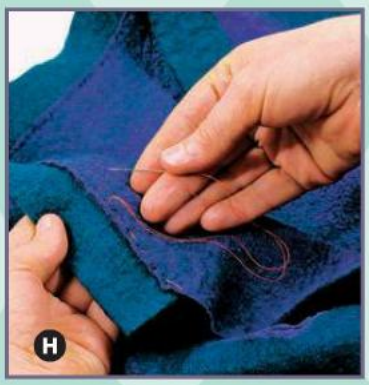
FINISHING

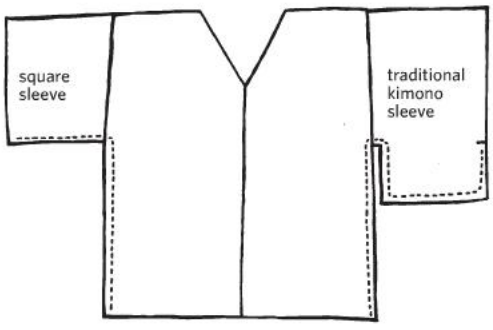
1. Using a long ruler and fabric scissors or a rotary cutter, straighten the edges of the sleeve and jacket body pieces to make true rectangles.
2. Cut the sleeve fabric across the width to make two equal pieces. Set these pieces aside for now.
3. Fold the jacket body fabric in half across the width. Using fabric scissors, cut a small notch at the folded edge on each side to mark the shoulder points.
4. Using tailor's chalk and a long ruler, mark a straight line from shoulder point to shoulder point.
5. Measure to find the center of this line and mark the head point with tailor's chalk.
6. Mark 8" (20.3 cm) on either side of each shoulder point to mark the bottom of the armholes.



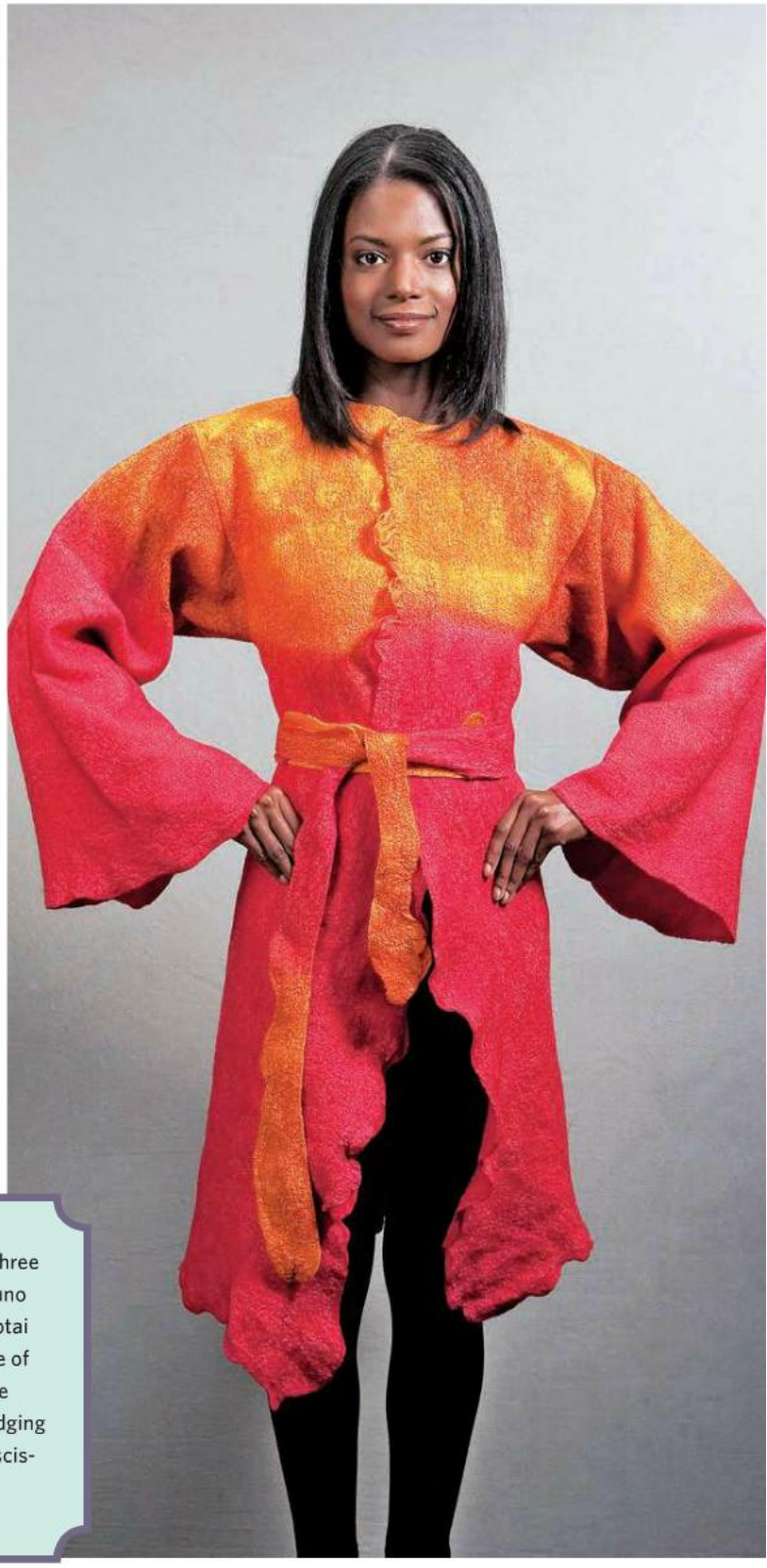
7. Mark the center-front point. Do this by folding the piece in half along the width and marking the folded edge in the reinforced area of felt.
8. Mark the center-front line, connecting the center-front point to the head point.
9. Draw the V neckline around the head point.
10. Fold the two sleeve pieces in half along the length and mark the folded edge. These marks represent the shoulder points of the sleeves.
11. Measure 8" (20.3 cm) on either side of the shoulder point and mark the bottom of the armhole. Do this for both sleeve pieces.







12. Align the shoulder notches and armhole notches of the jacket body and sleeve pieces. Pin the sleeves to the body along the arm seams. (E)
13. Using your sewing machine, sew the sleeves to the jacket body with a 1/4" (0.6 cm) seam. (F)
14. Trim the seams to 1/8" (0.3 cm).
15. Fold the piece on the shoulder line, right sides together. Pin along the bottom of the sleeves and sides of the jacket.
16. Sew together with a 1/4" (0.6 cm) seam. Trim the seams to 1/8" (0.3 cm).
17. Using fabric scissors, cut open the center front line and around the neckline of the jacket. (G)
18. Trim the edges of the belt/collar material to straighten them.
19. Measure the neckline and cut an appropriately sized piece for the collar from the belt/collar material.
20. Using a needle and thread, attach the collar to the neckline with a permanent running stitch (page 45). (H)



Taking it further: This dramatic kimono jacket is made from three pieces of nuno fabric to make an especially long garment. The nuno pieces are made from superfine merino wool felted through habotai silk, which are then dip-dyed in red and gold. The ruched silk side of the nuno fabric is used on the "right" side of the garment, and the front panel is cut in half and reversed to place the felt's unique edging at the front center of the jacket. The collar is cut out with fabric scissors and remnants are used to fashion a belt.

SEAMLESS JACKET

One of the unique qualities of felting is the ability to make seamless garments. To demonstrate how a felted garment can be constructed without sewing, this jacket uses a reversible felt button.

The jacket is made of two even layers of wool with a third reinforcement layer around the chest, back, and shoulders—thick enough to be warm, but light enough for ease of movement. We start by making a custom plastic resist pattern.

MATERIALS
- wool
- wool yarn

TOOLS
- awl
- Basic Felting Tools (page 30)
- drafting paper
- French curve (optional)
- measuring tape
- plastic sheeting
- ruler, long
- scissors, fabric and utility
- spray bottle
- steam iron and pressing surface

PATTERN

1. Using a measuring tape, measure the circumference of the widest part of your chest (or waist). Divide the measurement by two. Add 60 percent to account for shrink and enter this measurement below as your *chest width*.

   measurement: _____ divided by 2 =_____ + 60 percent = **chest width**: _____

2. Measure from the base of your neck to the point where you took your measurement in step 1. Add 60 percent and record the results below as your *chest length*.

   measurement: _____ + 60 percent = **chest length**: _____


A


B

3. Measure from shoulder to shoulder. Divide the measurement by 2 and add 60 percent. Record the results below as your *shoulder length*.

   measurement: _____ divided by 2 + 60 percent =
   shoulder length: _____

4. Measure down from your shoulder to the desired length of the jacket and add 60 percent. Record the results below as your *jacket length*.

   measurement: _____ + 60 percent =
   jacket length: _____

5. Measure from your shoulder down your arm to the desired length of the sleeve. Add 60 percent and record the results below as your *sleeve length*.

   measurement: _____ + 60 percent =
   sleeve length: _____

6. Measure around your bicep. Divide by 2 and add 2" (5.1 cm) for ease. Add 60 percent and record the results below as your *arm width*.

   measurement: _____ / 2 + 2" (5.1 cm) + 60 percent =
   arm width: _____

7. Using a long ruler and a marker, draw a long vertical line equal to your jacket-length measurement on a piece of drafting paper. This will be the center front.

8. Draw a perpendicular line at the top of the center front, extending to the right and equal to your shoulder-length measurement.

9. Mark the start of the neckline on the shoulder line, and on the center-front line.

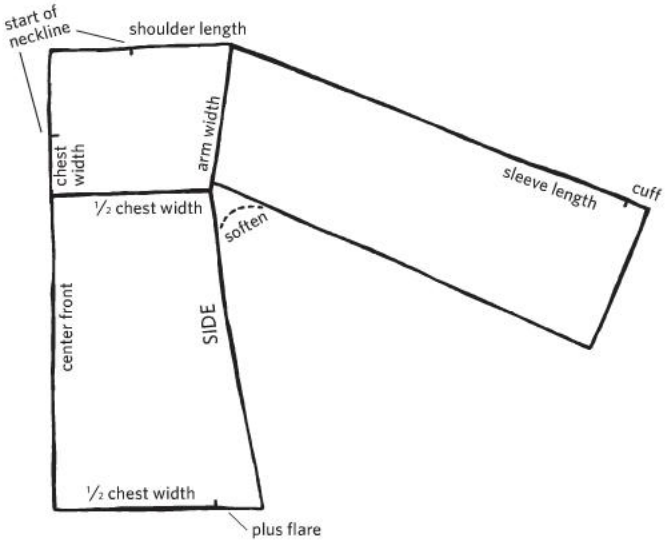
10. Measure down the center front and mark your chest-length measurement.

11. Extend a perpendicular line from this point, extending to the right and measuring half of your chest-width measurement.

12. Draw a perpendicular line at the bottom of the center front, extending to the right to mark the bottom edge of the jacket. Extend this line past the chest width, depending on the amount of flare you desire.

13. Draw a line connecting the end of the shoulder line to the end of the chest-width line.

14. Mark the arm-width measurement on this line to identify the bottom of the armhole.



15. Draw a line connecting the end of the chest-width line to the end of the jacket's bottom edge. This new line will mark the side edge of the jacket.

16. To add the sleeve, draw a new line at the end of the shoulder-length line. This line will drop at a slight angle and be equal to your sleeve-length measurement.

17. Extend the sleeve line to add room for a cuff.

18. Add a line at the end of the cuff, perpendicular to the sleeve line.

19. Add a line from the armhole mark, parallel to the sleeve line.

20. You now have an outline for the right half of the jacket pattern. Soften any sharp angles on the pattern and replace them with curves, especially under the armhole and over the shoulder point. A French curve is helpful for this.

21. Fold the plastic sheeting in half and cut out the pattern to make a plastic resist of the jacket with two symmetrical sides.

22. Using a marker, transfer the neckline points to both sides of the plastic resist. Draw the neckline and center front line.

LAYOUT

1. Place the plastic resist on the dry felting table and use a marker to trace the outline of the resist on the table. (A)

2. Lay out the first layer of overlapping diagonal rows of overlapping horizontal shingles, orienting them from the upper left to the lower right and covering the marked outline. (B)

3. Extend the wool over the shoulders, over the edges of the sleeves, and over the sides of the jacket by 2" to 3" (5.1 to 7.6 cm).
4. Lay out the second layer of overlapping diagonal rows of overlapping horizontal shingles, orienting them from the upper right to the lower left and covering the marked outline.
5. Extend the wool over the shoulders, over the edges of the sleeves, and over the sides of the jacket by 1½" (3.8 cm).
6. Lay out the third layer of overlapping vertical rows of overlapping vertical shingles to cover the shoulder and chest area. This layer is for reinforcement. (C)
7. Place the plastic resist on the wool and align with the outline marked on the table as closely as possible.
8. Gently fold the wool extensions over the resist on the shoulder, sleeves, and side edges. *Note:* The front of the jacket will be done in two separate parts, left and right, so that the wool can be extended in the front, creating an overlap where the button will go.
9. On the left side of the piece, lay out a layer of overlapping vertical rows of overlapping vertical shingles to cover the shoulder and chest area.
10. Extend the wool past the center front by 2" (5.1 cm).
11. Lay out a second layer of overlapping diagonal rows of overlapping horizontal shingles on the left side only, orienting them from the upper right to the lower left. (D)
12. Extend the wool over the shoulder, over the edges of the sleeve, and over the left side of the jacket by 1½" (3.8 cm).
13. Extend the wool past the center front by 2" (5.1 cm).
14. Add a third layer of overlapping diagonal rows of overlapping horizontal shingles on the left side only, orienting them from the upper left to the lower right.
15. Extend the wool over the shoulder, over the edges of the sleeve, and over the side of the jacket by 2" to 3" (5.1 to 7.6 cm).
16. Extend the wool past the center front by 2" (5.1 cm).
17. Tuck the wool under to refine the front edge.
18. Cover the center front of the garment with a 6" (15.2 cm)-wide strip of plastic sheeting.
19. Repeat steps 9–17 to make the right front side of the jacket. (E)

FELTING

1. Sprinkle the wool gently with hot, soapy water. Start at one shoulder, adding water and pressing as you move across the piece from shoulder to shoulder. As you do this, squeeze water at the side of piece and work the water under to wet and press the bottom layers.
2. Gently press and pat the surface with your flattened hands.
3. As the wool condenses, gently squeeze the wool around the shoulders. Add water and pressure as needed.
4. After it has been gently patted and pressed, the wool will begin to feel lightly felted. Press the top layer more firmly and add more hot water to the side of the piece, working the bottom layer of wool, which will lag a bit in the felting process.
5. Continue to squeeze and shape the shoulders, around the side seam, and around the edges of the sleeves. (F)
6. Add hot water and soap and begin working the top surface in a circular motion, gradually adding more pressure as the wool felts.


C


D


E


F

7. Fold over and check the bottom of the piece.
8. When the wool is matted enough to be moved, carefully flip the piece over.
9. Work the under-felted wool from the back by patting and pressing.
10. Squeeze and shape the shoulders.
11. When the back feels lightly felted, work the surface by hand in a circular motion, adding water and pressure as needed.
12. When the wool begins to shrink noticeably and feel firmly felted, remove the plastic resist.
13. Scrub the felt on a washboard, evenly working the piece.
14. Even out the wool along the shoulder, side, and sleeve seams.
15. When the piece is completely felted, rinse out the soap and soak in a light vinegar bath.
16. Rinse thoroughly and wring out excess water.
17. Stretch and allow to dry. Steam iron if desired.

FINISHING

1. To make the felt button, wrap wool yarn to form two small balls. (G)
2. Loosely tie the two yarn balls together with yarn to make a barbell.
3. Wrap the yarn barbell with wool.
4. Use a spray bottle to wet the wool with hot soapy water.
5. Squeeze by hand to felt the wool, adding water and pressure as needed. (H)
6. When the button is completely felted, rinse out the soap and soak in a light vinegar bath.
7. Rinse thoroughly and shake out excess water. Allow to dry.
8. Trim the edges and style the jacket as desired. (I & J)
9. Align the front of the jacket. Using an awl, mark the button placement. Attach the barbell button.
10. Mark and make a buttonhole.
11. Using fabric scissors, open the buttonhole so it is large enough to accommodate the felted button.

Taking it further: This jacket is made from a pattern divided into two rectangles: one for the body and one for the sleeve. These pieces are felted over to make a right and left side, using a merino/silk blend in a layered plaid pattern. The finished felt pieces are sewn together to form the jacket, trimmed with buttons and a collar fashioned from excess material.


G


H

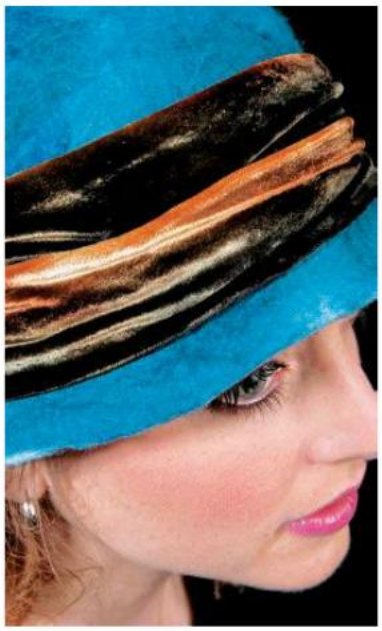

I


J

ACCESSORIES

Accessories are specialized items that give an outfit flair. Whether jewelry or scarves, hats or handbags, accessories are the added touch that make a design unique and personalized.

The projects in this section include basic methods for making an assortment of felted accessories. You will learn techniques such as felting over foam and hat blocking. You will also learn how to add leather, fashion fabrics, and other couture touches to your felt creations.



FLOWER SCARF

A scarf is like a hug; it wraps around us and keeps us warm. A scarf can also be a statement piece that adds a touch of color and flair to an ensemble ... and there are so many fun ways to style it.

This project uses wool fibers to create an armature or structure that holds the piece together—in this case, a stem holding rows of petals together.

MATERIALS

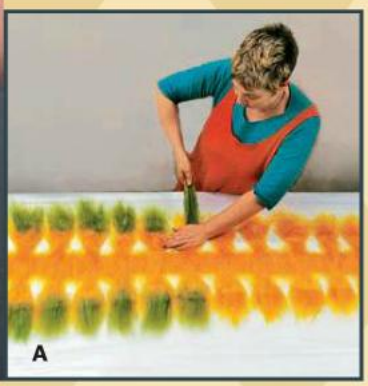
- wool, roving in two colors (I used yellow and green)

TOOLS

- Basic Felting Tools (page 30)
- plastic sheeting
- rubber gloves
- steam iron and pressing surface

LAYOUT

1. Lay out a long, light horizontal row of overlapping horizontal shingles on the dry felting table.
2. Cover the row you made in step 1 with a light row of overlapping vertical shingles. *Note:* The alternating layers will create a strong stem to hold the petals in place.
3. Split a piece of roving in half along its length. Split these thinner strips in half lengthwise again. You should now have four thin strips of wool roving.
4. Use these thinner strips to build narrow vertical stripes along the spine, like ribs, with vertical shingles overlapping 1" (2.5 cm). Leave space between the fiber ribs for the petals. Taper the length of the ribs at the end of the stem and build the ribs longer in the middle.
5. Flare out the tops of the ribs with wool shingles to create petals.
6. Add a line of wool shingles to define the outer edges of the petal (in this case with green wool). (A)
7. Tuck the edges of the petals under to create a rounded edge.


A

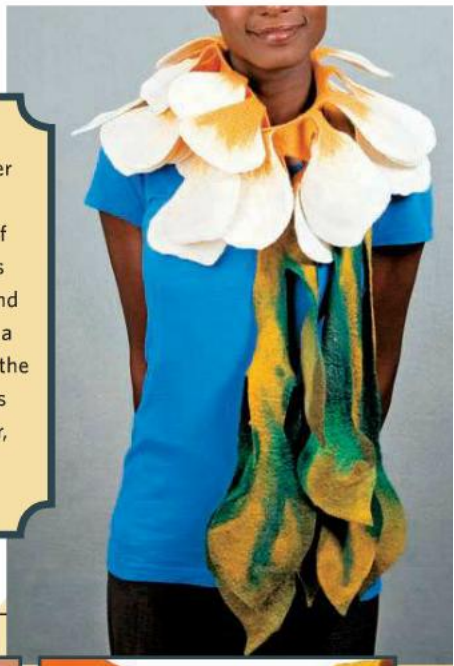

B

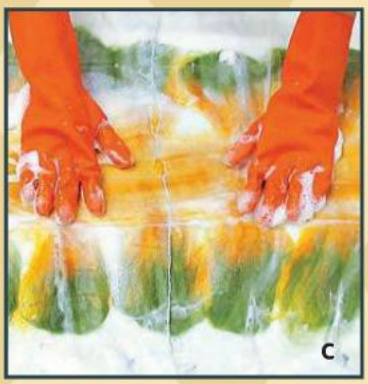
8. Cover each rib with a long length of wool roving to reinforce it.
9. Secure each petal to the stem with a light horizontal row of overlapping vertical shingles where the stem and petal meet.
10. Finish with a very light horizontal row of overlapping horizontal shingles along the original stem. (B)

FELTING

1. Cover the wool with nylon netting. Using a sponge, wet the piece with hot, soapy water. Start from one end of the stem and roll the sponge down to the opposite end, pressing the wool flat.
2. Wet down the petals by working outward from the stem to the top of the petal, using the sponge to press the petals flat.
3. Work the wool with your flattened hands, pressing out air and excess water. Work until the wool begins to felt lightly, stopping just before it felts through the nylon. (C)
4. Remove the nylon netting.
5. Shape the edges of the stem with your fingers.
6. Pat and press the stem with your flattened hands until the wool feels firmly matted. Add water and pressure as needed. The stem must be very strong to hold the weight of the petals. (D)
7. Pat and press the petals with your flattened hands, adding water and pressure as needed.
8. Shape the edges of the petals with your fingers. (E)
9. Work the piece by hand to shape the scarf.
10. Once the piece feels firmly felted, scrub it on a washboard to accelerate felting. Start from one end of the stem and use the end to scrub the next section. Use the next section to scrub the section after that and so on until the entire piece has been scrubbed.
11. Turn the piece over and repeat step 10 to scrub the other side. Continue to scrub the piece evenly on both sides until the entire piece is firmly felted. The wool will shrink noticeably.
12. Gently scrub the individual petals, applying more pressure as needed.
13. Scrub the entire piece until densely and evenly felted. (F)
14. Rinse out the soap and soak in a light vinegar bath.
15. Rinse thoroughly and wring out excess water.
16. Stretch and allow to dry.
17. Using a steam iron, press the scarf flat.

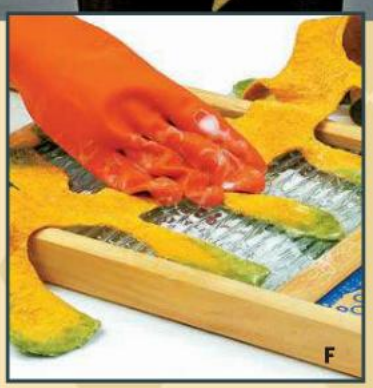
Taking it further: This flower scarf is made in the same manner, but using the colors of a daisy flower. The end flanges are extended to form leaves and plastic resists are used to add a second layer of petals around the center of the scarf. The scarf is then rolled to produce a flatter, more regular felt.




C


D


E


F

CHERRY BLOSSOM SHAWL

A light and airy shawl is a beautiful addition to a spring outfit. When worn to a picnic, or a special event like a friend's wedding, a shawl adds that special delicate touch.

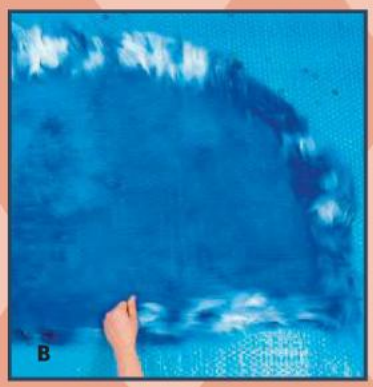
This project involves creating a light nuno felt piece with branch patterns and blossoms felted through the silk. Because much of the silk remains exposed during the process, a very gentle touch is required to produce a lovely finished effect. The shawl is completed with beadwork.

MATERIALS

- beads
- silk gauze, 4.5mm, desired shawl length x width + 60 percent for shrinkage
- wool, assorted colors (I used hand-dyed blues, grays, and pink)

TOOLS

- Basic Felting Tools (page 30)
- foam swimming noodle
- needle and thread, beading
- plastic bubble wrap
- spring clamps
- steam iron and pressing surface
- string

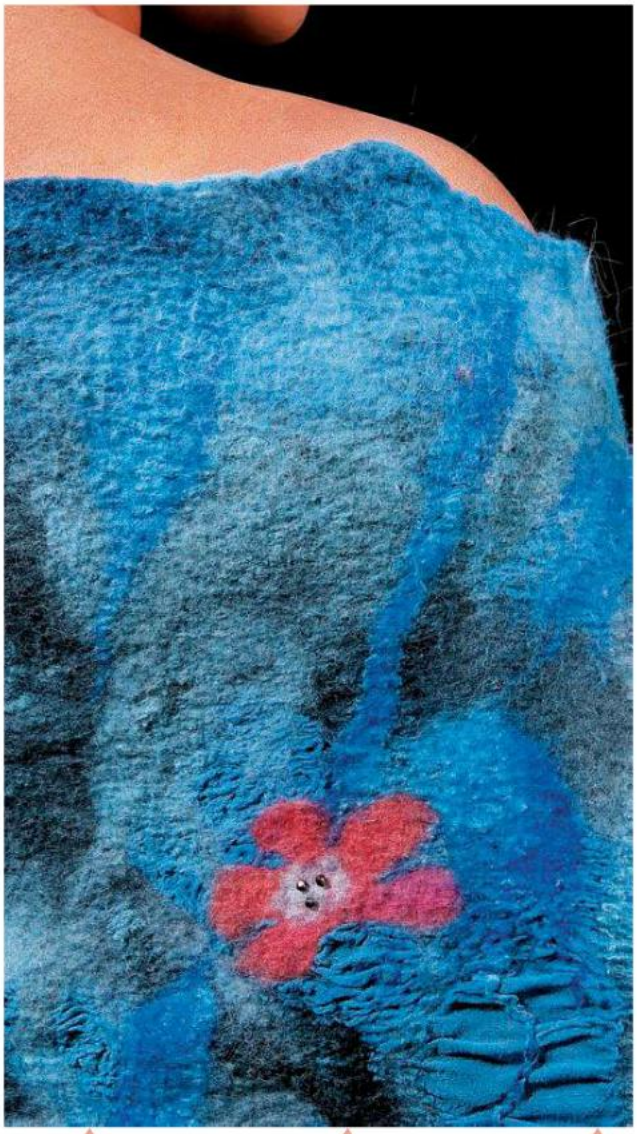


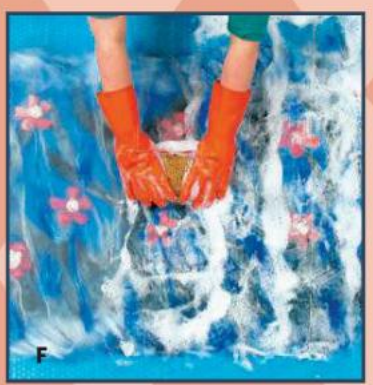
LAYOUT

1. Stretch the bubble wrap taut, smooth side up, across the felting table and secure with spring clamps. Dry the surface with a towel.
2. Using a steam iron, press the fabric, centering it flat, right side up on the bubble wrap.
3. Remove the selvage edge of the fabric.
4. Fold one edge of the fabric back on itself by 2–3" (5.1–7.6 cm). Lay out a thin row of overlapping horizontal wool shingles down the length of the table, where the fabric edge would be. (A)
5. Unfold the fabric so the edge lays flat in the center of the wool strip.
6. Lay a thinner line of overlapping wool shingles over all four frayed edges of the fabric. (B)
7. Use shingles of wool roving (I used hand-dyed blues and grays) to create branches on the fabric surface. Start with thick diagonal branches and taper to small diagonal branches. Be sure the shingles overlap by at least ½" (1.2 cm). Try to create an even, allover design, while leaving some of the fabric showing underneath. (C & D)
8. Once the surface is evenly covered with branches, use small pieces of pink roving to add flowers. Finish each flower center with a small circular puff of wool. This will create a small pad to which you can attach beads after felting. (E)

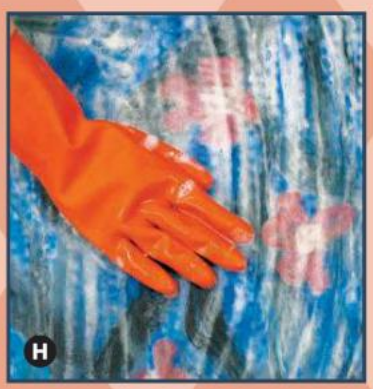
FELTING AND FINISHING

1. Cover the project with nylon netting.
2. Using a sponge, wet the piece down with hot, soapy water. (F)

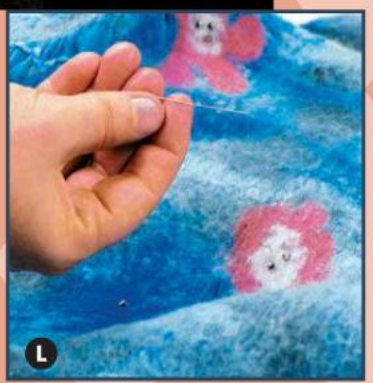




3. Using your flattened hand, press and smooth the surface, pushing out air and excess water as you go. (G & H)
4. Remove the nylon netting and clamps.
5. Using a foam swimming noodle, roll the piece up in one direction inside the bubble wrap. (I)
6. Using string, tie the rolled piece at both ends and lightly in the middle to secure.
7. Roll the piece on the table, unrolling periodically to check the felt.
8. Re-roll in the opposite direction to ensure that the piece is felted evenly from both ends. Add hot, soapy water as necessary. Continue to roll until you see the wool shrink and the exposed fabric gathering.
9. Gently lift one corner of the piece to see if the wool is felting through to the back side. *Note:* If there is no indication that the wool is felting through, or if fibers seem to move too freely, continue to roll.
10. Once the wool begins to shrink, unroll the plastic and check the piece by rubbing the wool gently with your hands. Check to see how firmly the wool is attached to the fabric. If the wool moves easily, continue to roll until it no longer moves. (J)
11. Using your flat fingertips, continue to work the surface gently, thoroughly rubbing each branch along the grain of the wool and rubbing the flowers in small circles. *Note:* Be careful not to lift the edges of the wool design by applying too much pressure.
12. Work the edges of the shawl by hand until they feel strongly matted and the fabric is securely enmeshed in the felted wool.
13. As the wool becomes more firmly anchored in the fabric, the piece can be worked on the washboard. Be careful to scrub only on the wool, as the open fabric will not felt and scrubbing only risks damaging the weave. (K)
14. Scrub gently, alternating between the washboard and working flat on the table until the piece is sufficiently felted and you are pleased with the outcome.
15. Rinse out the soap and soak in a light vinegar bath.
16. Rinse thoroughly and wring out excess water.
17. Stretch the piece gently along its edges and branches to restore some of the length and width. Allow to air dry.
18. Using a steam iron, press the piece flat.
19. Using a needle and thread, add beads to the surface as desired. (L)



Taking it further: This sculptural wrap is made from a narrow length of silk gauze covered with a light layer of merino/silk wool, laid out vertically to cause the wrap to shrink more in width than in length. The feathery fringe is added by laying strips of merino/angora/silk over multiple layers of plastic resists. The piece is carefully wetted, rolled, and worked by hand. When the felting is finished, the fringe is trimmed with scissors and the wrap is dyed in blues and grays using shibori techniques.



SUNFLOWER BROOCH

Brooches add a lively, fun element to any outfit when worn on a shirt or jacket, to fasten a scarf, or to decorate a hat.

In this exercise, we first blend the wool with hand carders to create new color combinations. These are used to make three circular disks of felt. The disks are then trimmed, stacked, and sewn together to resemble a sunflower.

MATERIALS

- pin back
- wool, roving, 20" (50.8 cm)-long pieces of bright yellows and nutmeg
- hand carders, 2
- needle and thread
- scissors, fabric (small)
- spray bottle
- steam iron and pressing surface

TOOLS

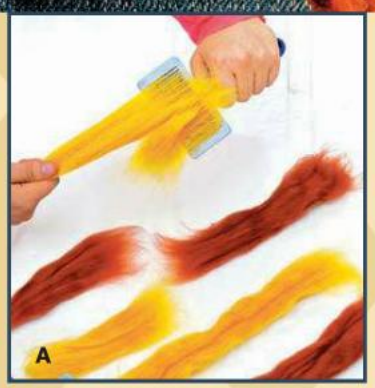
- Basic Felting Tools (page 30)
- compass, drafting

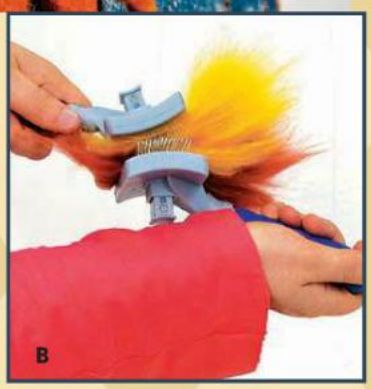
PREPARATION

1. Separate both the yellow and nutmeg wool roving into two 10" (25.4 cm) sections.
2. Select and set aside one 10" (25.4 cm) section of each.
3. Separate the remaining yellow roving into a 7" (17.8 cm) and a 3" (7.6 cm) piece (approximately). Repeat to separate the nutmeg into a 7" (17.8 cm) and 3" (7.6 cm) piece.
4. Holding a hand carder in one hand, lay the 7" (17.8 cm) yellow wool piece across its teeth. Add the 3" (7.6 cm) nutmeg wool piece on top of the yellow and use a second carder to brush the fibers together. Brush between the hand carders until well blended to create a medium yellow. (A & B)
5. Repeat step 4 to blend together the 7" (17.8 cm) nutmeg and the 3" (7.6 cm) yellow pieces to create a medium nutmeg.

LAYOUT

1. Using a marker and compass, draw three circles on the dry felting table: one 8" (20.3 cm) in diameter, one 6½" (16.5 cm) in diameter, and one 5" (12.7 cm) in diameter.


A


B


C

2. Starting with the 8" (20.3 cm) circle, fill the inside of the circle from the 10" (25.4 cm) reserved nutmeg piece. Lay a ring of medium nutmeg around the edge. Be sure that the inner circle and outer ring overlap to encourage them to felt together.
3. Fill the inside of the 6½" (16.5 cm) circle with medium nutmeg and lay a ring of medium yellow wool around the edge.
4. Fill the inside of the 5" (12.7 cm) circle with medium yellow and lay a ring from the 10" (25.4 cm) reserved yellow piece around the edge.
5. Tuck under the edges to create a thick edge.

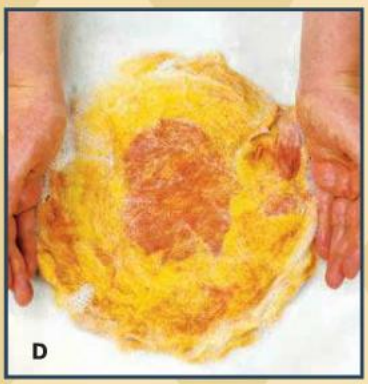
FELTING

1. Using a spray bottle, wet the largest circle and work outward, wetting and patting with your flat fingertips. (C)
2. Using your flattened hands, continue to pat and press the wool, encouraging the fibers to mat together.
3. Work the circle in a gentle circular motion. As the wool feels firmly matted, apply more pressure.
4. Shape the outer edge of the circle with your hands. (D)
5. Continue to work the circle until it is densely felted and begins to shrink.
6. Using a sponge, wet the circle with hot, soapy water, then scrub it flat on a washboard to accelerate the felting process.
7. When the circle is fully felted, rinse out the soap and soak the circle in a light vinegar bath.
8. Rinse thoroughly and wring out excess water.
9. Stretch the circle to restore shape and allow to dry.
10. Repeat steps 1–9 for the medium and small circles.

FINISHING

1. Using a steam iron, press the circles flat.
2. Using a small pair of fabric scissors, cut out petals around the outer edge of the circles.
3. Cut a ring of petals from the inside of the small and medium circles. Do not cut the center of the largest circle. (E)
4. Using needle and thread, sew the small circle to the medium circle. Be sure to hide the stitches in the thickness of the felt.
5. Add a second row of stitches around the first to firmly join both layers.
6. Repeat steps 4 and 5 to attach the large circle to the small/medium pair.
7. Using a needle and thread, sew the pin back to the back of the largest circle. *Note:* Since the sunflower brooch is relatively large, place the pin back above the center so the brooch hangs evenly when pinned in place.

Taking it further: This mumlike brooch is made from five felted discs, cut to a pattern of concentric rings and sewn to a felt pad base. A thin layer of fuchsia wool is felted to the inside of each disc to make the cut edge more interesting. A leaf is made separately using painterly felt techniques, and then trimmed with pinking shears


D


E

MOSAIC MILLEFIORI EARRINGS

Millefiori ("a thousand flowers") describes a glass-making technique associated with mosaic Venetian glassware. It can be adapted for felting to create easy, yet sophisticated, mosaic designs for earrings.

Millefiori glass beads are created by fusing canes of colored glass together and stretching the fused piece. It is then cut into little disks that look like carrot slices. In this project, we fuse strips of wool by rolling them with a bamboo mat. The felt is then cut and glued to make earrings.

MATERIALS

- friction ear nuts (those pictured are medium sterling bullet clutch with rubber insert), .030" (0.7 mm) hole size, 2
- sterling ear posts (those pictured are .029" (0.7 mm) (post diameter) x 7/16" (11.1 mm) (post length) with a pad measuring 9.6 mm), 2
- wool (merino), roving, assorted colors (5 minimum)

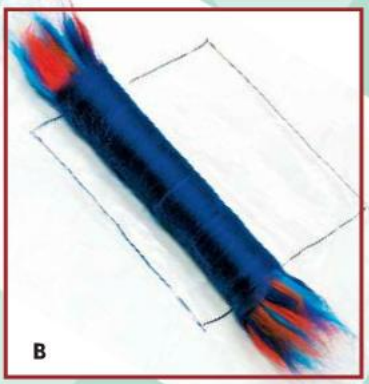
TOOLS

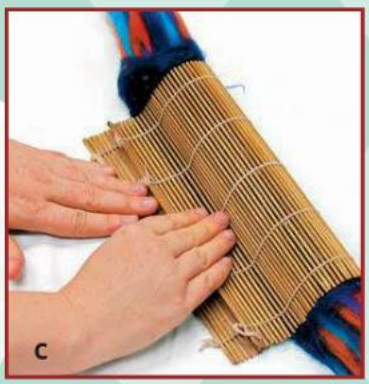
- adhesive, to attach earring fixings
- bamboo mat, sushi
- Basic Felting Tools (page 30)
- plastic sheeting, 3/8" (4 mm) thick
- serrated knife
- spray bottle

LAYOUT

1. Pull off an 8" (20.3 cm) piece of each color of merino roving. Split these smaller pieces in half lengthwise again, and then again. You should now have eight strips of each original piece of roving. You will use these small strips of roving to create your design.


A


B


C

2. Using a marker, trace the bamboo mat on a piece of plastic sheeting. Place the marked plastic sheeting flat on the dry felting table.
3. Lay strips of colored wool on the plastic sheet, alternating different-colored strips until the marked area of the sheet is full.
4. Roll the piece up gently from one side, using the plastic sheeting to bunch and help roll the wool roving together. (A)
5. Remove the plastic from the newly combined wool rope.
6. On the plastic sheeting, lay out wool shingles to form a layer (or pad) measuring 8" (20.3 cm) by the circumference of the wool rope (approximately 4" [10.2 cm]). *Note:* The wool in this pad should run perpendicular to the direction of the wool fiber in the rope.
7. Place the wool rope at the bottom edge of the pad. Use the plastic sheeting to roll the rope and pad together. (B)
8. Transfer the wool and the plastic sheeting to the bamboo mat and roll the piece with the bamboo mat to condense the fibers. This will produce a uniform "tube." Remove the plastic sheeting. (C)

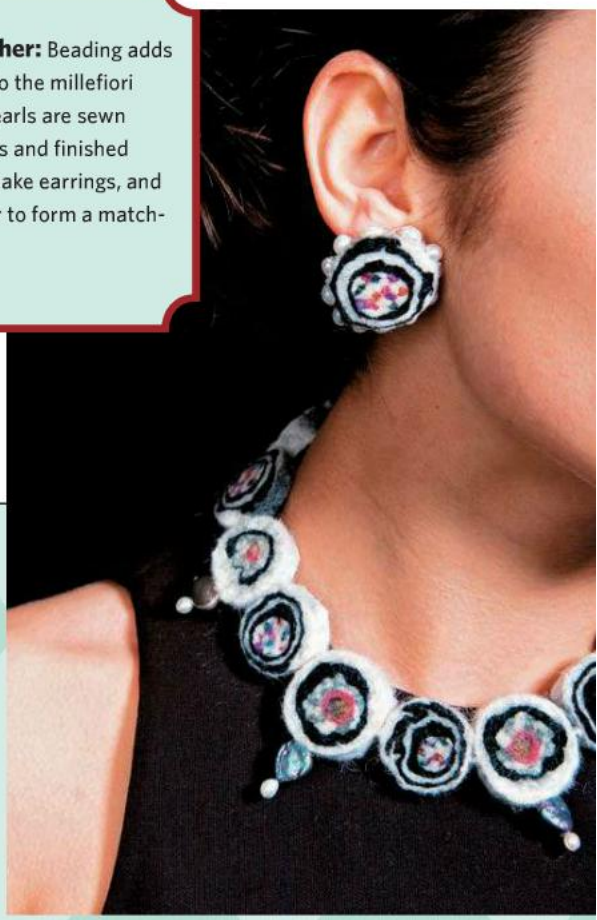
FELTING

1. Place the wool tube on the bamboo mat.
2. Using a spray bottle, wet the wool.
3. Roll the wool gently with the bamboo mat until the wool is condensed, spraying as needed with hot, soapy water.
4. Continue to roll by hand until wool is densely felted. *Note:* Test the piece by pressing to see if it feels firm at the center. If the wool feels squishy, continue to felt until the wool does not move. (D)
5. When the piece is thoroughly felted, rinse out the soap and soak in a light vinegar bath.
6. Rinse thoroughly and pat dry with a towel. Allow to air dry.
7. Using a serrated knife, cut the felted tube into uniform ½" (1.3 cm) disks.

FINISHING

1. Place two disks face down on the dry felting table.
2. Add a dab of adhesive to the pad of each earring post and secure in the center back of the each wool disk. (E)
3. Allow the adhesive to dry.
4. Add the friction ear nuts.

Taking it further: Beading adds a fun element to the millefiori beads. Seed pearls are sewn to the felt beads and finished with posts to make earrings, and strung together to form a matching necklace.




D


E

BUBBLE NECKLACE

A necklace is a personal piece of jewelry that often has a "story." Imagine what you will tell people when asked about the beautiful bubble necklace you made by hand!

This project involves felting over foam, one of the simplest methods for making shaped felts. The results are very lightweight, like bubbles. The necklace is finished with a cord and adjustable end caps (beads to secure cord ends).

MATERIALS

- adjustable end caps
- embellishment (optional)
- foam (spongy, not stiff)
- necklace cord
- wool

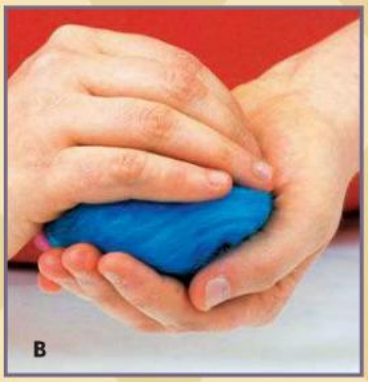
TOOLS

- awl
- Basic Felting Tools (page 30)
- embroidery thread
- scissors, utility
- spray bottle
- upholstery needle

LAYOUT

1. Using utility scissors, cut the foam into twenty cubes, each measuring 1" x 1" (2.5 x 2.5 cm).
2. Trim the corners off of the cubes. (A)
3. On the dry felting table, lay out two perpendicular layers of wool shingles in a 3½" (8.9 cm) circle.
4. Wrap a foam cube in the wool, evenly covering the cube. Add extra shingles of wool as needed.
5. Add any desired surface decoration or embellishment to the outer layer of the wool.

A



B

6. Roll the ball gently between both hands, allowing the natural heat and moisture to shape the wool bead. Set the bead aside. (B)
7. Repeat steps 3–6 to wrap the remaining beads in wool until all twenty are complete.

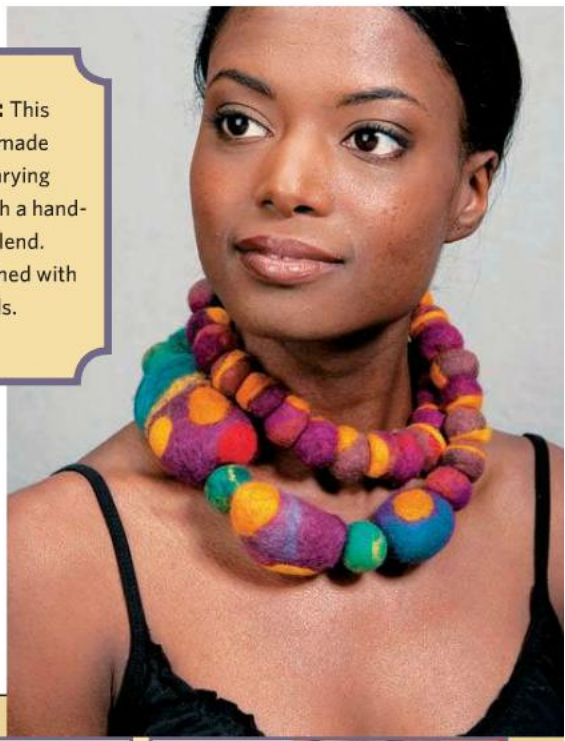
FELTING

1. Using a spray bottle, wet a wool bead with hot, soapy water. (C)
2. Roll the bead between your hands, adding more hot water and applying more pressure as necessary to encourage felting.
3. When the wool feels firmly matted to the touch and the bead begins to shrink noticeably, set the bead aside.
4. Repeat steps 1–3 for each wool bead.
5. Dunk the wool beads in hot, soapy water and press down hard with your hands in a circular motion to condense the bead as much as possible. (D)
6. When firmly felted, rinse out the soap and soak in a light vinegar bath.
7. Rinse thoroughly and squeeze out excess water. (E)
8. Allow the beads to air dry.

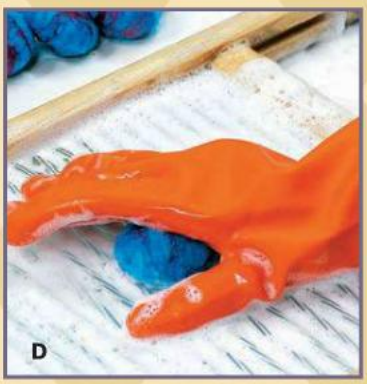
FINISHING

1. Cut the necklace cord to the desired length plus 5" (12.7 cm).
2. Thread an upholstery needle with embroidery thread and tie the thread tightly around the cord, near one end. This will enable you to thread the beads onto the cord. Use a second piece of embroidery thread to knot the end of the necklace cord back on itself.
3. Using an awl, punch a thick hole through each bead. Use the upholstery needle to string each bead onto the necklace cord. Leave 2½" (6.4 cm) free at both ends of the cord. (F)
4. Thread the ends of the necklace cord through adjustable end caps and knot the ends. Using utility scissors, trim the ends, leaving ¼" (0.6 cm) tails.

Taking it further: This bubble necklace is made from foam cut to varying sizes and felted with a hand-painted wool/silk blend. The beads are finished with needle-felted details.




C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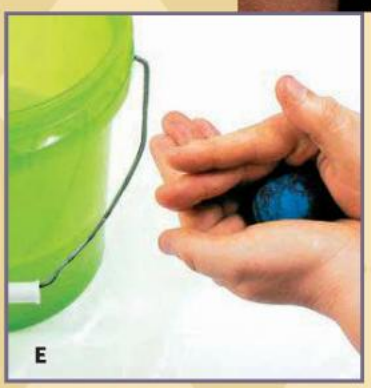
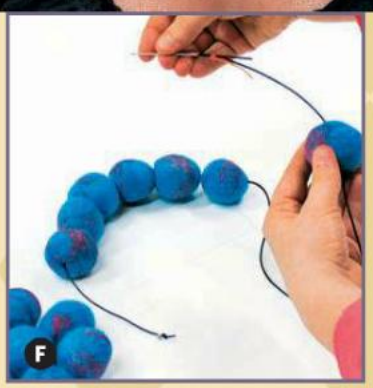

E


F

MARBLED BANGLES

A bangle is a non-adjustable bracelet that is fun to wear on its own, but is more commonly worn as a grouping on the wrists of the fashion conscious.

This project involves felting over a plastic shape—in this case, a plastic bracelet. Because the plastic will not shrink as the wool shrinks, small holes appear as the felt is stretched thin, creating an interesting marbled effect. Multiple layers of wool are applied to build up a unique surface, with each layer dried thoroughly before a new layer of wool is added.

MATERIALS

bracelet, plastic

wool, assorted colors if desired

TOOLS

Basic Felting Tools (page 30)

hair blow dryer

spray bottle

LAYOUT AND FELTING

1. On the dry felting table, lay out a ring of radiating wool shingles. The ring should be wide enough to cover twice the circumference of the plastic bracelet you have chosen. (A)
2. Place the plastic bracelet in the ring and wrap the shingles around the sides so that the plastic is covered completely. (B)


A


B

3. Wrap the bracelet with a selection of wool shingles until the bracelet is covered with two light, even layers of wool.
4. Using a spray bottle, wet the bracelet with hot, soapy water.
5. Use your hands to work around the bracelet, gently patting and squeezing the wool flat. As the wool begins to felt, apply more water and pressure as needed. (C)
6. Continue to work the wool down by squeezing with your hand. Smooth the wool with your fingers. (D)
7. Rinse the bracelet and use a hair blow dryer to dry the wool completely.
8. Add another, lighter layer of wool to the bracelet, perhaps in a different color. (E)
9. Spray with hot, soapy water and work by hand until densely felted. (F)
10. When the bangle is complete, rinse out the soap and soak in a light vinegar bath.
11. Rinse thoroughly and shake out excess water.
12. Allow to dry.

Taking it further: These bangles are made using merino top in solid black and dark reds combined with wool/silk 50/50 blends in gold and silver shades, creating a luminous marbled surface design.


C


D


E


F

CHIC SACK

A sack is a must-have accessory that carries everything a woman needs. It can be small, with a long strap like a purse, or huge and handled, for carrying just about anything.

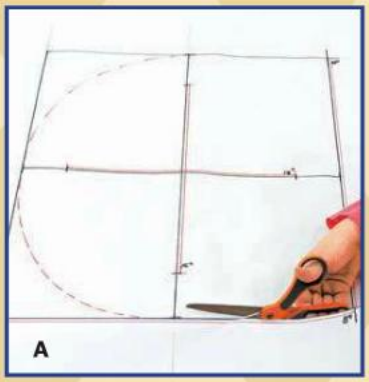
To begin, we design a pattern, adjust for shrinkage, and create a plastic resist for felting. Leather handles are added to the finished sack for strength and to prevent stretching

MATERIALS

- leather pieces, 10" x 5" (25.4 x 12.7 cm), 2
- wool, colors of your choice

TOOLS

- Basic Felting Tools (page 30)
- drafting paper
- pins, straight
- plastic sheeting
- rotary cutter and mat (optional)
- ruler(s), long and transparent
- scissors, fabric and utility
- sewing machine
- sewing machine needle for leather
- steam iron and pressing surface
- tailor's chalk



A

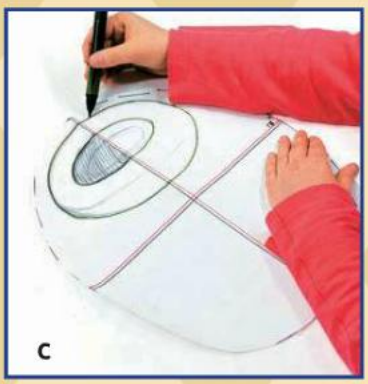
B

PATTERN

1. Determine the desired finished dimensions for the sack. Add 60 percent to allow for shrinkage.
2. Using a marker and a long ruler, draw a rectangle on a piece of drafting paper to the dimensions you determined in step 1.
3. Using utility scissors, cut out the rectangle. (A)
4. Fold the paper rectangle in half and use utility scissors to round the two outer corners like an egg.
5. Trace the paper pattern onto plastic sheeting, and use utility scissors to cut out the plastic resist. Set aside the plastic resist. (B)
6. Using a transparent ruler, reduce the paper pattern by 30 percent on all sides so it is back to the original dimensions desired for the finished sack.
7. Using utility scissors, cut out the newly resized paper pattern.
8. Using a marker, draw the desired shape and placement of the leather handle on the resized sack pattern. (C)
9. Cut out the handle pattern and trace it onto two pieces of leather.
10. Using fabric scissors, cut the handles from the leather. (D)

LAYOUT

1. Using a marker, trace the plastic resist onto the dry felting table.
2. Lay out a layer of overlapping diagonal wool shingles, orienting them from the upper-left to the lower right. Cover the marked area on the table, extend the wool beyond the marked edge by 2" (5.1 cm). (E)
3. Cover the first layer of shingles with a second layer of overlapping diagonal shingles, orienting them from the lower left to the upper right. The wool from the two layers should be perpendicular to each other. Extend the second layer of wool beyond the marked edge by 1" (2.5 cm).
4. Add a third layer of overlapping vertical wool shingles, making sure to keep this layer within the marked edges.
5. Center the plastic resist on the wool, corresponding as closely as possible to the original marking on the table.
6. Lay out a layer of overlapping vertical wool shingles on top of the plastic resist. *Note:* Do not extend this layer beyond the edge of the plastic. (F)
7. Fold the extended edges of wool from the bottom layers over the edge of the plastic on all sides.
8. Lay out a second layer of overlapping diagonal wool shingles, orienting them from the upper left to the lower right. Extend beyond the edge by 1" (2.5 cm).
9. Fold the extended edges of wool from the top layers over the edge on all sides.


C


D


E


F

10. Lay out a third layer of diagonal wool shingles, orienting them from the lower left to upper right. Extend this layer beyond the edge by 2" (5.1 cm). (G)
11. Fold the extended edges of the wool under the edge on all sides and smooth gently to the wool on the reverse side. (H)

FELTING

1. Gently sprinkle the center area of the wool with hot, soapy water. Press with your flattened fingertips. Work toward the edges, pressing and adding more water as necessary. Continue until the piece is entirely wet.
2. Shape the edges by squeezing gently with both hands.
3. Continue to pat and press until wool begins to mat. (I)
4. Using a sponge, squeeze water onto the table near the edge of the piece. Working in from the sides, work the water into the bottom layer by patting gently with your fingertips. Lift the edge and squeeze more water until the bottom layer is wet.
5. When the wool feels slightly matted all over, begin to work the surface in a circular motion with your flattened hands.
6. As the piece felts, apply more pressure by pressing and patting to encourage felting on the bottom layer.
7. Flip the piece over and work the other side, first by patting, and then pressing. Finally, work in a circular motion until firmly felted.
8. Continue to work by hand until the wool begins to shrink noticeably. Using utility scissors, carefully cut a 4" (10.2 cm) opening along the upper "seam."
9. Remove the plastic.

felt TIP

The edge can often be the most fragile part of the felting when you are working with a plastic resist. Be sure to work the edge repeatedly by squeezing, as the rest of the piece is worked, to encourage even felting throughout.

10. Heal the cut edge by rubbing with your flattened fingers. (J)
11. Work the piece using a circular hand motion, paying special attention to working out and flattening the folded edge.
12. When the piece feels evenly felted, scrub it on a washboard to accelerate felting.
13. When the piece is completely felted back to the original dimensions, rinse out the soap and soak in a light vinegar bath.
14. Wring out excess water and stretch the bag evenly to its desired shape.
15. Allow to air dry. When still slightly damp, use a steam iron to flatten and shape the felt.


G

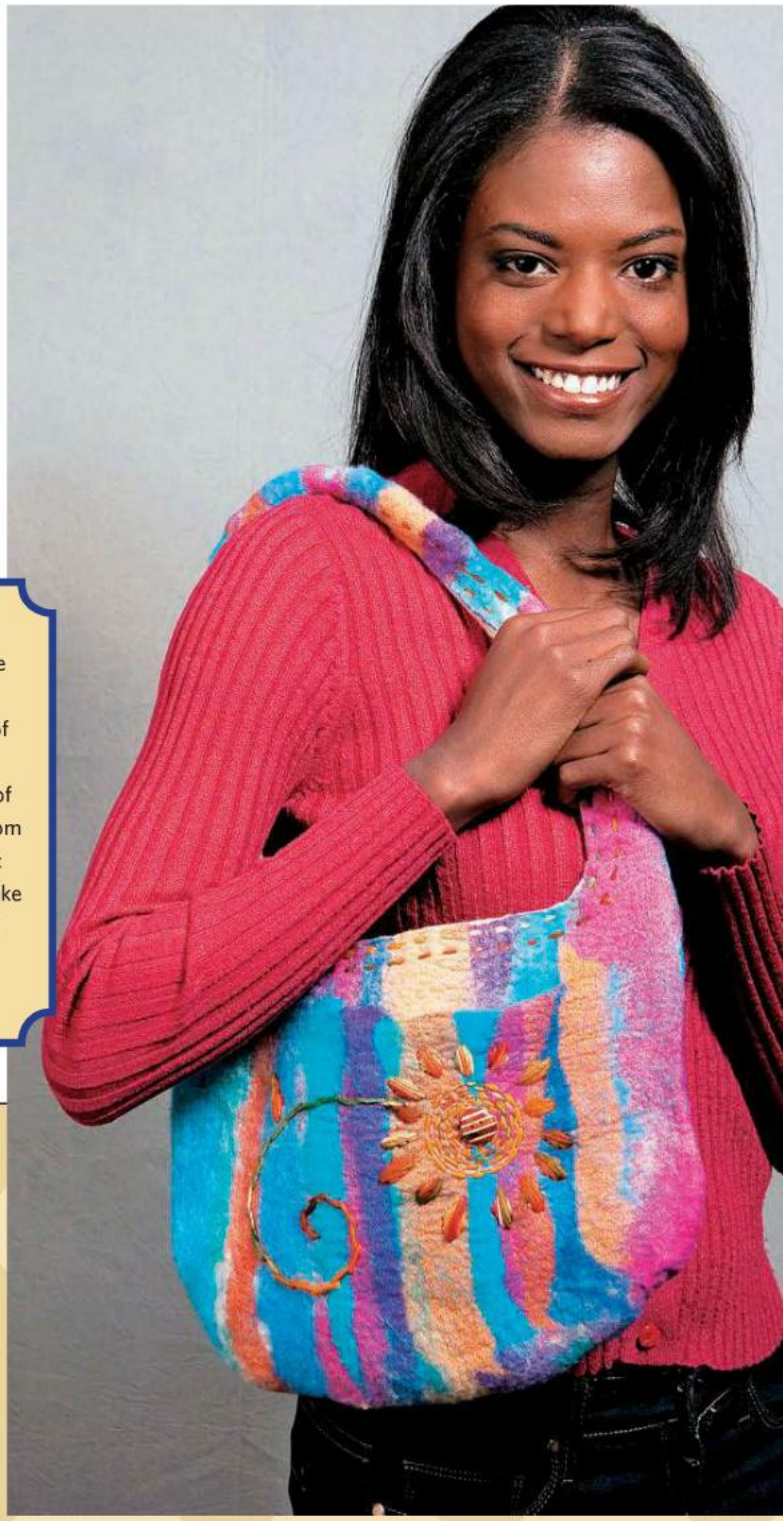

H


I

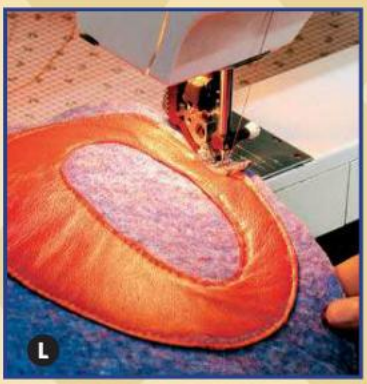

J

FINISHING

1. Trim the previously cut edge with a rotary cutter or fabric scissors to open the top of the sack.
2. Pin the leather handle pieces to the front and back of the sack, taking care they are aligned with each other on both sides.
3. Equip your sewing machine with a leather needle. Sew the leather pieces along both the outer and inner seams ¼" (0.6 cm) from the edges. (L)
4. Using fabric scissors, cut away the exposed felt inside the leather handles.



Taking it further: This shoulder bag is made from a pattern shaped like candy corn. To add a surface design to the piece, the outer layer of wool is patterned with striped lines in bright, hand-dyed colors over two alternating layers of ecru merino/silk. A felt pocket is fashioned from an additional layer of wool over a small plastic resist. After felting, material is removed to make a shoulder strap and the piece is embroidered using dyed yarn.



QUILTED SASH

The word *sash* (from the Arabic word *shash*) refers to a cloth belt worn around the hips, and used to hold a jacket or robe closed. Because felted wool is incredibly light, we add a layer of scrim and a fabric backing to add substance and to give the felt more belt-like qualities.

"Quilted" technically refers to an item made from three layers of fabric sewn together. In this project, we make a light strip of nuno felt and attach it to a layer of scrim and another layer of fashion fabric facing. The combined piece is quilted by hand to add surface interest.

MATERIALS

- fashion fabric, cut to approximate desired scarf length and width
- sew-on snaps, 3/4"(1.9 cm), 2 (optional)
- silk chiffon, cut to desired length and width plus 60 percent for shrinkage
- tulle (for scrim), cut to the approximate desired scarf length and width
- wool, assorted colors

TOOLS

- Basic Felting Tools (page 30)
- decorative thread
- drafting paper
- needle and thread
- pins, straight
- plastic bubble wrap, cut to 11" x 65" (27.9 x 165.1 cm)
- rolling pin
- rotary cutter and mat (optional)
- rubber bands
- rulers, long and transparent
- scissors, fabric
- sewing machine (optional)
- spring clamps
- steam iron and pressing surface
- tailor's chalk

LAYOUT AND FELTING

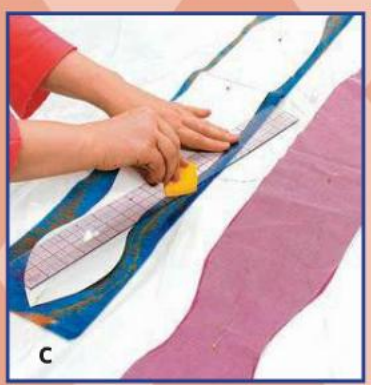
1. Stretch the bubble wrap taut, smooth side up, across the dry felting table and secure with spring clamps. Dry the surface with a towel.
2. Lay the silk chiffon on the bubble wrap. Remove the selvage edge of the fabric.
3. Using an even layer of wool in assorted colors, lay out the desired design on top of the silk chiffon. (A)
4. Cover the project with nylon netting.
5. Using a sponge, wet the piece down with hot, soapy water.
6. Using your flattened hand, press flat and smooth the surface, pushing out air and excess water as you go.
7. Remove the nylon netting and clamps.
8. Roll the bubble wrap (with the wool inside) around a rolling pin and secure the ends and the middle of the roll with rubber bands.
9. Roll from the piece on the table in one direction for a few minutes, and then unroll the bubble wrap to check the piece.
10. Move the rolling pin and re-roll the piece from the opposite end, securing the bubble wrap with rubber bands. Once again, roll the wrapped rolling pin for a few minutes. *Note:* For a thick piece like this, bounce the rolling pin on the table to felt the wool wrapped deeper in the roll.
11. Continue rolling, unrolling, and re-rolling the piece from each end. Change directions, periodically checking the felting of the wool and adding hot, soapy water as needed. As the wool felts to the silk, apply more pressure when rolling.
12. When you can see the wool begin to shrink, remove the rubber bands and unroll the bubble wrap. Working on a washboard, start from one end of the piece and use the end to scrub the next section. Use the next section to scrub the section after that and so on until the entire piece has been scrubbed.
13. Alternate working on the washboard with laying the project flat on the table and working with your flattened hands in a circular motion.
14. Scrub the entire piece until fully felted. (B)
15. Rinse out the soap and soak in a light vinegar bath.
16. Rinse thoroughly and wring out excess water.
17. Stretch and allow to air dry. When still slightly damp, use a steam iron to flatten and shape the felt.

FINISHING

1. Using a long ruler and a rotary cutter or fabric scissors, trim and straighten the edges of the finished felt so it measures the desired length and width of the finished sash.
2. Using a long ruler and marker, mark the dimensions of the trimmed felt on drafting paper.
3. Mark the pattern design inside the outline you marked in step 2, and cut with utility scissors.
4. Using tailor's chalk and a transparent ruler, trace the pattern you cut in step 3, plus a ½" (1.3 cm) seam allowance, on the wrong side of the felt fabric, tulle scrim, and fashion fabric. (C)


A


B


C

5. Using fabric scissors, cut out the pieces. Lay the nuno felt fabric flat on the table, surface design side up.
6. Lay the fashion fabric, right side down, over the nuno felt fabric. Align the edges.
7. Lay the scrim layer over the fashion fabric. Align the edges. (D)
8. Pin and sew both long edges and one short edge of the sash with a ½" (1.3 cm) seam allowance. You can do this either by machine or using needle and thread and a hand backstitch. Leave the remaining short end open. (E)
9. Using fabric scissors, trim the edges.
10. Turn through the open end so that the right sides of the nuno fabric and the fashion fabric are on the outside. (F)
11. Using a steam iron, press the sash flat.
12. Pin and then use needle and thread to sew the open end with a fell stitch (page 45).
13. Using a bright and easily visible basting thread, sew a few basting stitches (page 44) down the length of the sash.
14. Thread a needle with decorative thread. Quilt the layers together in desired pattern. Remove the basting thread. (H)
15. If the sash is short, sew on snaps to close. If the sash is long, simply tie it closed.

felt TIP

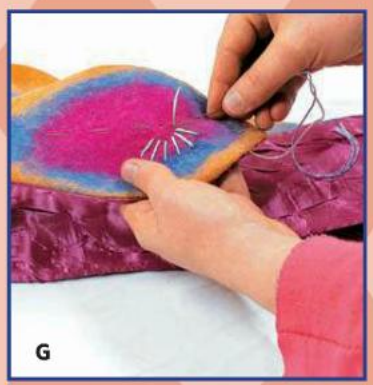
There are a vast array of beautiful stitches and stitching patterns that can be used for quilting. Machine stitching with a sewing machine can also be used to quickly quilt or baste pieces together.


D


E


F

Taking it further: A merino/silk wool blend is felted through black silk gauze, then dyed in silvery grey. The felted piece is sewn to two layers of shimmery silver lame fabric, one of which can be seen through the silk gauze. The sash is then quilted using metallic threads on a sewing machine.



G

FEATHERY FASCINATOR

A fascinator is a headpiece that looks fabulous with a cocktail dress. It may be adorned with a confection of feathers or flowers and attached to a small felt base (a flat pad). This "mini hat" is secured to the hair with a clip, comb, or elastic band.

The fascinator project is made by felting long tendril strips. These tendrils resemble feathers when bundled together and attached to a felt pad base. The felt fascinator is finished with an elastic band that holds the hat in place.

MATERIALS

- designer felt, cut into a 4" x 2½" (10.2 cm x 6.4 cm) oval for fascinator pad
- elastic band
- fashion fabric, 6" x 6" (15.2 x 15.2 cm)
- silk chiffon, 1" (2.5 cm)-wide strip
- wool, roving in assorted colors
- yarn

TOOLS

- Basic Felting Tools (page 30)
- needle and thread, milliner's
- plastic bubble wrap
- rolling pin
- rubber bands
- ruler, transparent
- scissors, fabric
- steam iron and pressing surface

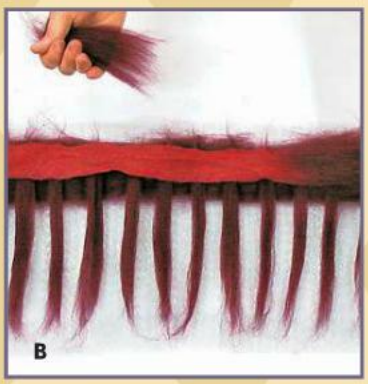
A

LAYOUT

1. Lay out the bubble wrap, smooth side up, on the dry felting table. Dry the surface with a towel.
2. Lay a thin row of overlapping horizontal wool shingles along the bottom long edge of the bubble wrap.
3. Pull the roving apart along its length into tiny slivers (or tendrils) measuring between 1/4" (0.6 cm) and 1/2" (1.3 cm) wide.
4. Space the tendrils about 1/4" (0.6 cm) apart, placing them perpendicular to the row of wool shingles, and overlapping the row at the bottom edge. (A)
5. Place the 1" (2.5 cm)-wide strip of silk chiffon along the horizontal row of shingles placed in step 2. The strip will cover the ends of the tendrils placed in step 4.
6. Add a second layer of overlapping horizontal wool shingles at the base, covering the silk chiffon strip. (B)
7. Add bits of wool roving in contrasting colors to the tips of the tendrils. (C)

FELTING

1. Cover the project with nylon netting.
2. Using a sponge, wet the piece down with hot, soapy water.
3. Using your flattened hands, press the entire piece flat and smooth, pushing out excess air and water.
4. Remove the nylon netting.
5. Roll the bubble wrap (with the wool inside) around a rolling pin and secure the ends and the middle of the roll with rubber bands. (D)
6. Roll the piece on the table in one direction for a few minutes, and then unroll the bubble wrap to check the piece.
7. Move the rolling pin and re-roll the piece from the opposite end, securing the bubble wrap with rubber bands. Once again, roll the wrapped rolling pin for a few minutes.
8. Continue rolling, unrolling, and re-rolling the piece from each end. Change directions, periodically checking the felting of the wool, to felt both ends. As the piece begins to felt, apply more pressure and hot water as needed.
9. When you can see the felt begin to shrink, remove the rubber bands and unroll the bubble wrap. Using your flattened hands, work the bottom edge of the felt.
10. Separate the tendrils. (E)
11. When the piece feels firm enough to hold together, roll the piece along the bottom edge. Scrub the tendrils on a washboard, tousling them to make them round.
12. Alternate working on the washboard with laying the project flat on the table and working with your flattened hands.
13. Rinse out the soap and soak in a light vinegar bath.
14. Rinse thoroughly and wring out excess water.
15. Allow to dry.
16. Repeat the process until there are enough tendril strips to fill out the fascinator. *Note:* Two strips should suffice.


B


C


D


E

FINISHING

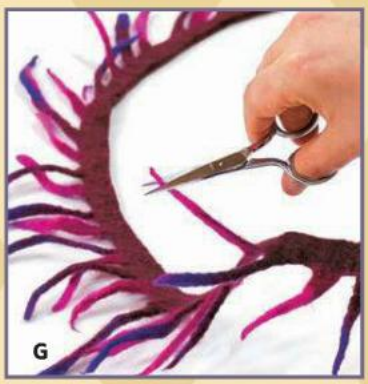
1. Trace the shape of the designer felt oval on the wrong side of the fashion fabric.
2. Using fabric scissors, cut the oval from the fashion fabric. Using a transparent ruler, add ½" (1.3 cm) around the entire perimeter. (F)
3. Using a steam iron, press the perimeter edge under ¾" (1.9 cm).

felt TIP

To press a curved edge, sew a long basting stitch ¼" (0.6 cm) from the outside edge of the desired curve. Tug gently on these threads to gather the fabric.

4. Using fabric scissors, trim the ends of the felt tendrils. (G)
5. Roll the end of the felt tendril piece to create a center. Using a needle and thread, secure the center with a few well-placed stitches.
6. Sew the center to the center of the right side of the felt pad.
7. Working in a spiral, sew the bottom edge of the tendril to the felt pad. Continue until the felt pad is completely covered.
8. To make the pompom, wind yarn around your fingers. Bundle the yarn tightly in the middle, and then cut the ends with fabric scissors. (H)
9. Fluff the cut yarn with your fingers.
10. Using a milliner's needle and thread, securely anchor the pompom to the center of the tendrils on the felt pad. (I)
11. Knot one end of the elastic band and sew it to the bottom of the felt pad.
12. Place the fascinator on your head. Pull the elastic band around the back of your head until the band feels secure, but not so tight as to feel uncomfortable.
13. Knot the end of the elastic band, cut off the excess, and sew the knotted end to the other side of the felt pad.
14. Layer the fashion fabric oval and the felt pad, wrong sides together. Use a fell stitch (page 45) to sew down the edges.


F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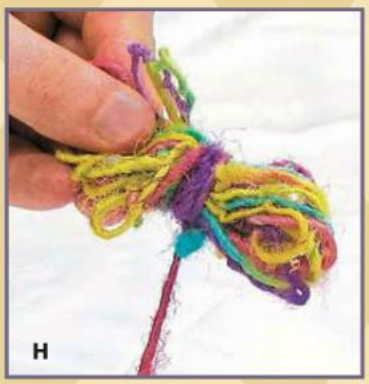
H


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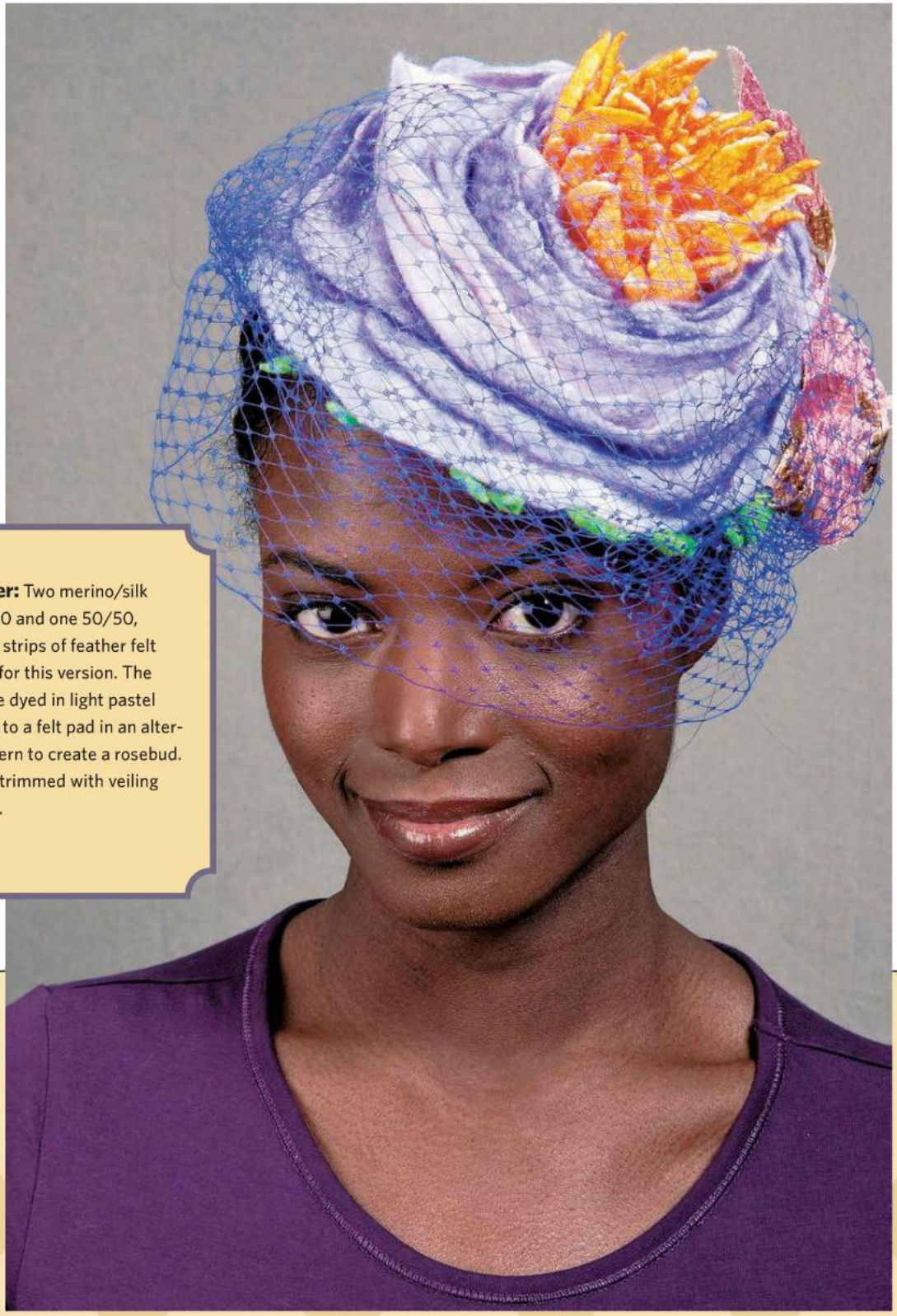


Taking it further: Two merino/silk blends, one 80/20 and one 50/50, are used to make strips of feather felt and organic trim for this version. The finished strips are dyed in light pastel shades and sewn to a felt pad in an alternating spiral pattern to create a rosebud. The fascinator is trimmed with veiling and velvet leaves.

CLOCHE

A *cloche*, which means "bell" in French, was a popular hat style in the 1920s. The cloche is usually made from felt and fits closely around the head, with a small brim that just covers the brow. Milliners (also referred to as hatters) make women's hats by molding felt over a wooden hat block (also called a "hat form" or "hat mold"). These hat blocks, expertly carved by craftsmen, come in a variety of crown and brim styles and sizes.

Since we make a felt hat from scratch, we will make the hat body, which we block later on the hat form. The most common way to do this is to make a two-sided felt over a flat, bell-shaped resist. In this project, we learn an alternate method for making a small hat body by felting over a basketball.

MATERIALS

- nylon pantyhose, queen size
- ribbon, decorative
- wool, 12" x 12" (30.5 x 30.5 cm) piece of wool batt and roving in assorted colors wool dye

TOOLS

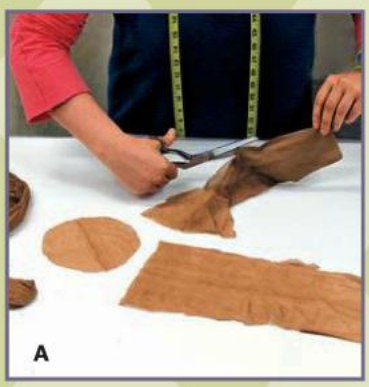
- Basic Felting Tools (page 30)
- basketball, or other 12" (30.5 cm)-diameter rubber ball
- block stand or spinner (may be a coffee can)
- bucket, for soaking
- face mask
- garment steamer
- hat block (or bowl or vase)
- measuring cups and spoons
- needle, milliner's (or other long, flexible needle)
- plastic tub
- pot, stainless steel large kitchen
- rubber band
- scale
- scissors, fabric and utility
- sewing machine
- string
- thread (quality medium-weight tailoring or sewing thread)
- wooden stick
- zigzag foot attachment

LAYOUT

1. First, you will need to make a nylon casing to hold the wool to the surface of the basketball during felting. To do this, cut two 20" (50.8 cm) sections from the thighs of a pair of queen-sized nylon pantyhose. Cut these sections in half along their length. (A)
2. Cut a circle about 4"–6" (10.2–15.2 cm) from the remaining pantyhose fabric.
3. Equip your sewing machine with an attachment suitable for the zigzag stitch. Sew the rectangular pieces of pantyhose together with a zigzag stitch.
4. Sew the circular piece of nylon to the bottom of the unit you made in step 3 with a zigzag stitch. The nylon should look like a small sack.
5. Cover the basketball with the wool batt and place the batt-covered basketball in the nylon casing.
6. Evenly distribute the wool around the outside of the basketball by pulling wool from the batt.
7. Add wool roving as necessary to even out the batt. The basketball should be covered in a layer of wool measuring approximately ½" (1.3 cm) thick.
8. Add surface decoration as desired with colored roving. Close the nylon sack by pulling taut and binding with a rubber band. (B)

FELTING

1. Using a sponge, wet the wool with hot, soapy water. (C)
2. Press flat and push out excess water.
3. In a plastic tub filled with hot, soapy water, smooth the wool with your flattened hands, working the surface so the wool feels evenly distributed. As the wool felts, apply more pressure and water as necessary.
4. Remove the ball from the tub and roll it on the table in all directions to flatten the wool evenly. Continue to work until the wool feels strongly matted beneath the nylon.
5. Untie the rubber band and remove the nylon. *Note:* The nylon should stick a bit to the surface of the wool since it has been felted more than usual; however, removing the nylon should not distort the wool's shape. If necessary, use utility scissors to help separate the nylon from the wool. (D)
6. Continue to work the wool-covered ball, using your hands to rub it in wide circles in the tub of hot, soapy water.
7. Bounce the ball on the table until the wool feels strongly felted. *Note:* As the wool shrinks, the ball will start to feel very tight. This is a good sign that it is time to remove the basketball. Do so by cutting a small circle where you would like the bottom of the hat to be.
8. Stretch the opening by hand until it is large enough to separate the felt from the basketball. The felt should be shaped like a bell.
9. Scrub the felt on a washboard until it is completely felted.
10. Rinse the soap from the finished felt hat body and soak in a light vinegar bath.
11. Rinse thoroughly and wring out excess water. Allow to air dry.


A


B


C


D

DYEING AND BLOCKING

1. Dye the hat body using the Dyeing technique (page 42). (E)
2. Set your hat block on a clean table. Prop up the hat block by centering it on a block stand or a spinner made from a coffee can.
3. Turn on the garment steamer and leave the felt hat body to steam on the nozzle for 5 minutes, shifting the hat body periodically to steam the felt thoroughly. (F)
4. Grasp the bottom edge of the hat body in both hands and stretch the steamed felt over the hat block. Stretch from all sides, pulling down on the brim from different directions on the bottom edge. (G)
5. Using string for a blocking cord, secure the hat at the base of the crown, where the brim begins, with a slip-knot or a simple bow.
6. Smooth the felt over the hat block with your flattened hands.
7. Pull on the brim to tighten the felt around the block, shaping the crown of the hat.
8. Use the nozzle of the steamer to steam the felt hat body as needed to add elasticity.
9. Steam the brim and shape it by stretching. (H)
10. Allow the felt hat to air dry completely on the hat block.

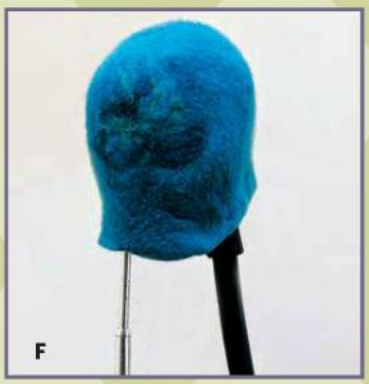
FINISHING

1. Using fabric scissors, trim excess material from the brim and remove the blocked hat from the hat block.
2. To trim, work from the inside of the hat using a milliner's needle or other long, flexible needle and medium-weight tailoring or sewing thread to sew decorative ribbon in place as desired. (I)

felt TIP

A milliner's needle is a long, flexible needle with a smaller eye that makes it easy to sew through thick layers without leaving a noticeable mark. Milliner's thread has a softer finish than dressmaker's thread, as well as a soft twist, making it easier to sew through felt and other sturdy materials. Milliners often work with a two-ply twisted waxed thread ideal for hand sewing.


E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G


H

Taking it further: This playful hat is made from a merino/silk ecru blend, then dyed by dipping the finished hat body into successive batches of colors to create a rainbow effect. It is then blocked and trimmed with a small rope of knotted felt.

LEARNING MORE

The subjects and skills covered in this book should give you a good foundation for making a wide variety of felt fashions. For example, knowing how to recognize felted fabrics from the descriptions of non-wovens might inspire you to make a vest from fulled wool or a hat from a commercial hat body. You may choose to hand make felt from yak wool, or create a nuno felt using an interesting bamboo fabric, as mentioned in the Materials section. You might even try a special sewing tool like a rotary cutter, or discover a new felting tool in your kitchen cabinet, after learning about the variety of tools used for felting and sewing.

Once you have attempted the basic projects in this book, think about how you can mix and match the techniques to make different garments, such as a dress from the flat resist (Seamless Jacket), or a vest made from a three-dimensional form (Fairy Dress). For an extra challenge, consider adapting these techniques to commercial sewing patterns. Perhaps you will be inspired to blend accessories techniques to make a bracelet by felting over foam, or a necklace using the millefiori beads. In any case, it is my hope that this book will provide you with a basic understanding of how felt works, and that you will continue to experiment with these techniques to make new and exciting designs combining felt and fashion.

There are many ways to learn more about felt-making, pattern making, or sewing. Books are excellent resources and taking a workshop or class is a fun way to meet people and learn the tricks of the trade. The Internet can also be a great way to find out about the latest fascinating techniques, order materials, or to share your creations with other enthusiasts around the world. Visit us at www.harlequinfeltworks.com. It has been great fun and a privilege to put this project together, and I hope it has opened the doors to a wonderful world of creative possibilities.

Jenne Giles

ABOUT THE AUTHOR

Jenne Giles is a San Francisco–based artist whose work ranges from traditional fine arts and crafts to innovative performance and installation art. She received her B.A. degree in art and art history from Rice University in 1997. After working professionally in the arts and trades she began her own business, Harlequin Feltworks, in 2007 (www.harlequinfeltworks.com). Her enterprise is dedicated to creating unique pieces of wearable art, made by hand from the finest natural materials.

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