



Depending on the results you want, simple patterns can be successful in different fabrics. An eight-gore skirt flares in cotton denim jacquard, left, or falls softly in silk double georgette, right.

*Skirt pattern: Butterick 3134.
Fabrics: Banksville Designer Fabrics.*

Fabric Selection Secrets

These textile fundamentals are key to successful garments

JULIANNE BRAMSON

Knowing what to expect from a fabric gives you a much better chance of creating a garment that you love, versus one you'll never wear. No one enjoys spending time and money on a project that is ultimately a failure, and the wrong fabric choice causes many a sewing fiasco. The solution is to learn about textile fibers and weaves, and to make informed choices.

The first thing to understand is that there is no such thing as bad fabric, just inappropriate fabric for the job. The same material that makes fantastic theater curtains would be a very poor choice for a summer dress. What makes a fabric right or wrong for a project? The answer is: its fiber, weave, and weight.

I'll explain some common fiber types and textile categories so you'll have an educated idea about what to expect from many fabrics. For brevity, this article focuses on woven fabrics. Knits would make an article of their own. The way a fiber is woven into a given fabric influences more than its appearance: It can also influence its care, drape, and weight.

Knowledge, experience, and testing give you the information to see if a fabric is suitable for a project. Not only is it useful knowledge, it's fascinating, too.

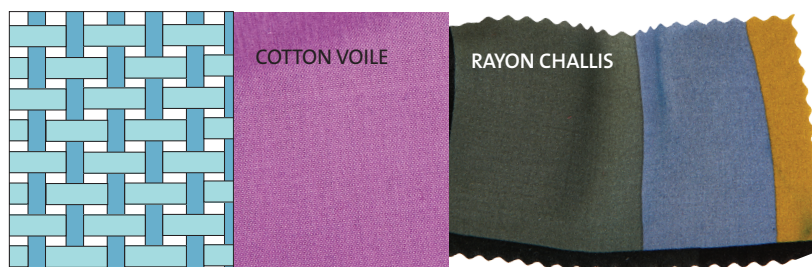
Julianne Bramson, designer and co-owner of the Fashion in Harmony pattern line (FashionInHarmony.com), teaches about textiles at workshops across the country.

Weaves and textures

Fiber content is important, but a fabric's weave determines success or failure from the sewing stage through completion. A woven fabric is made from a warp thread or yarn that runs the fabric length, and a weft thread or yarn that runs across the fabric width. The warp and weft are also known as the "grain." The warp is stretched on a loom before weaving; this is the straight grain and usually has little stretch. Here are some common weaves and the resulting fabrics' qualities.

PLAIN WEAVE

These textiles are constructed from a warp and weft that are similar in size. During weaving, the weft is passed over alternate warp threads to create the usually closely woven fabric. Basic plain weaves have a flat, smooth texture, good for techniques such as pleating or smocking. Varied yarn weights and tensions create variations.



CREPE

"Crepe" is a crinkled or grainy-looking fabric. Crepe yarn is twisted so much that it twists back on itself. This creates elasticity: When the yarn is stretched on the loom, it is elongated, and when released, it snaps back to create dense and lofty fabric. No matter how it is woven, crepe yarn produces fabric with crepe properties. Crepe is suited for less-structured garments that flow around the body. The twisted yarn creates air pockets in the fabric that promote fabulous drape.



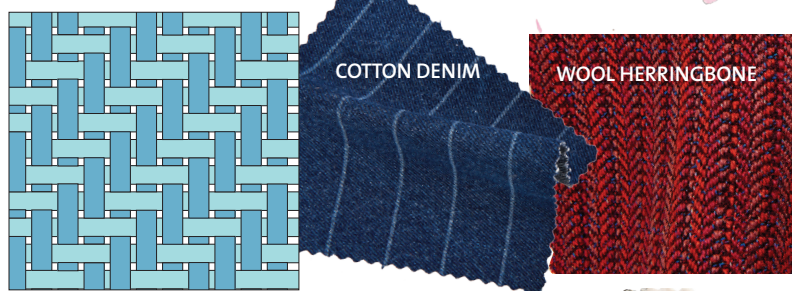
SATIN WEAVE

These textiles have a visible sheen and feel smooth, due to a tight weave structure with yarn across the fabric surface. The warp is woven to lie on top of the weft or vice versa. Satin-weave fabrics give a lustrous and elegant look to garments, or are often used for lining, since they glide over other textiles.



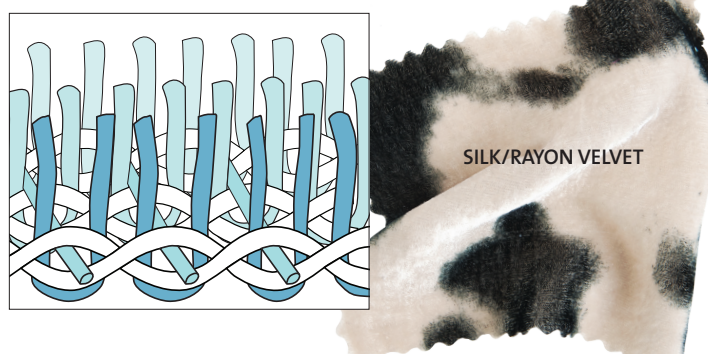
TWILL WEAVE

During the twill weave process, the weft is woven over at least two warp threads before it goes under one or more warp threads. Staggered down the fabric length, the weft produces diagonal lines on the surface. Twill weaves provide extra stability in the diagonal direction, and higher resistance to tearing. This makes twill-weave fabrics popular for hard-wearing items such as uniforms, tote bags, and blue jeans.



PILE FABRICS

These textiles are woven with extra yarns in addition to the warp and weft. These yarns create floats or loops that can be cut, as in velveteen or corduroy, or left as loops, as in toweling. Pile fabrics can have plain-, satin-, crepe-, or twill-weave bases. Pile fabrics soak up light from some angles and reflect it from others. By drawing in the light, pile fabrics look dense and luxurious. Faux furs are also considered pile fabrics.



Fabric swatches: (cotton voile, double silk georgette, silk/wool satin) Bankville Designer Fabrics; (rayon challis) Louise Cutting's stash; (polyester chiffon, cotton denim) JoAnn.com; (wool herringbone) TheWoolHouse.com; (silk/rayon velvet) MoodFabrics.com

Project planning

Use your understanding of fiber types, fabric characteristics, and personal taste to ask questions based on what's important to you. The answers should steer you to the right pairing.

PROJECT VERSUS FABRIC

Start with the pattern and find the fabric: When using a project as the starting point, first consider what is the most appealing detail or feature in the design. Choose the best fabric to complement the feature. For example, if it is a neckline bow, a soft fabric gives a romantic feel to the detail and garment. If you choose a crisp fabric, the bow takes on a more structured and dynamic shape, and the garment has a modern look.

Start with the fabric and choose a project: If the fabric is the starting point, consider what you adore about it: its softness, weight, texture, or easy care? If it is the color or pattern that appeals, feature that. A busy pattern deserves a simple garment with few fussy details. Only one gets to be the star; let the other factors be the “back-up singers.”

MATERIAL PREFERENCES

Determine which fibers and fabrics you prefer, and which you won't wear: Comfort, durability, and maintenance all determine the fabrics you work with. Do the care requirements match your lifestyle, and how you want to use this garment? For example, a delicate, dry-clean-only fabric is not a good choice for an everyday blouse that needs to be laundered frequently.

Some fabrics are difficult to work with. You also need to decide how much trouble you're willing to go to (and whether you're willing to risk failure) to use a fabric.



Silk charmeuse, a satin weave, has sheen and drape. It molds to the body.

Top pattern:
Kwik Sew 3782.

Match the fabric weight to the garment style: Theoretically, any fabric can be any garment. In practice, however, it would require advanced knowledge of pattern alterations to make, say, a T-shirt from a rigid fabric. It would require adding ease, a closure, and so on. Make choices based on how you want the garment to look and perform. You can make a coat from silk organza, but it is not going to keep you warm.

What about drape? Flounces, draped details, and flowing sleeves are more effectively showcased in drapable fabrics. Weight and suppleness influence fabric drape. These factors counterbalance each other. For example, a lightweight fabric drapes if it is very supple. A stiffer fabric drapes if it is very heavy. The best drape is found in fabrics that are weighty and supple. Silk charmeuse drapes very well, and it is weighty relative to its thickness and a supple satin weave.

Distinguish fabrics based on stability. Stable fabrics hold their shape; they do not need the body to create shape. Stability, drape, and softness all play a part in how different fabrics perform in a garment.

Different fabric weaves are examined on the facing page. One factor that distinguishes crepe fabrics from plain-weave fabrics is that plain-weave fabrics of similar softness and weight are more stable than crepe fabrics. Pile and satin-weave fabrics with plain-weave backs, as opposed to crepe backs, are more stable at the same weight and softness.

Why look for stability? If you want to make an unlined garment with many style and/or fitting details, stability in the fabric makes the construction process easier and results in a successful finished garment.



Silk shantung, a plain weave, has a crisp hand that brings out the top's bow detail and stands away from the body.

Fabrics: NY Fashion Center Fabrics.

Fiber identification

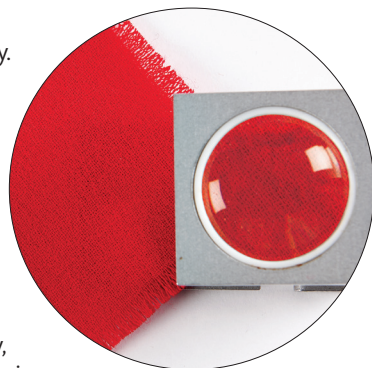
You can look at a fabric to judge its weave structure. If the fiber content is a mystery, you can turn detective and investigate by touch, by fire, under a magnifying glass, or with a household chemical solution.

TOUCH TEST

A nontechnical but useful test to determine fiber type is the touch test. Protein fibers, such as wool and silk, and synthetic fibers, such as acrylic, nylon, or polyester, feel warm to the touch. Cellulosic fibers, such as cotton, linen, and rayon, however, feel cool to the touch. Why? Protein and synthetic fibers are poor heat conductors. The heat in your hand is not transferred to the fabric and so it feels warm. Conversely, cellulosic fibers are very good heat conductors, so the heat from your hand is transferred through the fabric and away from your hand, making them feel cool.

VISUAL INSPECTION

Another method determining fabric type is to look at it closely. A small magnifying glass can be helpful in this. High-shine fabrics are usually silk or polyester, especially if they have a very smooth surface. Crepe fabrics can be determined by looking for twisted yarn ends at the raw edge. Slubs or irregularities tell you about the fabric quality, although some high-quality fabrics have slubs on purpose. Knowing what to look for and different weaves' benefits increases your ability to choose the best fabric for your project.



BURN TEST

If you take a small fabric piece (1-inch square) and light with a lighter (a match's smell can obscure the burning fiber's scent) you can learn about the fabric's fiber content. In general, protein fibers smell like burning hair, cellulosic fibers smell like burning paper, and synthetic fibers smell like burning tires. This test can give a general idea of the fiber types in the swatch.



WEBextra

To see how to identify a variety of fiber types with burn tests, visit ThreadsMagazine.com.

SOLUTION TESTS

Bleach: There are various ways to test for wool content. If you burn it, you can smell burning hair, however, the smell is so strong that it is present even if the wool percentage is low in the fabric sample. To discover how much wool is in a fabric, use the bleach test.

Cut a swatch and cover it with bleach in a small plastic or glass (not metal) container. The wool component "dissolves" in a chemical reaction. Thinner fabrics take a couple of hours, and you should allow more time for heavier fabrics. Any fiber remaining in the bleach is not wool. Avoid testing selvage as it can be woven with nonwool stabilizer fibers and so it won't give you accurate feedback on content.



Acetone: Acetate is dissolved by acetone, an ingredient in nail polish remover and fast-acting glues. Use caution when wearing acetate or an acetate-blend fabric and using any acetone-containing product.



Fiber-Etch: This liquid, used in embroidery or cutwork embroidery, dissolves any cellulosic fiber including cotton, linen, and rayon. Since this product removes plant fibers, it is also useful to determine fabric content. When applied to plant-fiber blends, the noncellulosic fibers remain. For example, when Fiber-Etch is applied to a cotton/polyester blend fabric, it removes the cotton and leaves the polyester fibers.



Photos: (pp. 60 and 63) Jack Deutsch, stylist: Jessica Saal, hair and makeup: Sokphalla Ban for Halley Resources; all others, Sloan Howard. Illustrations: Rosann Berry. Styling credits: (p. 60, left) top—(Crew.com), necklace—Kenneth Cole (LordAndTaylor.com); (p. 60, right) top—Bar III (Macys.com), bracelets—Anne Klein (Macys.com), belt—Lauren (Bloomingtonales.com), skirt—(Crew.com); (p. 63, top) bracelet—Carolee (Bloomingtonales.com), skirt—(Bebe.com); (p. 63, bottom) bracelet—Kenneth Cole (Macys.com), skirt—(Crew.com)

Qualities and care

A fabric's fiber composition plays a big role in how that fabric performs in a garment. The fiber contributes to the finished garment's comfort, longevity, and how it is laundered. Fibers come in three general categories: natural, manmade from natural components, and synthetic. The chart below explains the source, qualities, and care information for the most common garment-fabric fiber types, presented as a quick reference.

FIBER	ORIGIN	ABSORBENCY	PILLING	WRINKLES	BLEACH?	SHRINK	STATIC	STRENGTH/ DURABILITY	COMFORT FACTORS	CLEAN METHOD	IRON
Acetate	Manmade from cellulose	Fair	No	Fair	OK	No	Yes	Poor; weaker when wet	Retains crispness	Dry-clean; some are hand-washable in warm water	Low heat, 250 degrees
Acrylic	Synthetic	Poor	Yes	Resists wrinkles	OK	No	Yes	Fair; weaker when wet	Wicking qualities conduct moisture from body	Laundry warm water/warm dryer	Medium heat, 300 degrees
Cotton	Cotton plant	High	No	Yes	OK	Yes	No	Good; stronger when wet	Has cooling effect	Laundry hot water/hot dryer	High heat, with steam, 400 degrees
Hemp	Hemp plant	High	No	Yes, but less as it is washed; softens with wear	No; weakened by bleach	Yes	No	High; twice the strength of cotton, increases when wet	Cooling and insulating, depending on garment construction	Laundry hot water/hot dryer	High heat, 450 degrees
Linen	Flax plant	High	No	Yes	OK	Yes	No	High; twice the strength of cotton, increases when wet	Very good cooling effect	Laundry hot water/hot dryer	High heat, with steam, 450 degrees
Nylon	Synthetic	Fair to poor	Yes	Resists wrinkles	OK	No	Yes	High; loses some when wet	Water repellent; wind resistant, insulates well for its weight	Laundry hot water/warm dryer	Low heat, 250 degrees
Polyester	Synthetic	Very poor	Yes	No, highly resistant	OK	No	Yes	High; no loss when wet	Nonallergenic; holds in body heat; retains crispness wet or dry	Laundry hot water/warm dryer	Low heat, 250 degrees
Rayon <i>(including rayon from bamboo)</i>	Manmade from cellulose	Very good	No	Yes, wrinkles easily	OK	Yes	No	Fair to good; weaker when wet	Comfortable to wear in warm weather; has some antimicrobial properties	Laundry warm water/warm dryer	High heat, 400 degrees
Silk	Protein produced by silk worms	Good	No	Shake out when hung	No, damages fibers	Yes	No	Good when dry; weakens when wet	Insulates well for its weight	Dry-clean or hand-wash warm/dry warm	Medium heat, 300 degrees
Wool	Protein from animal hair	Good	Fair	Some, resists wrinkles and they shake out	No, damages fibers	Yes	Yes	Fair; loses strength when wet; protect from moths and carpet beetles	Sheds water naturally; absorbs and dries slowly; insulating good for cold weather	Dry-clean or hand-wash warm/dry warm	Medium heat, with steam, 300 degrees