



# DESIGN DECISIONS

## Characteristics of Fabric Fibers

Fiber	Characteristics*	Care* (See label)	Durability*	Resist Sun Damage*
Nylon	Easy to dye, drapes well, retains shape,	Washable at low temp.	Very strong, durable, resists abrasion	Fair but can be modified
Olefin	Easy care, resist moisture Stained easily by grease and oil	Washable Do not dry clean	Very strong, durable, resist abrasion	Fair – can add stabilizers
Polyester	Retains shape well, resists wrinkles	Washable	Strong, durable, resist abrasion	Good to excellent
Acrylic	Soft like wool, colorfast	Some washable or dry clean	May form “pills,”	Excellent
Acetate	Soft feel, silky look, drapes well. Poor wrinkle recovery. Weaker when wet.	Dry clean or some hand washable	Low or poor resistance to abrasion.	Weakened by long exposure unless modified for sunlight resistance
Rayon	Similar to cotton, easy to dye, drapes well, wrinkles easily unless treated, may shrink	Dry clean or some hand washable	Not as durable or abrasion resistant.	Poor, not recommended for draperies
Cotton	Absorbent, easy to dye, may wrinkle easily	Washable – may shrink unless treated	Good abrasion resistance	Good, may weaken after long exposure
Silk	Strong fiber but lightweight, dyes well, drapes well	Usually dry cleaned.	Not as durable or abrasion resistant.	Poor – yellows and degrades
Wool	Holds shape well, drapes well, resists wrinkles, may shrink & felt when wet and agitated	Dry clean unless special finish to wash.	Fair to good abrasion resistance	Fair – eventually loses strength

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Find more at <http://4h.unl.edu/designdecisions>

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## Notes on..... Fabulous Fabrics

All clothing is made of fibers. There are many different kinds of fibers. Each kind of fiber has its own characteristics. Fibers are either NATURAL or MANMADE.

### Natural Fibers

\*From plants or animals

\*Cotton, wool, linen, and silk

*Cotton-from cotton plants*

*Wool-mainly from sheep*

*Silk-from silkworm's cocoon*

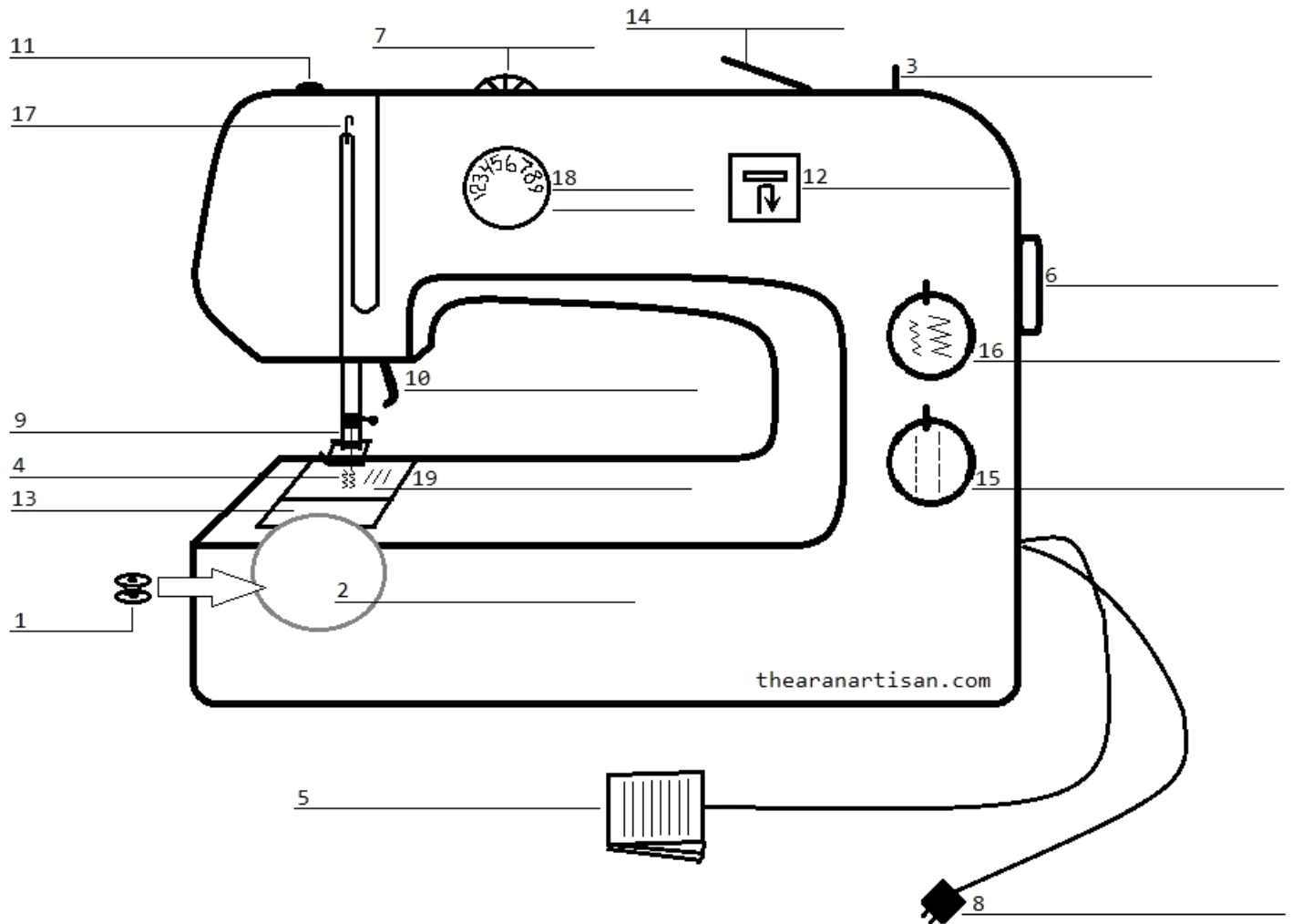
### Manmade Fibers

\*From chemicals in a factory

\*Polyester, nylon, acrylic,  
acetate, rayon, and spandex  
olefin

All clothing sold in the U.S. is required to have a **fiber identification label** to name the fiber(s) used in the clothing. Once you know what the clothing is made of, you can predict how the clothing will perform (absorbency/comfort, will it wrinkle or not, how will it stand up to wear, will it be easy to care for).

## Basic Sewing Machine Parts/Their Purpose and Function



## **Basic Sewing Machine Parts/Their Purpose and Function:**

- 1) Bobbin**—Provides the bottom thread, the underside of the stitches a sewing machine forms. It is useful to wind extra bobbins at once to save time later on in a project.
- 2) Bobbin Case**—Holds the bobbin and has a specific threading pattern that provides tension to the bobbin thread. It is either built into the machine or removable—either way, the bobbin is manually placed into it.
- 3) Bobbin Winder**—Takes thread from the top thread spool and winds it on the bobbin. Some sewing machines have a bobbin that is filled in place in the bobbin case. More often it is located on the top of the machine and the empty bobbin must be removed from bobbin case.
- 4) Feed Dog**—Feeds the fabric under the presser foot while you guide the fabric. It regulates the stitch length by controlling how much fabric passes under the presser foot as the machine stitches. Many machines allow the feed dog to be disengaged for hand controlled sewing such as for quilting or mending.
- 5) Foot Pedal**—The speed of the machine is controlled by how much pressure you apply to the pedal. More pressure, machine sews faster. Less pressure, it sews slower.
- 6) Hand Wheel**—Main purpose is to slowly turn the needle by hand.
- 7) Needle Position Dial**—Allows the needle to be positioned left, center, or right.
- 8) Power Plug**—Feeds electrical power to the sewing machine.
- 9) Presser Foot**—Puts downward pressure on the fabric as it is fed under the needle. The feet are interchangeable and are designed for different purposes such as zig-zag, decorative stitching, or inserting a zipper.
- 10) Presser Foot Lever**—Raises and lowers the presser foot. When it is in the upward position, the upper thread tension is released.
- 11) Pressure Adjustment Dial**—Sets the amount of pressure that the presser foot exerts on the fabric. The pressure varies depending on the weight of the fabric being used. The dial is usually located on the top left of the sewing machine, though not all machines have this dial.
- 12) Reverse Lever**—Machine sews in reverse when pressed. Locks in stitches and secures seams so they won't come apart.
- 13) Slide Plate**—Provides access to the bobbin area and protects the bobbin area from thread and fabric being caught in moving parts when the machine is operating. Sometimes it is a hinged door that opens down and is located in the same area but on the machine front.
- 14) Spool Holder**—Holds the top thread and is the first step of the thread being evenly fed to the machine needle. There are many different places the spool holder can be but it is usually located on the top of the sewing machine.
- 15) Stitch Length Adjustment**—Adjusts the length of the stitches. The adjustment takes place at the feed dog, not the needle.
- 16) Stitch Width Adjustment**—Allows you to vary the width of the stitches when sewing zig-zag.
- 17) Take-Up Lever**—One of the guides the top thread is threaded through. It moves the needle and top thread up and down.
- 18) Tension Control Dial**—Controls the amount of pressure applied to the thread for an even feed to the machine needle causing an evenly formed stitch.
- 19) Throat Plate/Needle Plate**—The removable plate above the feed dog that has seam guides engraved in it. It is a good idea to train your eyes to watch a seam guide not the needle for straight accurate seams.

# Laundry Guide to... Common Care Symbols

Developed by  
Textile Industry Affairs. [www.carelabels.com](http://www.carelabels.com)

Machine Wash,  
Warm

Non-chlorine  
Bleach

Iron, Steam  
or Dry, with  
Medium Heat

Tumble Dry,  
Low Heat

## Care Labels: Your Guide to Easy Care

Care labels provide helpful information that can save you time and money.

Cleaner, fresher clothes means longer-wearing apparel.

And clothes that are bleachable are easier to get clean.

When a care label doesn't mention bleach or says "Bleach when needed," it means it is safe to use Clorox liquid bleach. When the label says "Non-chlorine bleach when needed" use a non-chlorine (color-safe) bleach like Clorox 2®.

Because clothes can be mislabeled, follow the easy directions on bleach container labels to test fabrics for colorfastness.

### Washing INSTRUCTIONS



Machine Wash,  
COLD



Machine Wash,  
COLD  
Permanent Press



Machine Wash,  
COLD  
Gentle Cycle



Hand  
Wash



Machine Wash,  
WARM



Machine Wash,  
WARM  
Permanent Press



Machine Wash,  
WARM  
Gentle Cycle



Do Not  
Wash



Machine Wash,  
HOT



Machine Wash,  
HOT  
Permanent Press



Machine Wash,  
HOT  
Gentle Cycle



### Bleaching INSTRUCTIONS



Bleach as needed  
Any bleach, like Clorox®, may be safely used



Non-chlorine Bleach as needed  
Use only a color-safe bleach, like Clorox 2®



Do Not Bleach  
No bleach product should be used including detergents with bleach - or follow bleach package test procedures to test for bleach safety.



### Drying INSTRUCTIONS



Tumble Dry,  
NO HEAT



Tumble Dry,  
Permanent Press,  
NO HEAT



Tumble Dry,  
Gentle Cycle,  
NO HEAT



Do Not  
Tumble Dry



Tumble Dry,  
LOW HEAT



Tumble Dry,  
Permanent Press,  
LOW HEAT



Tumble Dry,  
Gentle Cycle,  
LOW HEAT



Line Dry



Tumble Dry,  
MEDIUM



Tumble Dry,  
Permanent Press,  
MEDIUM



Tumble Dry,  
Gentle Cycle,  
MEDIUM



Drip Dry



Tumble Dry,  
HIGH



Dry Flat



### Ironing INSTRUCTIONS



Iron, Steam or Dry, with  
LOW HEAT



Iron, Steam or Dry, with  
MEDIUM HEAT



Iron, Steam or Dry, with  
HIGH HEAT



Do Not Iron  
with Steam



Do Not Iron



### Drycleaning INSTRUCTIONS



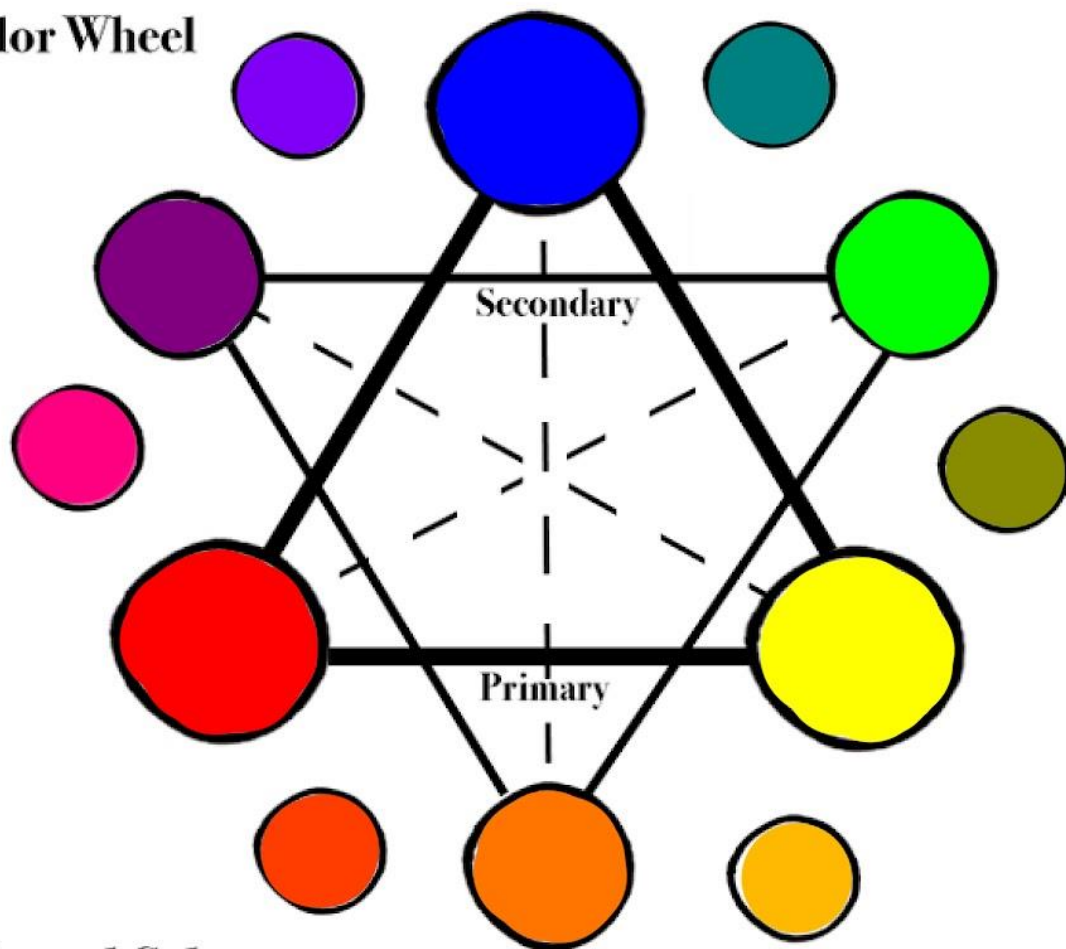
Dryclean  
May appear with additional  
letters and/or lines  
Take this item to a  
professional drycleaner



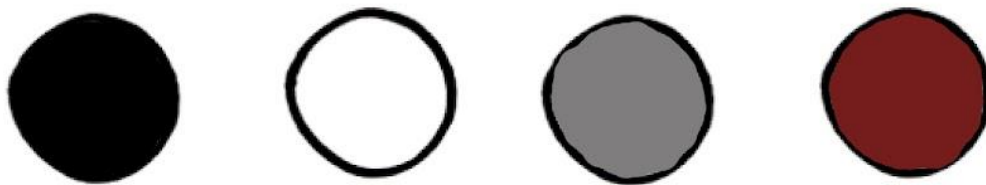
Do Not Dryclean

# Color Theory

Color Wheel



Neutral Colors



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**Primary Colors** - Colors that cannot be made by mixing, Red, Blue and Yellow

**Secondary Colors** - Colors that are made by mixing two primary colors, purple, green and orange

**Tertiary Colors** - Colors that are made by mixing primary colors with an analogous secondary color, red-orange, blue-green, blue-violet, etc.

**Analogous Colors** - Colors that are next to each other on the color wheel, blue, blue-green, green

**Complementary Colors** - colors that are directly across from each other on the color wheel. blue and orange, red and green, violet and yellow

## WHAT'S IN MY SEWING BOX?

### **PINS**

Pins are used to keep two or more pieces of fabric together as you sew.

### **NEEDLES**

Used to sew by hand for a quick sew.

### **THREAD**

Thread is used to sew fabric together.

### **THIMBLES**

Thimbles protect your fingers while you sew by hand or put pins in your fabric.

### **TAPE MEASURE**

Sewing tape measures are a flexible ruler that is used to measure for appropriate sizing

### **NEEDLE THREADER**

Used to make it easier to thread the needle.

### **PIN CUSHION**

They keep your pins organized.

### **SCISSORS**

They are only supposed to be used to cut fabric and thread or they will get dull.

### **PATTERNS**

Patterns are a guide used to make a garment or an other sewing item.

### **CHALK**

Chalk helps you draw temporary lines on your fabric to guide where you cut or sew.

### **SEWING GAUGE**

It is a little ruler that allows you to make multiple cuts or marks.

### **SAFETY PINS**

They are used for many different things that allow you to keep fabric together without sewing or getting poked.

### **THREAD CUTTERS**

You use them to cut thread or fabric in compact spaces.

### **ROTARY CUTTER**

Used to do a straight cut.

### **BOBBINS**

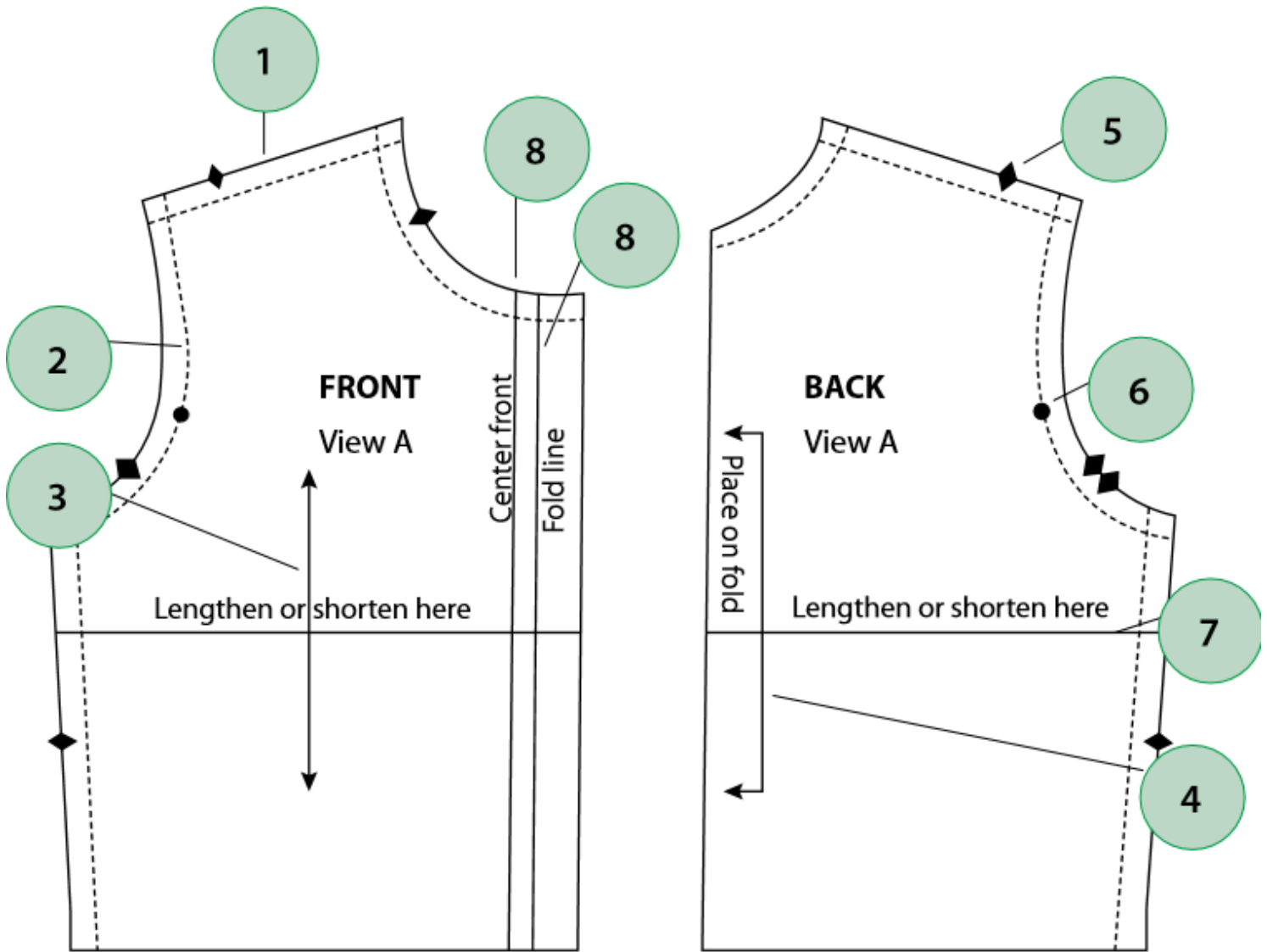
The bobbin thread is used to lock to lock the stitch when using a sewing machine.

### **SEWING BOX**

And of course you need a box to store it all.



## Pattern Symbols



### **1) Cutting line:**

A solid, dark outer line to follow when cutting out pattern pieces. Sometimes it has a scissors symbol on it.

### **2) Stitching/Seam Line:**

A dotted line inside the cutting line where your garment is sewn together, most often a 5/8- inch seam allowance.

Note: Stitching lines not typically included on multi-size patterns.

### **3) Grain line Arrow:**

A straight line with an arrow at each end that should be set parallel to selvage (lengthwise or straight grain) of the fabric. It tells which way the fabric should face in the project.

### **4) Place on fold line:**

An arrowed bracket pointing to the fabric edge. Place the pattern edge exactly on the fold of fabric to cut out – do not cut the fold.

### **5) Notches:**

Single, double or triple diamonds that help match garment pieces to each other when sewing. Use a marking tool or cut around these notches so you can see these marks when the pattern is removed.

### **6) Circles or squares:**

Other aids used for matching garment pieces when sewing. Be sure to mark these, too.

### **7) Lengthen or shorten line:**

Used to alter the length of the garment piece.

### **8) Center front and back, fold line, and hemline**

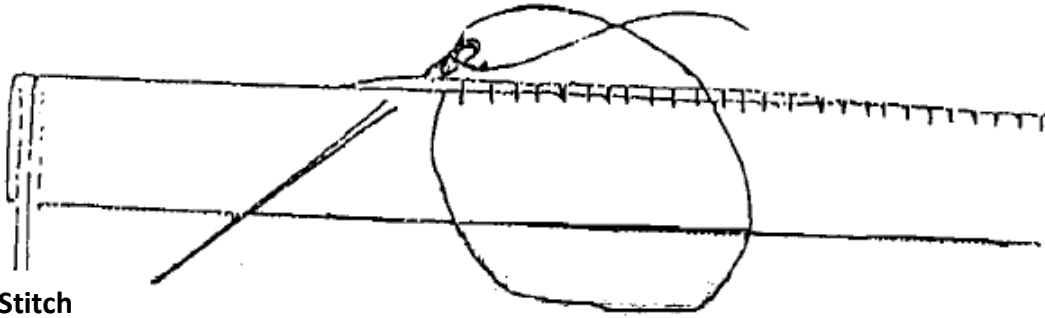
These markings indicate helpful positions needed during garment construction.



# Basic Hand Stitches

## Overhand Stitch

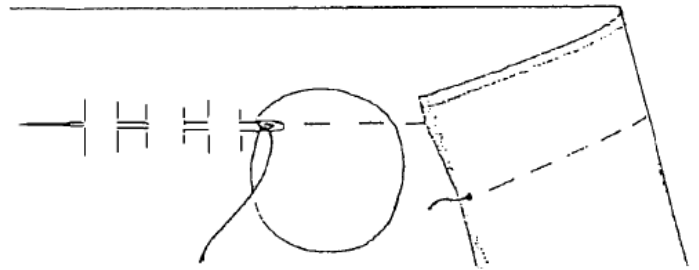
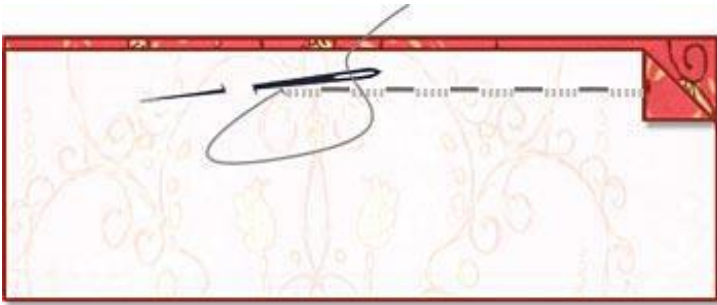
A stitch made by taking diagonal stitches over the fabric edge. It is used to hold two pieces of fabric together.



## Running Stitch

This stitch is made by going in and out of the fabric in even lengths.

This is the most basic stitch for younger children to learn.



## Backstitch

This is the strongest of hand stitches. Use it in hard-to-reach areas by making a stitch; bring up the needle half a stitch length behind and in front of previous stitch. Stitches on the underside appear twice as long as those on the upper side. It has the appearance of machine stitches on top with overlapping longer stitches on the bottom. Prick stitch is a variation of the backstitch with tiny stitches on the right side. It is used for decorative topstitching or inserting a zipper by hand.

