

How To Cross Stitch

From The Tucson Chapter of the Embroiderers' Guild of America

By: Jessica Collazo

Topics

Getting Started.....	2
Separating floss.....	2
Pulling a Thread from a Skein.....	2
Threading the needle.....	3
Starting stitching.....	3
Loop start.....	4
Stitching over the tail.....	5
Cross stitching.....	6
English Method.....	7
Danish Method.....	7
Confetti Stitches.....	8
Ending a thread.....	8
Appendix.....	10
Needles.....	10
Thread.....	10
Fabric.....	10
Determining the Size of Fabric to Use.....	13
Hoops and Needlework Frames.....	13
Backstitching.....	14
Straight Stitch.....	15
Reading Patterns.....	15
Finishing a piece.....	17
Acknowledgements.....	17

Getting Started

Cross stitching is a subtype of embroidery that makes stitches that look Xs, usually done on an even weave fabric. Making continuous areas of Xs can build an image that looks like pixel art or a photograph from further away.

For more information on needles and fabrics please reference the appendix.

Separating floss

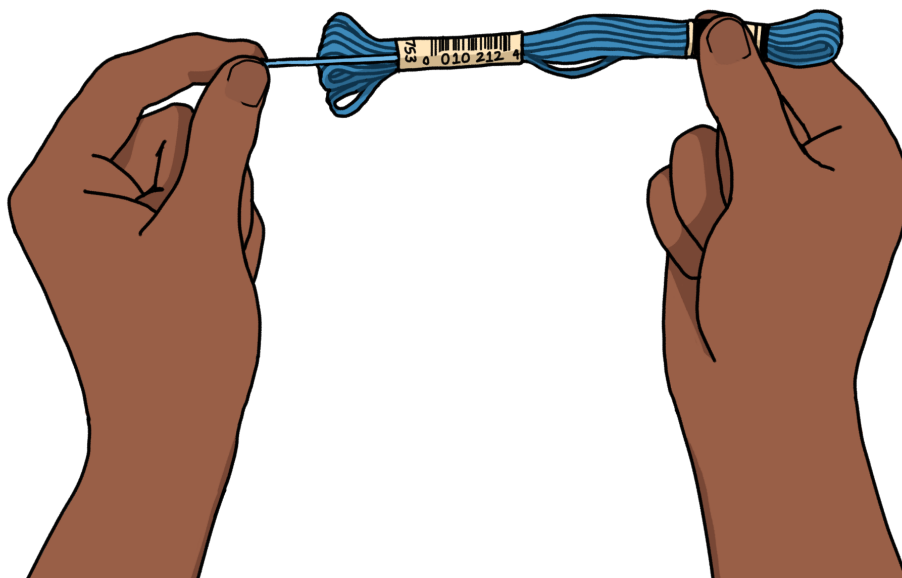
Embroidery floss or embroidery thread comes in skeins - about 8 meters of 6 stranded thread. Embroidery can use all six stands but usually the thread is divided up into individual strands. The number of strands used for cross stitching depends on the fabric count you are using. Cross stitching on Aida fabric is usually done with a minimum of 2 strands, You can work with more strands if you want more coverage, for example using 4 strands on 14 count Aida or 3 strands on 16 count Aida. A good size of Aida to start out on is 14 count Aida.



To start, cut your length of thread around 12-18 inches (or twice that if you are doubling the thread over). Longer lengths are more likely to tangle. Roll the thread between your fingers to splay out the 6 strands. Pinch the group of strands between your fingers an inch or two from the end and then pull out one strand. Repeat until you have the number of strands you want to work with.

Pulling a Thread from a Skein

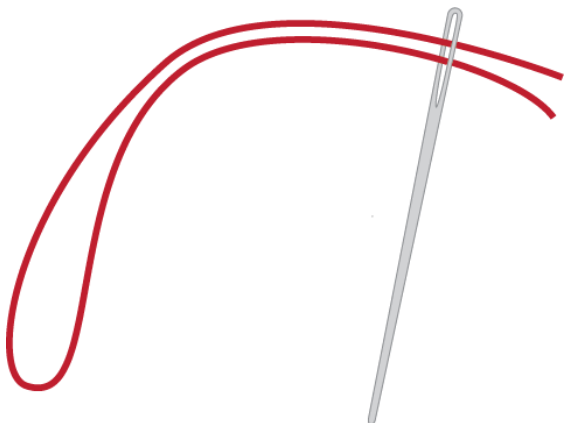
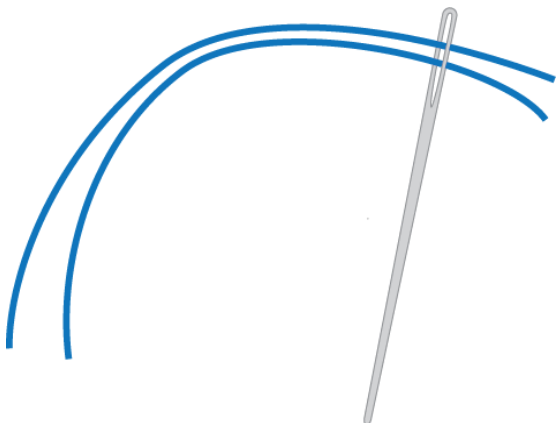
To pull the thread from the skein without tangling, hold the skein by the label with the brand logo and find the loose end of the thread near the label with the barcode and then pull.



Threading the needle

Depending on the way you anchor your thread to the fabric there are different ways to thread a needle. The two main ways to anchor your thread are with a loop start or with stitching over your tail. The example needles are (functionally) threaded with two strands each.

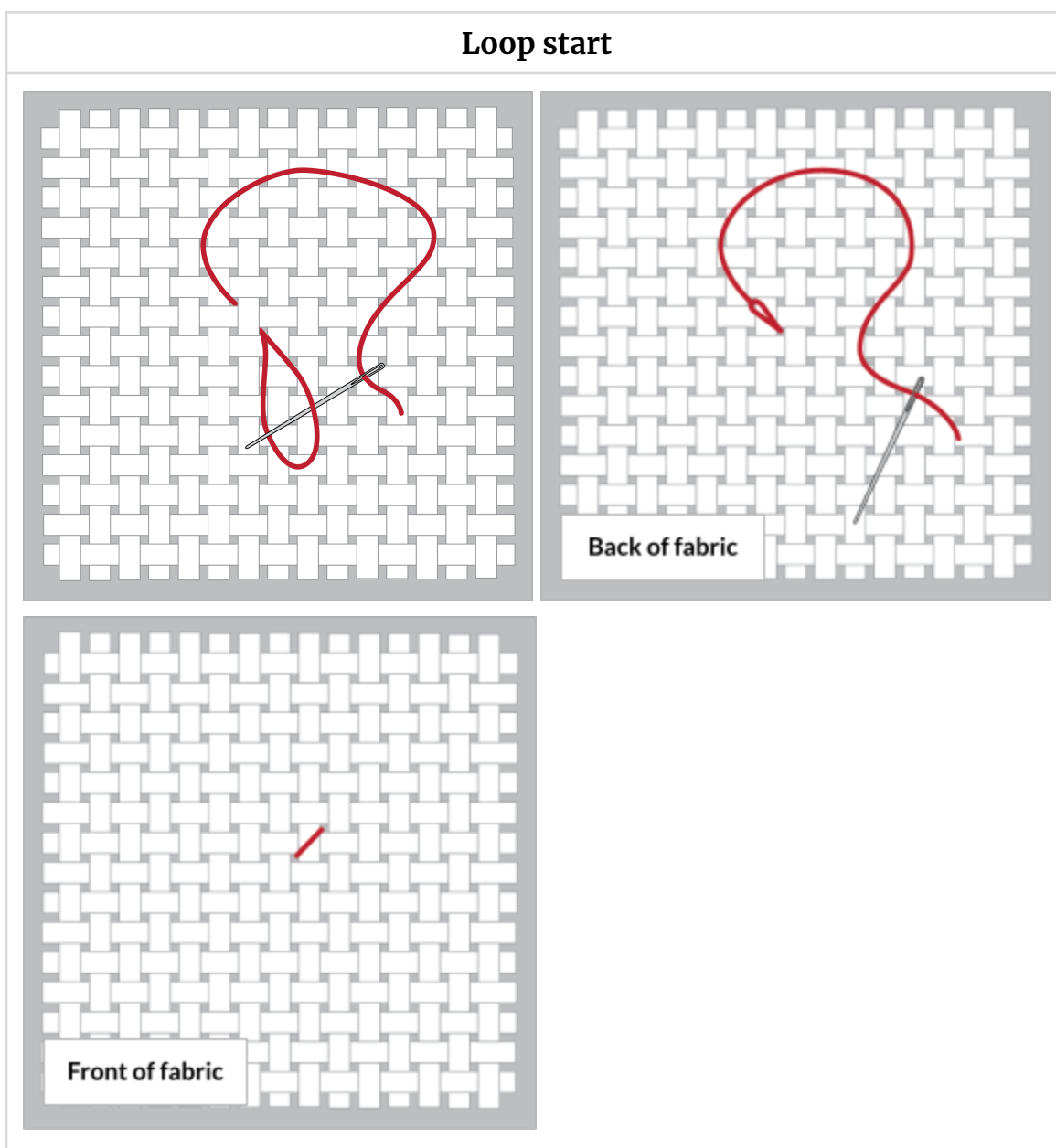
It can be useful to anchor your thread by stitching over the tail of the strands if the length of thread you are working with is not long enough to double over. For beginners, a loop start is quick and is generally a good place to start.

Loop start	Stitching over the tail
<p>If you are going to do a loop start you will need to double over your strands and pull them through the eye of the needle, then pull the needle so it's an inch or two away from the end of the strands without the loop.</p> 	<p>To thread your needle to prepare for sewing over the tail ends of the strands, thread the strands through the eye of the needle and then pull the needle so it's an inch or two away from one end of the strands.</p> 

Starting stitching

When cross stitching you generally don't want to anchor your thread with a knot, both because it can get pulled through the holes in the Aida or evenweave and also because it would cause a bump in the otherwise smooth surface of the finished product, especially if it is mounted flat.

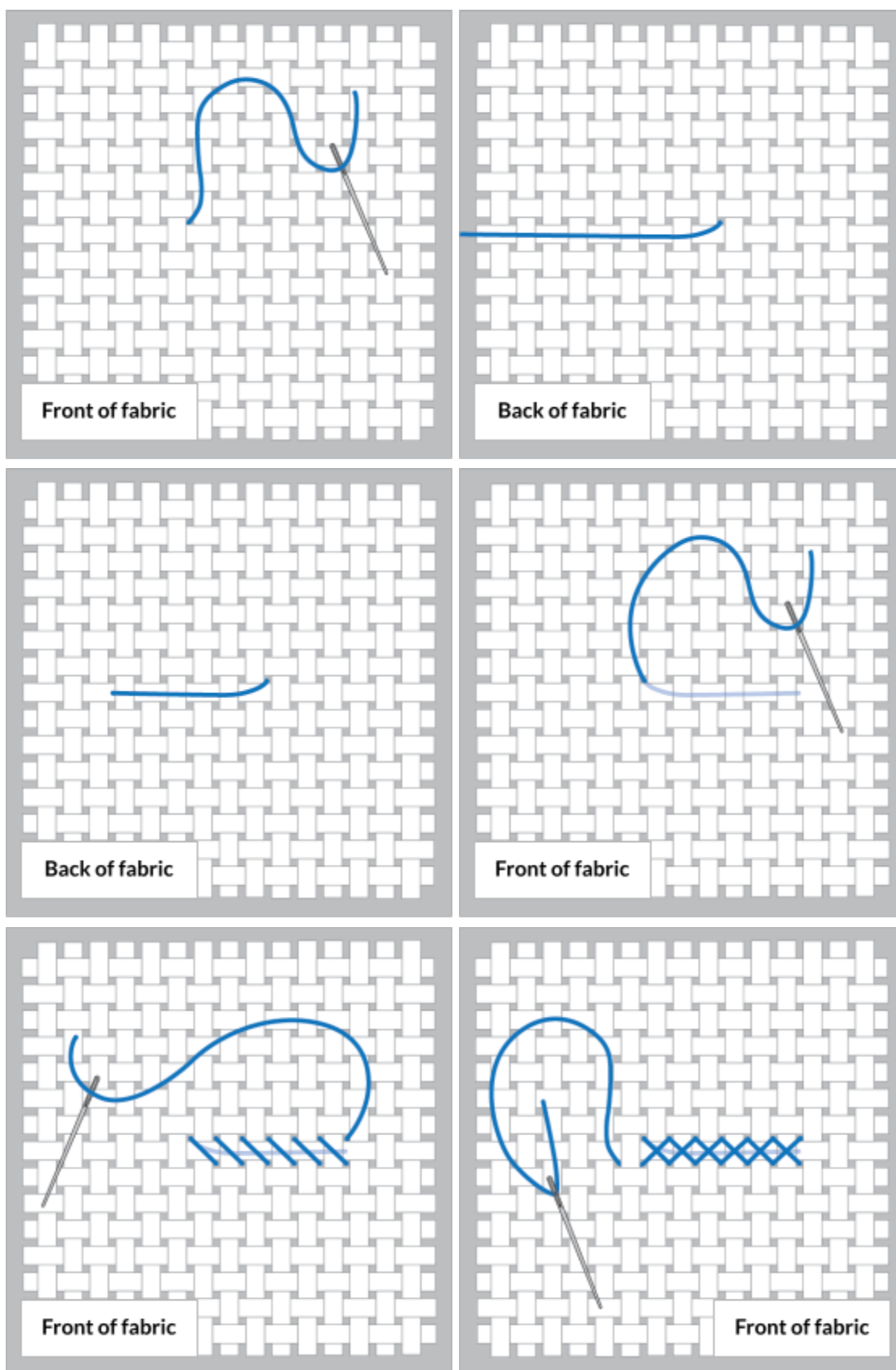
To anchor your thread with a loop start, bring your needle up through the back of the fabric where you want the first stitch to be. Go through the top hole of the first stitch with your needle threaded with a loop, then come back down through the fabric to make a diagonal line - the first half of one X. Looking at the back of the fabric, pull the thread so there is about an inch left before the looped strands are pulled out of the fabric. Put the needle through the loop and pull taught. Now that you have anchored your thread you can turn over the fabric, finish stitching your first X and continue stitching.



To anchor your thread by stitching over the tail, find where you want your first stitch to be. Looking at the front of the fabric, bring the needle up from the back of the fabric through the first hole of your first stitch. Pull the thread part way through then turn over your fabric and pull the end of the strands to the side where you know you will stitch over them with a continuous row of at least 6 stitches. Pull the needle until there is only an inch or two of the tail on the back of the fabric. Holding the tail properly in place to the side, flip the fabric over to the front and stitch over the tail securing it in place. If there is excess length sticking out past the securing stitches you can trim it down. Your thread is now anchored and you can continue to stitch the rest of your pattern.

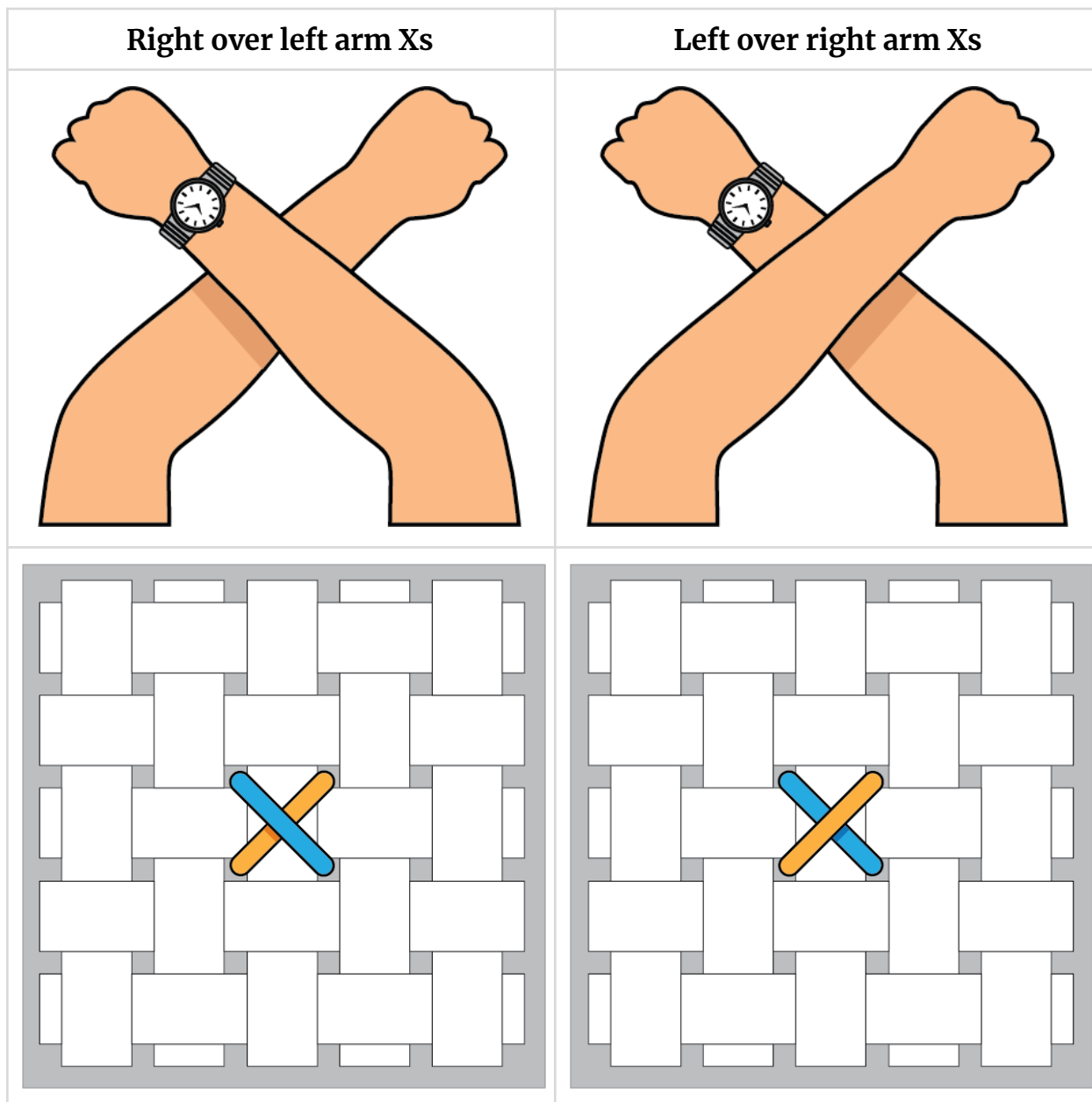
(The figure below uses the Danish method to stitch over the tail, this could also be done using the English method. The faded strands represent the tail of the thread behind the fabric.)

Stitching over the tail

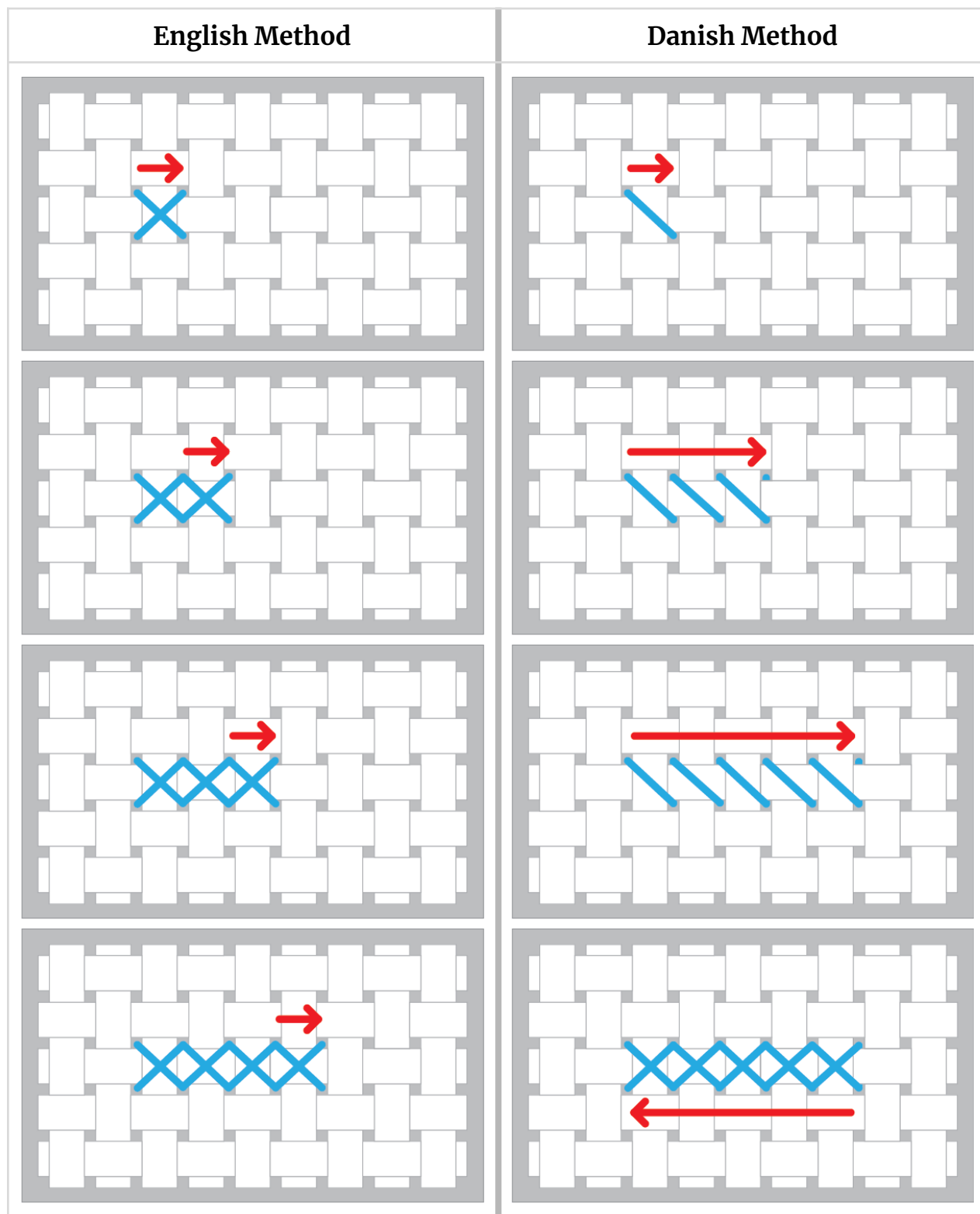


Cross stitching

The most important thing in cross stitching is to **keep the layering of your Xs consistent**. It doesn't matter if the / (bottom left to top right) or the \ (top left to bottom right) stitch is your top stitch, as long as it's consistent. Having Xs with the top diagonals going in different directions will make the light catch differently across the piece and can make a piece look disorganized. One way to decide the order to cross your Xs is by making an X with your arms in front of you, whichever arm you instinctively put on top will tell you what diagonal will go on top.

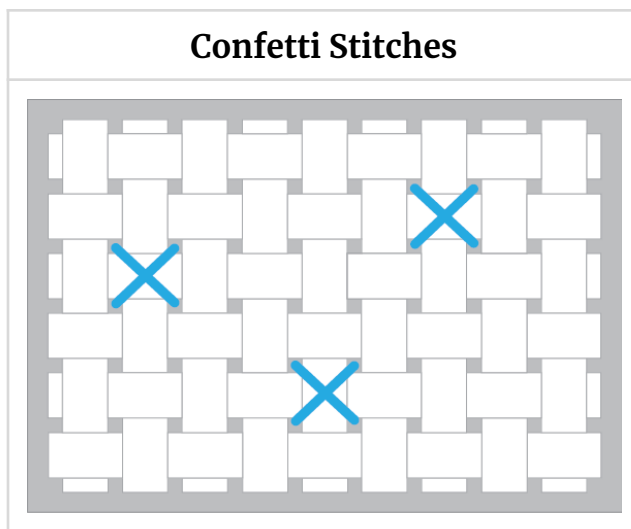


Once you've decided which diagonal will go on top you can begin stitching. There are two main ways to stitch: the English method (below on the left) and the Danish method (below on the right). The English method completes each X to make continuous rows of Xs, while the Danish method lays down all of the diagonals going in one direction in a row before coming back and doing the diagonals going in the opposite direction to complete the Xs.



Confetti Stitches

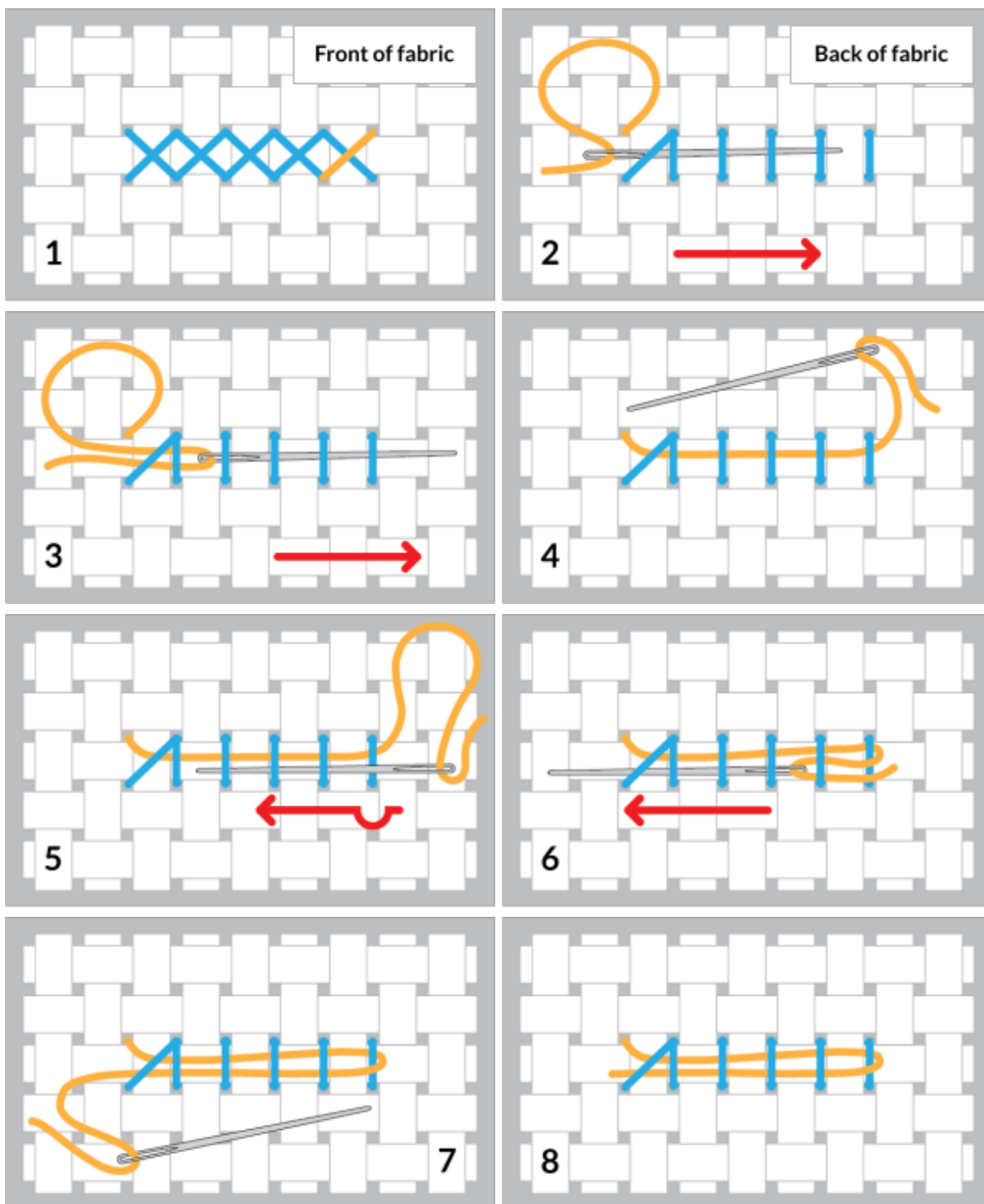
There are also “confetti” stitches where you jump around to draw individual Xs. When stitching, you don’t need to tie off the thread every time you move to a new area. Generally, if the jump is about an inch or less in length, then there’s no need to end the thread and re-anchor it in the new area, simply jump over and continue stitching. If it is over an inch away it’s best practice to tie off / end the thread and start again.



Ending a thread

Once there are only two or three inches of thread left on your needle, it’s time to end the thread. To avoid making bulky knots, weave the ends of the strands through the stitches on the back of the fabric. This will create a friction knot and firmly secure the end of the threads in place. To do this on the back of the fabric weave the needle under the thread of approximately 5 Xs and pull the needle through. Then skipping one side of the last stitch (so as to not accidentally unstitch the previous action) thread the needle back under the same Xs and pull all the way through. Trim off any excess length from the strands.

Ending a Thread



This example is done on stitches made with the Danish method and a loop start, the backside of stitches made with the english method will look slightly different.

Appendix

Needles

There are two types of needles: sharp and blunt. Embroidery, chenille, milliner's, beading and applique needles are sharp and are made for piercing through fabrics. Tapestry needles are blunt and are meant to be used on fabric with existing holes (such as Aida, linen, or Lugana) or on loosely woven fabric. Cross stitching uses tapestry needles, as you do not want to pierce the threads of the weave or else your Xs will not look uniform and even. Both embroidery and tapestry needles have a relatively large hole in them (known as an "eye") which makes threading multiple strands through the needle easier.

The standard needle sizes for cross stitching range from size 22 to 28. The larger the number the smaller the diameter of the needle. The best size to use depends on the fabric: if the needle spreads the fabric as it pokes through, it can distort the fabric's shape and leave holes visible. A size 22 to 24 needle is usually used for 14 count Aida depending on the stitcher's preference.

Thread

Embroidery floss comes in many colors denoted by the number on the side of the skein. There are many embroidery floss manufacturers, but the two most common companies in the United States are DMC and Anchor. Each has a proprietary range of colors with different names and numbers. The numbers do not translate to the same colors across brands but there are color conversion charts available online if you ever find a pattern that asks for thread from a brand you don't have on hand.

The first example skein below is from Anchor; it is number 159 - "Sapphire." The DMC equivalent for this shade of blue is 827 - "Blue - Very Light."



Fabric

Both Aida and evenweave have a tendency to fray, so if you don't plan on enclosing the edges of the canvas in the finishing for the piece you should secure the edges before stitching. You can use pinking shears on the edges, whip-stitch over the edges, or fold over the edges and sew them down.

Evenweave

Evenweave is a non-stretch fabric with warp (vertical) and the weft (horizontal) threads that are evenly spaced in a continuous sheet, with all of the threads being the same size.

Non-evenweave fabrics can have wider threads in the vertical direction, uneven spacing of threads or some other combination that makes the weave uneven. Aida and linen are two of the most common evenweave fabrics used for cross stitching, two more examples of evenweave fabric are Lugana and Jobelan.

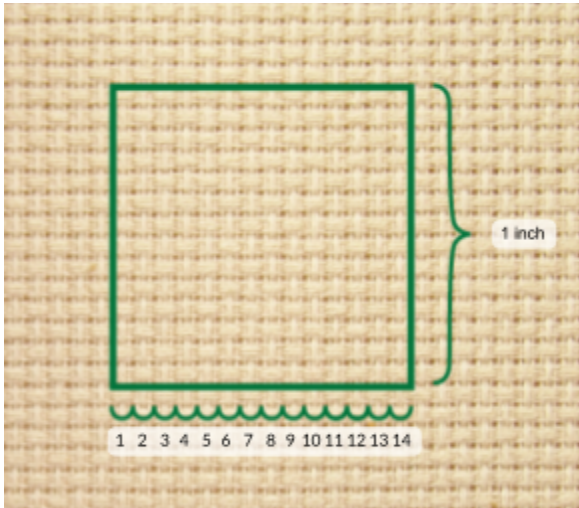
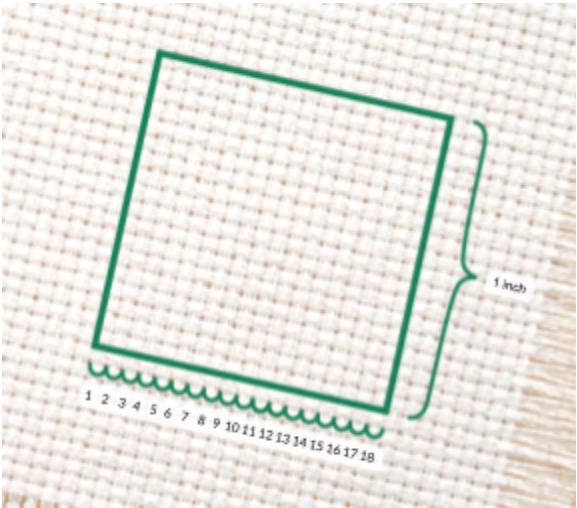
Some linens are evenweave fabrics, however not all linen is evenweave. Buying fabric by the yard or from regular fabric stores will usually not be evenweave and will result in a warped or uneven finished product. When purchasing fabric for cross stitching always make sure that the product is explicitly labeled as evenweave or for cross stitching if you don't plan to use waste canvas with it.

When doing cross stitching on Aida fabric, the X is made over one "block". When using any other evenweave, make an X over two threads to equal one stitch. To determine what size evenweave is equivalent to in Aida, take the evenweave's thread count per inch and divide it by two.

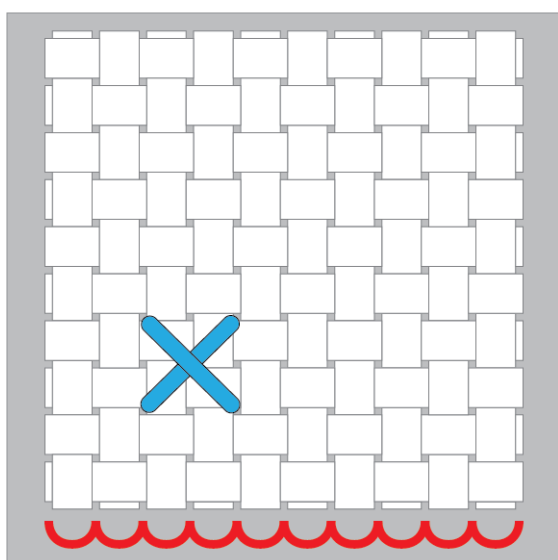
Aida

Aida is a fabric with an open evenweave and enough stiffness to not require an embroidery hoop. It is the traditional cross stitching fabric. Aida comes in different sizes determined by the number of stitches that can fit along 1 inch. 14 count Aida has 14 squares in one inch and 18 count Aida has 18 squares in one inch. The higher the count, the more squares in an inch, and so the smaller the final cross stitch design will turn out.

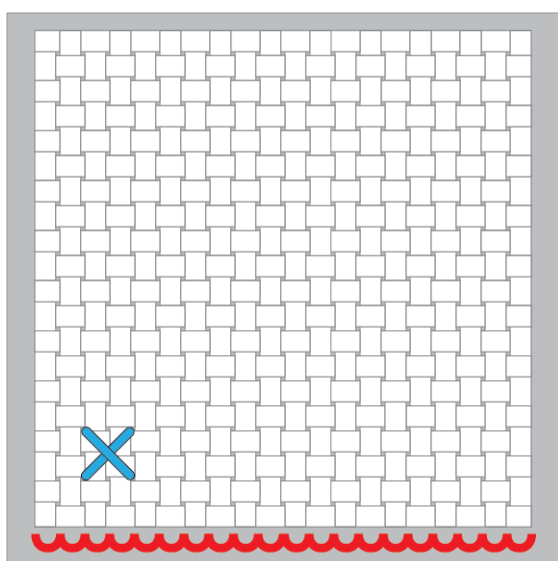
Aida come in sizes ranging from 7, 10, 11, 12, 14, 16, 18, and 20 count, with the most commonly used and easiest to find being 14 and 18 count.

Aida Fabric Count	
14 count Aida	18 count Aida
 <p>The diagram shows a square section of 14 count Aida fabric. A green square outline is drawn on the fabric. A bracket on the right side of the square is labeled "1 inch". Below the square, a horizontal row of 14 small green circles is shown, each labeled with a number from 1 to 14, representing the stitches in that row.</p>	 <p>The diagram shows a square section of 18 count Aida fabric. A green square outline is drawn on the fabric. A bracket on the right side of the square is labeled "1 inch". Below the square, a horizontal row of 18 small green circles is shown, each labeled with a number from 1 to 18, representing the stitches in that row.</p>

Evenweave

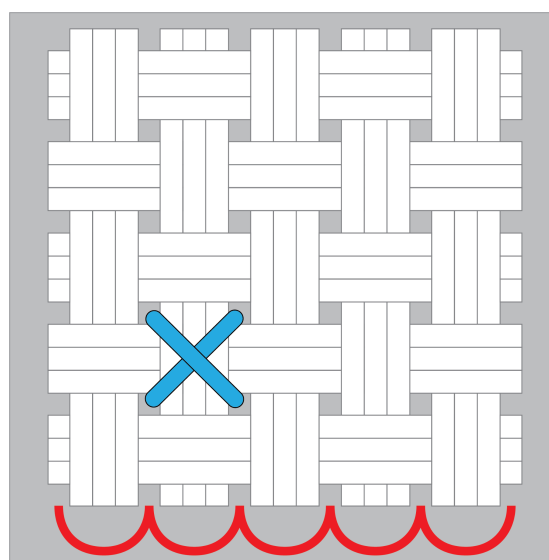


Structure - 10 ct evenweave

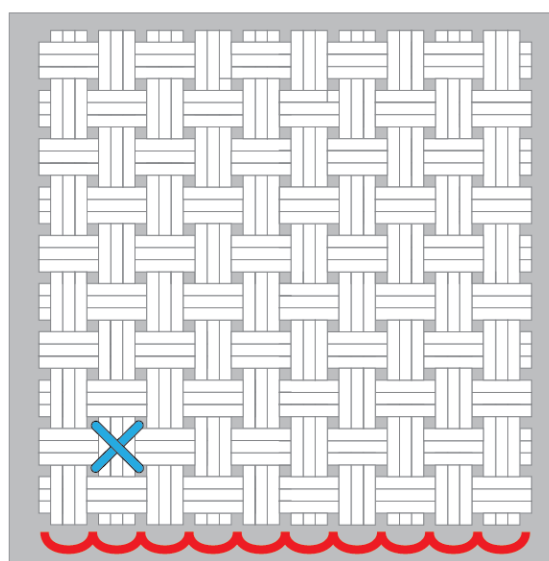


Structure - 20 ct evenweave

Aida (a sub-type of evenweave)



Structure - 5 ct Aida



Structure - 10 ct Aida

Waste Canvas

Waste canvas is a type of fabric that provides a grid guide in order to do cross stitching on non-evenweave fabrics. Waste canvas should be cut larger than the area needed for stitching the design. This extra canvas is used to secure the waste canvas to the non-evenweave fabric with quick stitches, usually with a large running stitch or with tack-stitches. Cross stitching is then done based on the weave of the waste canvas. Once the design is complete, the tack stitches are removed, and the piece is soaked or sprayed with water to remove the adhesive holding the waste canvas together. Then each strand of the waste canvas can be removed with tweezers to leave only the cross stitch design. Waste canvas is best for adding medium to small designs on non-evenweave fabric. If the stitching is too tight over a large continuous area of the design the threads of the waste canvas can snap when you try to remove them leaving pieces of canvas trapped inside the stitches. This particular problem was encountered when working on a design six inches in diameter.

Determining the Size of Fabric to Use

The size of fabric you'll need to stitch your design depends on three things: the number of stitches in the pattern, the count of the fabric, and how much extra margin you will need for finishing. First take the total number of stitches for the pattern and then divide by the number of stitches you will be doing per inch based on the fabric count. Then add on the extra margin you will need for finishing your design. Some suggest a minimum of 2 inches extra on each side for anything ornament sized and 3 inches on each side if it might be framed. Some finishing (such as making small charms or earrings) may only need a 1 inch of margin on each side. There are also cross stitch calculators available online if you would prefer to use one.

For example if you have a design that is 140 stitches by 280 stitches and you are using 14 count Aida (or 28 count linen) then the design size is 10 by 20 inches (140 stitches/14 stitches per inch = 10 inches and 280 stitches/14 stitches per inch = 20 inches). Then with a 3 inch margin to each side it would be $(10 + 3 \times 2 = 16)$ and $20 + 3 \times 2 = 26$ 16 by 26 inches.

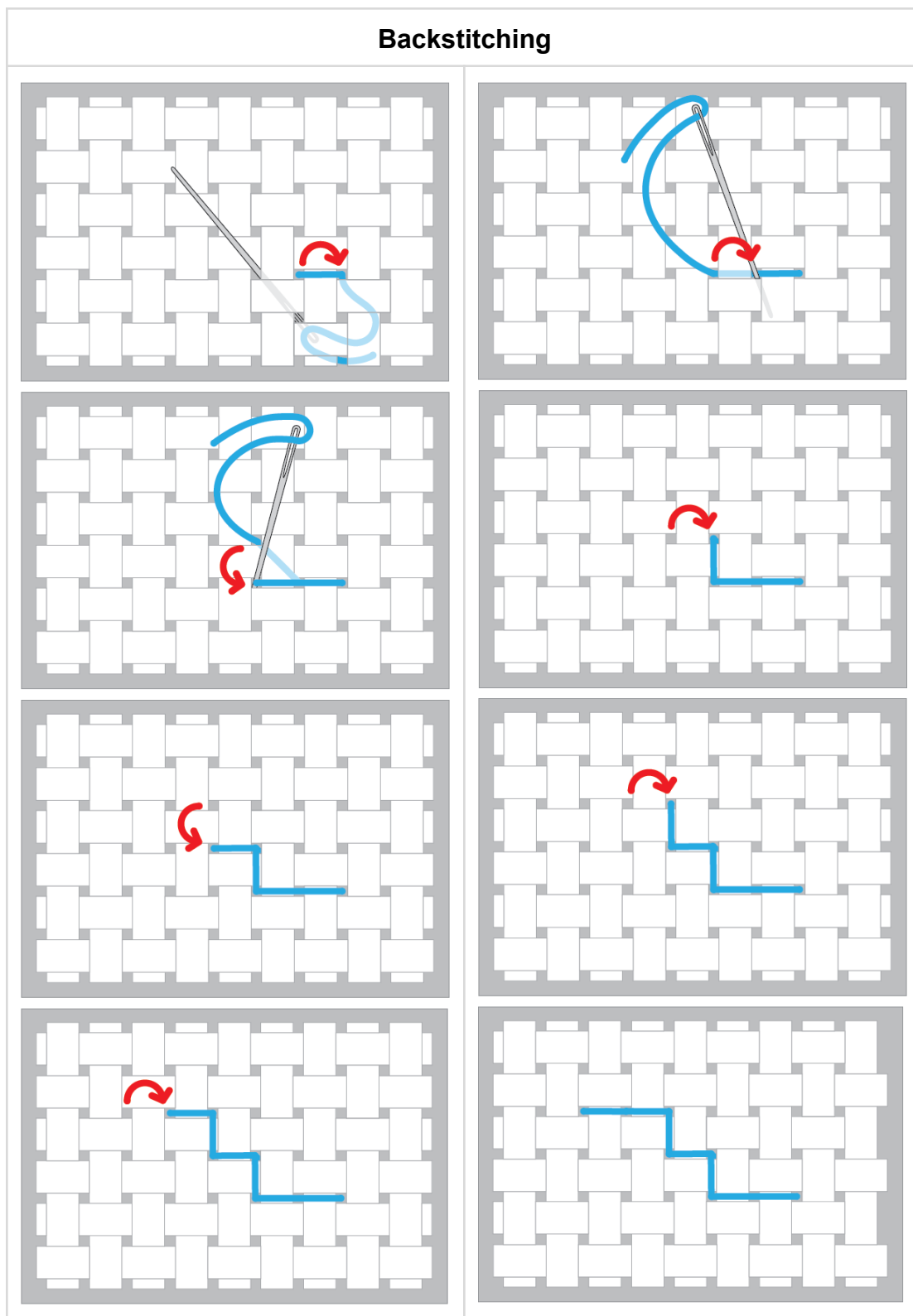
Hoops and Needlework Frames

Embroidery hoops are used to hold fabrics taut, keeping stitches even. They are not necessary for working on smaller portions of stiff fabrics, such as Aida. Standard practice is to use a hoop with the fabric held drum-tight. It's recommended not to leave your work in a hoop overnight or for extended periods of time as it can permanently crease the fabric. Using a hoop, the type of hoop, and the shape of the hoop are all based on personal preference. Standing frames to hold the hoop are also an option for those that want to stitch faster by using one hand on the back of the fabric and one hand on the front of the fabric.

If you are stitching on a stretch fabric with waste canvas to provide the grid, be sure the stretch fabric is at a natural tension (not stretched). If the fabric is stretched during stitching, when the waste canvas is removed the stitches may have warped or distorted the fabric. One way to try to avoid this is by using a non-stretch backing fabric or interfacing behind the stretch fabric when embroidering with a hoop.

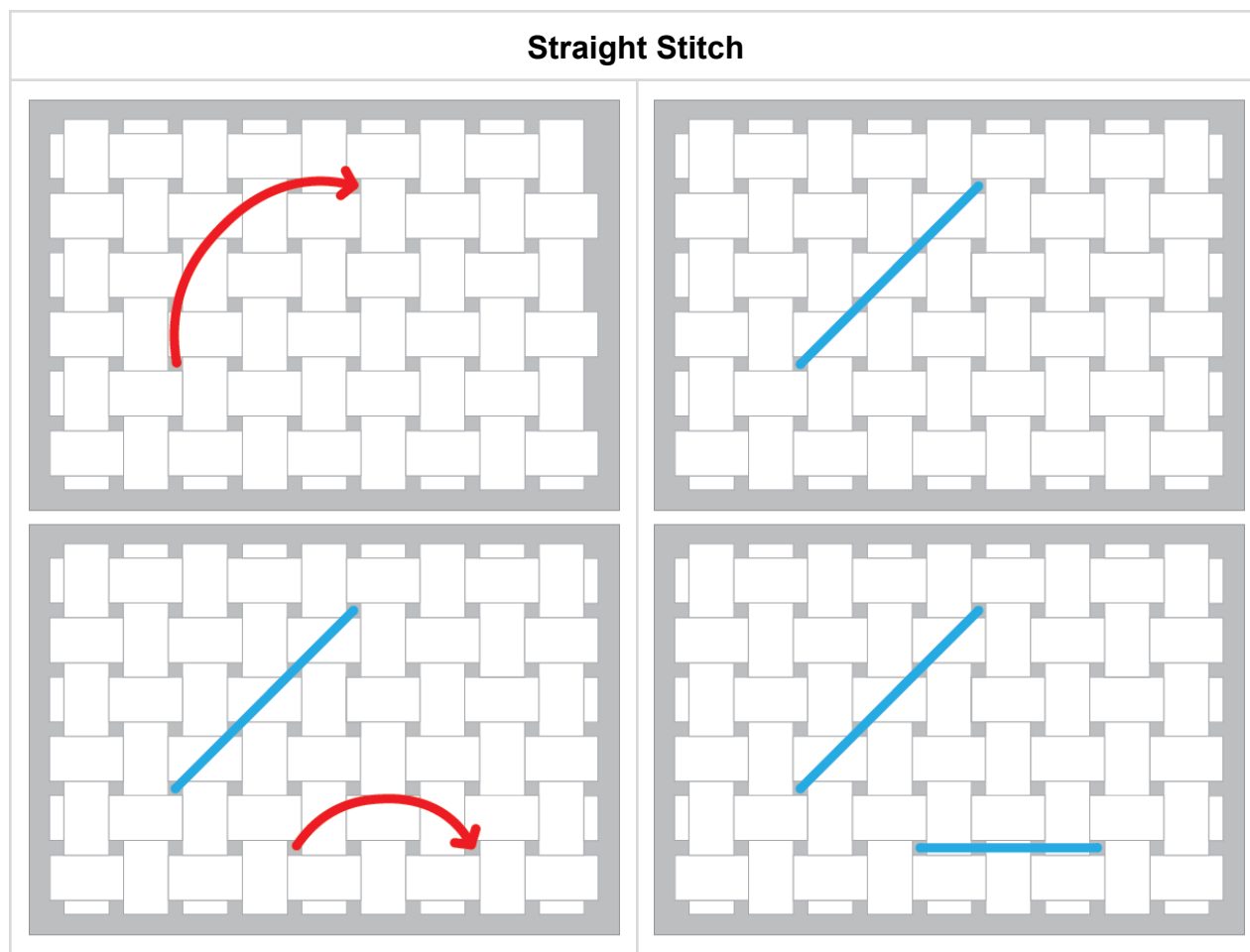
Backstitching

Backstitching is a type of straight stitch that is usually used to add borders or fine details to cross stitch. Instead of stitches forming crosses, backstitching doubles back on itself to make continuous lines of stitches.



Straight Stitch

A straight stitch is a long continuous stitch that jumps over the space of multiple stitches.



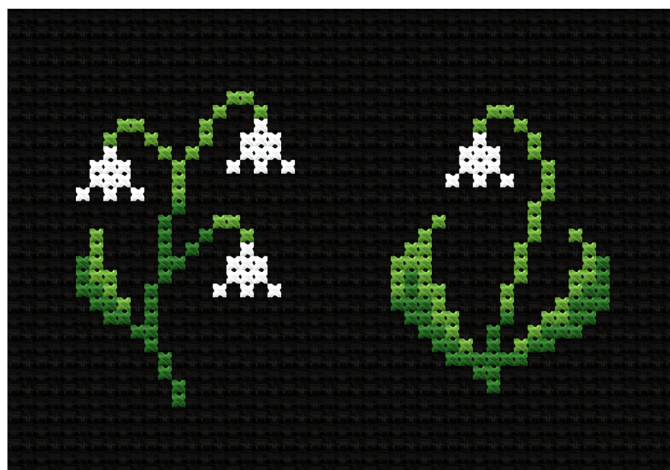
Reading Patterns

All cross stitch patterns generally have the same elements - an image of the finished design, the chart, and the thread legend. A pattern will generally tell you the total dimensions of the design, in stitches, so you can determine how large a piece of fabric you will need.

Cross stitch charts are arranged in a grid broken into 10x10 squares denoted by slightly darker lines so it's easy to keep track of where in the pattern a stitch is. Arrows, usually accompanied with guidelines, denote the center of the pattern for easy reference. It's best practice to work from the center of a pattern out, so as to not accidentally start on an edge too far toward the center of the fabric and then run off the opposite edge of the fabric. This is especially important with larger designs.

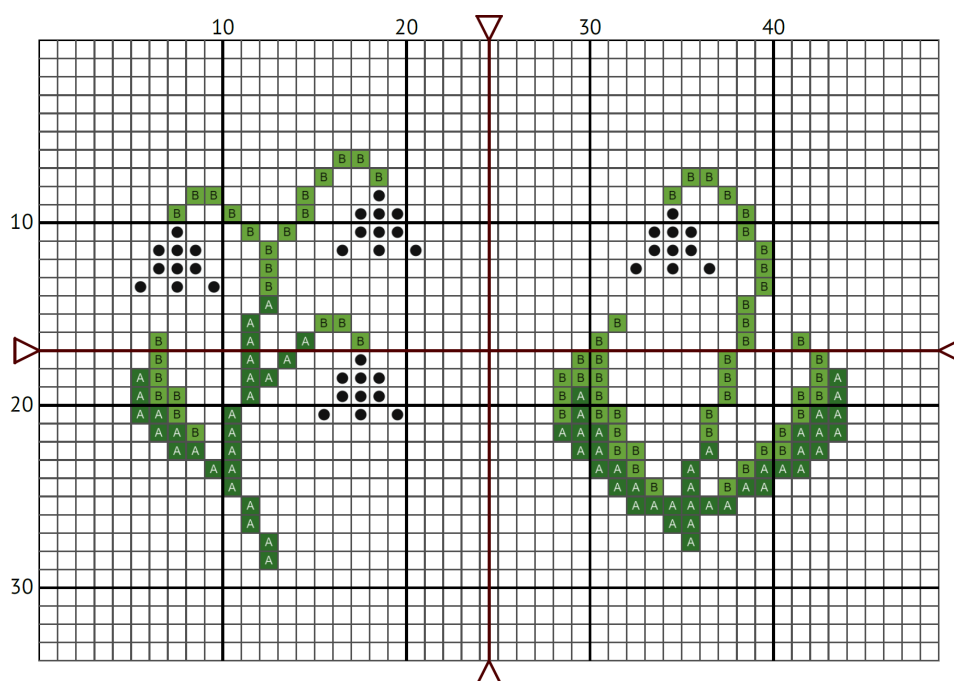
The Legend will tell you what symbols represent each thread color as well as the identifying numbers of the specific thread colors. The symbol can be a shape, letter, number, and is there to distinguish colors that may look similar on the pattern.

Parts of a Pattern



Design size: 49 x 34 stitches

The image of the finished cross stitch pattern and the final design size (in this case 49 x 34 stitches) from the cover page of the pattern.



Above is the cross stitch chart. Arrows indicate the centers on the horizontal and vertical axes.

N	Symbol	Number	Name	Stitches
1	A	DMC 701	Green - Light	64
2	B	DMC 703	Chartreuse	70
3	●	DMC B5200	Snow White	40

Above is the thread legend. Some charts will list how many threads should be used.

Finishing a piece

In embroidery finishing a piece refers to turning the embroidery into a finished product. Some examples consist of sewing it into an ornament, a patch, or turning it into a pair of earrings or a pendant.

Example of finishing



For in depth instructions on cross stitch and many other embroidery stitches, the RSN Stitchbank is an excellent resource and available online at rsnstitchbank.org.

Acknowledgements

This tutorial was created by a member of the Tucson Chapter of the Embroiderers' Guild of America (EGA). The EGA is a national organization of stitchers and beadworkers committed to teaching and promoting needlework of all types. Stitchers of all skill levels are welcome to join and attend monthly gatherings at their local chapters.

If you are interested in joining the EGA you can look up what chapter is closest to you on the EGA website (<https://egausa.org/chapter-map/>). If you live in Tucson and want to join the Tucson Chapter please contact us through our website or check us out at <https://tucsonega.org/events/>.

Happy stitching!



If you need to reach Jessica Collazo please email jmayc@gmail.com.