• Adjust your pattern piece to fit your measurements

A. First cut out your pattern pieces leaving at least an inch of paper outside the cutting lines to make any adjustments.

B. Now take your body’s measurements. Using a measuring tape, have a friend take your bust, waist and hip measurements and record the results on a separate piece of paper:

BUST: With your arms straight out away from your sides, place the measuring tape around your back and across the fullest part of your bust. Make sure it isn’t twisted and is even with your bust line. Place your arms back down to your sides and measure.

WAIST: Measure around the smallest part of your mid-section, which is slightly above your navel. Don’t be fooled, your true waist is usually higher than you think! If you’re not sure where your waist is, bend your mid-section to the side. The crease that forms is your waist.

HIPS: Measure around the fullest part of your hips, across the lower part of your buttocks and upper thighs.

C. Compare your measurements with those listed in the Body Measurement Chart below to determine your size for each area. Follow the appropriate instructions to adjust your pattern pieces.

Body Measurement Chart:

<table>
<thead>
<tr>
<th>WOMEN’S SIZES</th>
<th>BUST</th>
<th>WAIST</th>
<th>HIPS</th>
<th>WAIST LENGTH</th>
<th>BICEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Small (2-4)</td>
<td>32”</td>
<td>26”</td>
<td>36”</td>
<td>16”</td>
<td>11”</td>
</tr>
<tr>
<td>Small (5-6)</td>
<td>34 1/2”</td>
<td>28”</td>
<td>38”</td>
<td>16 1/2”</td>
<td>11 1/2”</td>
</tr>
<tr>
<td>Medium (10-12)</td>
<td>36”</td>
<td>30 1/2”</td>
<td>40 1/2”</td>
<td>16 1/4”</td>
<td>12”</td>
</tr>
<tr>
<td>Large (14-16)</td>
<td>39”</td>
<td>33 1/2”</td>
<td>43 1/2”</td>
<td>16 1/2”</td>
<td>12 1/2”</td>
</tr>
<tr>
<td>XLarge (18)</td>
<td>42”</td>
<td>37 1/2”</td>
<td>47 1/2”</td>
<td>16 3/4”</td>
<td>13”</td>
</tr>
<tr>
<td>XXL Large (20)</td>
<td>45”</td>
<td>39”</td>
<td>50”</td>
<td>17”</td>
<td>13 1/2”</td>
</tr>
<tr>
<td>XXXL Large (22)</td>
<td>48”</td>
<td>41”</td>
<td>54”</td>
<td>17 1/4”</td>
<td>14”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GIRL’S SIZES</th>
<th>CHEST</th>
<th>WAIST</th>
<th>HIPS</th>
<th>WAIST LENGTH</th>
<th>BICEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toddler (3)</td>
<td>22”</td>
<td>20 1/2”</td>
<td>22 1/2”</td>
<td>10”</td>
<td>6 1/2”</td>
</tr>
<tr>
<td>Toddler (5)</td>
<td>24”</td>
<td>22 1/2”</td>
<td>24 1/2”</td>
<td>11”</td>
<td>7”</td>
</tr>
<tr>
<td>X Small (7)</td>
<td>26”</td>
<td>23”</td>
<td>27”</td>
<td>12”</td>
<td>7 1/2”</td>
</tr>
<tr>
<td>Small (9)</td>
<td>27 1/2”</td>
<td>24”</td>
<td>28”</td>
<td>13”</td>
<td>8”</td>
</tr>
<tr>
<td>Medium (10)</td>
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<td>25 1/2”</td>
<td>29”</td>
<td>14”</td>
<td>8 1/2”</td>
</tr>
<tr>
<td>Large (12)</td>
<td>30 1/2”</td>
<td>27”</td>
<td>31 1/2”</td>
<td>15”</td>
<td>9”</td>
</tr>
<tr>
<td>XLarge (14)</td>
<td>32”</td>
<td>29”</td>
<td>32 1/2”</td>
<td>16”</td>
<td>9 1/2”</td>
</tr>
</tbody>
</table>

1. Customize your pattern pieces if your measurements cross into multiple sizes:

   a. On each of your pattern pieces, identify and mark the side cutting lines for your specific size for your bust, waist and hip area.

   b. Starting at the side cutting line for your bust, draw a smooth, even line easing it into the size line for your waist, and again for your hips. Continue with the cutting line for your hips down the remainder of the pattern’s length.

   c. Make sure to adjust the side cutting lines on both the Front and Back Panels.

   d. Use the same size sleeve pattern piece that you used for your bust.

2. Enlarge your pattern pieces: If your measurements are no more than 2” larger than the largest size listed in the Body Measurement Chart, you can enlarge your pattern pieces to fit:

   a. Figure the difference between your measurements and those listed for the largest size by subtracting one from the other.

   b. Divide that figure by 4 to get the amount to add to the side cutting lines for any Front and Back Panels.

   c. Use your ruler and marker, and measure and mark the amount you determined every 1” to 2” along the cutting line down the length of each pattern piece.

   d. Connect the marks making a new cutting line, then draw a line to connect the top and bottom of the new line with the original lines on the pattern piece.

   e. To enlarge the sleeve pattern piece, mark the same amount you added to the Front and Back Panels to both end of the armhole curves. Then line up the marks with the appropriate bottom corner on the pattern piece and draw new cutting lines. Remember to extend the cutting line at the armhole curve to connect it to the new line.
• Adjust the Waist Length on your pattern pieces:

A. Measure your Waist Length: Starting at the prominent bone at the base of your neck, measure down your back and stop at your true waist.

B. Compare your Waist Length measurement with those listed in the Body Measurement Chart on page 1. Determine the difference between the two.

C. If your measurement is shorter or longer than those on the chart, you'll need to shorten or lengthen your pattern pieces at the waistline. See below:

1. Shorten the pattern pieces at the waistline:
   a. Locate the waistline marked on the Front and Back Panel pattern pieces.
   b. Use your ruler and marker, and measure above the waistline by the difference you determined.
   c. Draw a new line parallel to the waistline.
   d. Fold the pattern piece along the waistline and bring it up to meet the new line. Tape them together.
   e. Redraw new sewing guidelines for any vertical darts by lining up the top dot with the dots at the waistline.
   f. Redraw the side cutting lines by easing the lines on the lower half of the pattern piece back into the lines on the upper half.

2. Lengthen the pattern pieces at the waistline:
   a. Locate the waistline marked on the Front and Back Panel pattern pieces and cut it apart along this line.
   b. Tape the upper half of the pattern piece along the edge of a piece of paper allowing the paper to fall below the line. Make sure it is longer than the amount you need to add.
   c. Use your ruler and marker, and measure below the waistline on the paper by the difference you determined.
   d. Draw a new line parallel to the waistline.
   e. Line up the lower half of the pattern piece with the new line and tape it in place.
   f. Redraw new sewing guidelines for any vertical darts by lining up the top dot with the dots at the waistline on the lower half of the pattern piece.
   g. Redraw the side cutting lines by easing the lines on the upper half of the pattern piece back into the lines on the lower half.

• Appliqué - This is a technique in which pieces of fabric are sewn or fused onto a foundation piece to create designs. A tight zig-zag stitch is used to finish the edges.

• Backstitch - A backstitch is used to reinforce your stitching to help keep it from unraveling. To do this, put your machine in the reverse position and sew 3 or 4 stitches.

• Bar tack - To bar tack, use the widest zig-zag stitch on your sewing machine and sew a few times in place to secure a seam or the end of a zipper.

• Bias - See Fabric grain.

• Binding - Binding is a strip of fabric cut on the bias or across the width of the fabric and used to cover the raw edges of a project, such as a quilt. There are three types of binding that I’ve used in making my quilts and throws. Follow the instructions below for the technique you like.

How to make and attach 3 different types.

1. French Bias Binding, also known as double-sided bias tape
   a. Place the fabric on a large, flat surface with the RIGHT side facing up. Fold one selvage edge over to meet the cut edge forming a triangle shape. Press a crease on the fold. Then open the fabric and cut along the crease line.
   b. Starting at one end of the bias edge, measure in by the distance instructed in the project, and parallel to the edge, and make a mark. Make another mark the same distance in from the opposite end. Match the two marks and draw a line to create a bias strip. Continue to measure and mark more strips until you have the length called for in the project's instruction. Cut along the marked lines.
c. Attach the strips into one long continuous piece by placing 2 strips perpendicular to each other. With RIGHT sides together match the diagonal edges and pin them in place. Stitch a 1/4" seam across the pinned edge and backstitch at each end. Press the seam allowance open and trim any fabric "tails" along the edges of the seam. Repeat until you've attached all of the pieces into one long continuous strip.

d. Fold the strip in half lengthwise with the WRONG side together. Match the long edges and press a crease along the fold.

e. Beginning in the center on the front of the project, place the raw edges of the strip and those on the project RIGHT sides together. Pin them in place. Begin sewing a couple of inches in from the first end and stitch a 1/2" seam, stopping 1/2" in from the first corner. Backstitch at each end.

f. Miter the corners - Remove the project from the sewing machine. To form a neat mitered corner, fold the binding straight up, away from the corner forming a 45° angle. Now fold it straight down even with the next edge to be sewn and pin it in place. Leave the fold on the binding even with the first edge that was sewn.

g. Begin stitching again at the corner, and backstitch as you begin. Sew along the pinned edge, stopping 1/2" in from the next corner, and backstitch again. Continue this process to pin, sew and miter the remaining edges and corners.

h. Finish the ends of the binding - Stop stitching about 2" in from the first end of the binding. Cut the binding so it overlaps the beginning by 1 1/2". Then fold the first end 1/2" back and press. Place the other end over the first and pin it in place. Stitch a 1/2" seam across the unstitched edges and backstitch at each end. NOTE: Once the binding is turned to the other side of the project the beginning fold will hide the raw edge.

i. Sew the binding on the back to complete the project - Turn the project over so the back is facing up. Flip the binding over from front to back. Line up the folded edge so it just covers the stitching line that attached it to the front. Adjust the mitered corners and pin them in place. Slipstitch along the inner folded edge.

2. French Straight Binding

a. Cut strips for the binding across the width of the fabric, until you have enough for the length called for in the project's instructions.

b. Follow the instructions for Step 1C in the “French Bias Binding” instructions except match the top left corner of one strip with the top right corner of the next strip and sew diagonally across the edges. Then cut across the corners leaving 1/4" on the outside of the stitching line to create a seam allowance.

c. Follow Steps 1d through 1i in the “French Bias Binding” to attach it, miter the corners, finish the ends and sew it to the other side.
3. Single Bias Binding

a. The binding strips are cut on the bias as you did for the “French Bias Binding”, Steps 1a through 1c.

b. After cutting and connecting the strips, fold one long edge 1/2” in toward the WRONG side and press.

c. Now place the unfolded long edge RIGHT sides together with the edge of the project. Follow the instructions for the “French Bias Binding” Step 1e through 1i to attach the binding, miter the corners, finish the ends and sew it to the other side. Use the illustration below in place of the one in Step 1h.

- Buttonhole - To make a buttonhole you first need to measure the diameter of the button you’ll be using. Once you’ve figured out where you need to place your buttonhole, measure and mark the length of the button on your project with a chalk pencil. If you don’t have a buttonhole setting or foot on your sewing machine, use the following alternative method for making a buttonhole:

Using the zigzag setting on your sewing machine, make a bar tack at the top of the buttonhole measurement on your project. Sew back and forth a few times, then set your zigzag on a tight, narrow stitch and sew down the first side. At the bottom, reset the stitch for a tight, wide zigzag stitch, and bar tack again. Reset the stitch width to zero and sew a couple stitches in place to “lock” the zigzag stitches, finishing the center of the buttonhole. Carefully cut the center of the buttonhole open with a seam ripper.

- Clip - Clipping allows some give in your seam allowance, especially if it is curved. Clips also help to make the seam lie flat making it easier to turn your project RIGHT side out. When clipping, use your scissors to cut into the seam allowance, making cuts up to the stitch line, taking care not to cut your stitching.

- Crosswise grain - See Fabric grain.

- Edge stitch - An edge stitch is a very narrow stitch done by machine sewing close to the finished edge or seam to finish a project, close an opening, or stitch something in place.

- Embroidery Stitches

A. Below are two very simple embroidery stitches I’ve used in a couple of projects in my “Little Stitches for Little Ones” book.

1. Backstitch: First mark the shape on the RIGHT side of your fabric as a guide for your stitches. Using 1 to 3 strands of embroidery floss, insert your needle up through point A and down through point B. Then bring your needle up at point C and down again through point A. Continue in this manner to the end of your marked line. Tie off your stitches with a knot on the back of your fabric.

2. Satin stitch: First mark the shape on the RIGHT side of your fabric as a guide for your stitches. Using 1 to 3 strands of embroidery floss, insert your needle up at point A and down through point B. Bring your needle up through point C and repeat keeping each stitch very close to the previous. Tie off your stitches with a knot on the back of your fabric.

- DOTS, LINES, and MARKS on the pattern piece and how to use them - Dots are used as guidelines for starting and stopping when you’re stitching pieces together or as pivot points where you stop and turn your project before you continue sewing. Dots can also identify where you should end a clip in a seam allowance. Lines and Marks are used as placement guidelines. To transfer dots, lines and marks, first smooth out your fabric on a hard, flat surface with the appropriate side facing up per your project’s instructions. Place your tracing paper over the area where you’ll be making your marks and position your pattern piece over the tracing paper. Use your chalk pencil or tracing wheel to transfer the dots, lines and marks.

- Fabric grain - Most fabric is made using a set of fixed lengthwise threads woven at right angles with a set of crosswise threads. Grain indicates their direction. Lengthwise grain (also called straight of grain) refers to the fabric’s length parallel to the selvage edge. Crosswise grain refers to the fabric’s width and runs from selvage to selvage. Bias refers to any diagonal line crossing either the lengthwise or crosswise grain. The bias fold refers to the diagonal fold of a rectangle of fabric producing a 45-degree angle.

- Finger press - To finger press you use your finger or thumbnail to make a crease along an edge or seam pressing an area where an iron cannot be used.
• Gathering stitch - Gathering stitches are used to gather fabric to add detail and shape to specific areas in your project. They also help shape and form larger panels so they fit into smaller openings. To make a gathering stitch, use the longest stitch on your sewing machine and a loose bobbin tension. This will enable you to pull the bobbin thread and gather your fabric. Do not backstitch at either end of your stitching lines.

• Gusset - A Gusset is used to give depth to a flat bag by making a side seam flat against the bottom seam (or center crease) making a triangle shape in the corner. Sew across the corner by the amount determined for your project.

• Hand-baste - Basting is used to temporarily hold two pieces of fabric together to prevent shifting while sewing final stitches. Basting can be done with pins, a sewing machine, or by hand. To hand-baste, place the two pieces of fabric in the desired position. Then make a series of long, running stitches in the area described in the pattern instructions.

• Hand stitch - see Slipstitching.

• How to cut your pattern pieces “on the fold” - Lay the pattern piece even with the folded edge of your fabric. Once the fabric piece is cut out, open it up to make one full-size panel.

• Interfacing - A stiff, fabric-like material, either woven or non-woven, used to give your project strength and durability. Interfacing also gives lighter weight fabrics form and body. There are different types of interfacings, fusible (iron-on) and sew-in interfacings, both of which come in various weights. If you buy fusible interfacing, be sure to follow the manufacturer’s instructions to correctly fuse it in place. Any woven interfacing should be preshrunk before using.

• Lengthwise grain - See Fabric grain.

• Machine baste - A machine basting stitch is used to hold sections of your project in place until you’re ready to complete your final stitches. Use the longest stitch on your sewing machine so you can easily remove these basting stitches later. You do not backstitch at either end of your stitching.

• Notches - The notches are the triangle shapes located along the cutting lines on your pattern pieces. They are used to match 2 different fabric pieces for correct placement. They can also aid in matching designs on your fabric.

• On point - To place your patchwork squares or quilt blocks “on point” lay them with two opposite corners side-by-side like a diamond.

• Pivot - Pivoting is used when you reach a corner or any place where you want to turn and continue stitching in a different direction. To pivot, stop stitching but keep your fabric in place in the sewing machine. With your needle in the down position, pick up the presser foot, and rotate or move your fabric to continue stitching in a different direction.

• Press - Using an iron and ironing board, press your fabric after you pre-wash it to remove all wrinkles and creases. This is an important part of making your project. Any wrinkles or creases on your fabric when cutting out your pattern pieces can distort your fabric panel. Also press the seam allowances open or to one side as you sew them. This will make your finished project look neat and well constructed.

• Pressing cloth - A pressing cloth is a lighter-weight, neutral fabric placed between your project and iron to protect your material from scorching. You can also use a damp cloth to press out seams and creases.

• Pressing ham - also known as a tailor’s ham. This is a firmly stuffed, hem-shaped tool used to press seams around curved areas on a project. You could also use a folded towel to support the curve and press the seams flat. A pressing ham can be found in most sewing stores.

• Reinforcement Stitch - A reinforcement stitch is used to add strength and support to specific areas in your project. You would use it at the end of a clip or where a lot of stress will be put on the fabric.

• Seam allowance - A seam allowance is the distance from the stitching line to the cut edge of the fabric. It can be pressed open or to one side, as indicated in the project’s directions.

• Seam ripper - A seam ripper is a tool used in a few different ways: To clip the threads in the seam removing the stitching line, or to make an opening in the center of a stitched area, like a buttonhole. When using a seam ripper to open a buttonhole, simply poke the pointed end of the tool through the fabric and use the sharp edge to cut the fabric. Be careful not to push too hard and clip your stitching.

• Selvage edge - The narrow, tightly woven finished edge along each side of the lengthwise grain of your fabric.

• Slipstitch - Frequently used to join two folded edges, slipstitching is nearly invisible as the thread is slipped under the fabric’s fold. You’ll need a long piece of thread and a sharp needle.

a. To begin, feed one end of the thread through the eye of the needle, doubling the thread back on itself. Match the cut ends and make a double knot.

b. Insert your needle into your fabric and pull the thread taut, hiding the knot.

c. Then insert the needle through a few threads on the other edge of the fabric. Pull the thread through until it’s taut.

d. Insert the needle back into the first side, through about 1/2” of the fabric, hiding the thread inside a fold. Push the needle through the fabric and again pull the thread taut.

e. Repeat this process until you’ve stitched your fabric together, keeping even spaces between stitches.

f. To finish, tie off your stitching by making a double knot close to the fabric and cutting the excess threads to free your needle.
• Stay stitching - A stay stitching line is sewn in the seam allowance while constructing your project. Stay stitching helps stabilize curved or slanted edges by keeping the fabric from stretching, and helps reinforce the fabric when making clips in the seam allowances.

• Stitch-in-the-ditch - This stitch, done either by machine or by hand, is sewn in the groove formed by a seam. Make sure to line up any seams underneath so they’re both sewn through neatly.

• Straight of Grain - see Fabric grain.

• Strap - Below are general instructions to make a Strap, Tie or Drawstring. The instructions are the same except with the Tie and Drawstring, you may want to finish one or both ends.
  a. Fold the Strap in half lengthwise with WRONG sides together and press a crease along the fold.
  b. Open it up and fold each long edge in to meet the center crease and press.
  c. If you need to finish the short end(s) for a Tie or Drawstring then fold one or both ends in 1/4" and press.
  d. Now fold it in half again along the center crease enclosing the raw edges and pin them together. Edge stitch down each long edge (and across the short end(s) for a Tie or Drawstring) and backstitch at each end.

• Template - A template is a pattern piece used for tracing around or for marking guidelines on your project.

• Topstitch - Topstitching is used for several purposes. It finishes your project and gives it a neat appearance. It’s used to close the opening after turning your project RIGHT side out, and it can be used as a reinforcement stitch. To topstitch, stitch parallel to an edge or a seam for the distance suggested in the project’s instructions.

• Tracing paper - Tracing paper has a coating on one or both sides, use it with a tracing wheel or chalk pencil and transfer marks from a pattern piece to your fabric.

• Tracing wheel - A tool with serrated teeth or a smooth edge on a wheel attached to a handle, use it with tracing paper and transfer marks from the pattern piece to your fabric.

• Transfer - See “DOTS, LINES, and MARKS on the pattern pieces and how to use them.”

• Trim the corners - This is a great finishing technique used to add shape and definition to the corners on your project. Use your scissors to cut off the tip of the corner in the seam allowance to eliminate bulk. Be careful not to clip your stitching. Once you turn your project RIGHT side out, the corner will have a neat, squared-off look.

• Trim the seam allowance - This technique reduces bulk along the seams, so they’ll lie flat when you turn the project RIGHT side out. Use your scissors to cut off most of the excess fabric in the seam allowance. Be sure to press out these areas once you’ve turned your project RIGHT side out.

• Turning tool - A turning tool is a pointed object, such as a closed pair of scissors that can be used to push out the corners on your project after you’ve turned it RIGHT side out. Specially made turning tools, usually constructed of plastic or wood, are available at sewing and fabric stores. When using a turning tool, push out the corners gently, especially if you’re working with delicate, lightweight fabric.

• Tying a square knot - To tie a square knot, fold the left end of your thread, string or elastic over the right and loop it back down and around the right end. Then fold the right over the left and push it down through the loop. Now pull both ends on each side of the knot at the same time to make it taut.

• Understitch - Understitching helps keep a facing or lining from rolling to the front of a garment and being seen. To understitch press the seam allowances for the area you want to secure toward the facing or lining. Then on the RIGHT side, stitch close to the seam catching the seam allowance underneath.

• Whipstitch - A whipstitch is a hand sewing technique used to loosely close an opening, keep pieces together or from slipping apart, and will not show on the finished project. To whipstitch make large overcast stitches, passing over the edge of the fabric diagonally.