

Sweaters that Fit Workshop

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WHY FIT?

We have all been there. We have spent countless hours working on a project, knitting and knitting, patiently waiting to finish a sweater, only to try it on and discover with horror that: it does not fit you.

It doesn't necessarily mean that it doesn't fit anyone... It just doesn't work on you the way you would like, or the way you imagined it.

There are several reasons why a sweater might not fit you:

1. The overall size is wrong because:
 - a) You didn't take your body measurements properly.
 - b) You chose the wrong size to fit your body measurements.
 - c) Your gauge didn't match the one in the pattern, and you didn't make any modifications to make up for this difference.
2. It doesn't properly fit a certain feature of your body:
 - a) Sleeves
 - b) Waist
 - c) Total length
 - d) Shoulders
 - e) Bust
 - f) Hips
3. The yarn you chose is wrong for the project:
 - a) Wrong gauge
 - b) Too much/not enough drape
 - c) Too fluffy/too slippery/too variegated, etc...

A good fit is what makes the difference between an outfit that looks frumpy or sloppy, and another one that looks polished and well put together, no matter what your body measurements are.

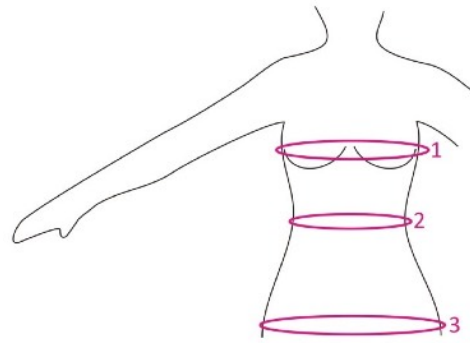
I just want to say that I am NOT a specialist in fit, so these are just some thoughts I have on the matter! Feel free to stop me if you have any comments and especially if you can add something that we don't know to this talk...

So let's begin!

TAKING YOUR BODY MEASUREMENTS

When you choose a knitting pattern, you will face the decision of choosing a size before starting. This is a key point in fit, and you won't be able to choose a size correctly unless you first know what your measurements are.

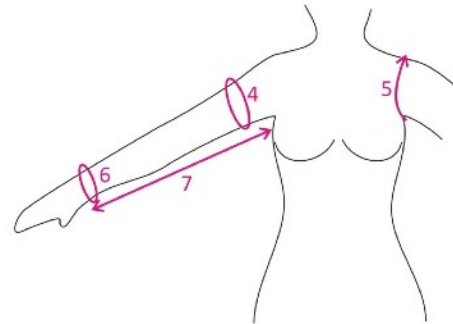
I would advise you to take your measurements often and on different days. Some days my bust is bigger than others, and



so is my tummy. Sometimes even my hips get a bit smaller than others! So a good practice (in my experience) is to take my measurements a couple of times before choosing a size.

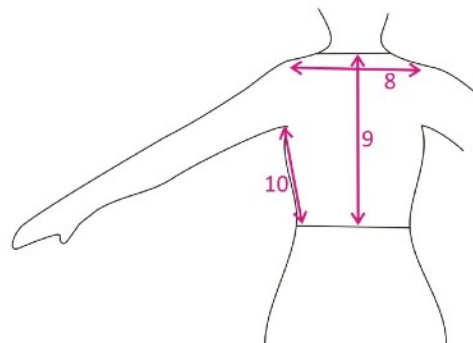
What are the important measurements to take?

- 1) **FULL BUST AND UPPER BUST:** Measure around the fullest part of your chest/bust, not too tightly.
- 2) **WAIST:** Measure at the smallest circumference of your natural waist.



- 3) **HIP:** Measure at the widest part of your hip. Note: if you are making long garments, and your hips get wider when they meet your thigh, you might want to take note of that measurement, as it will be the larger circumference in your sweater (tunic length).

- 4) **UPPER ARM CIRCUMFERENCE:** Measure around the widest section of the upper arm.
- 5) **ARMHOLE DEPTH:** Measure from the tip of the shoulder bone down to the armhole.



- 6) **WRIST/CUFF:** Measure around the narrowest section of your wrist.
- 7) **SLEEVE LENGTH:** Measure from armpit to cuff with arm slightly bent.
- 8) **CROSS BACK:** Measure from shoulder to shoulder.

- 9) **BACK WAIST:** Measure from the most prominent bone in your back neck to your natural waistline.
- 10) **ARMHOLE/WAIST:** (easier to check on a sweater)
Measure from armpit to natural waist.

HOW TO PICK A SIZE?

I used to think that it was impossible for me to find a pattern that would fit me... And honestly, it is probably true if I want to knit a pattern exactly as written without any alterations. My hips are disproportionately big compared to my bust, and it seemed that either I would always end up having a sweater that is too big at the shoulders or impossibly tight (or unbuttoned) at the hips.

It was really frustrating and exhausting to try to find a pattern designed especially for someone with my body type. Until it clicked me: I am not buying a sweater off the rack, I am MAKING it, and I am making it work for me.

The most important measurement that determines the size we want for our sweater is our **BUST MEASUREMENT**.

But sometimes it is not just finding your bust size in a schematic and picking that size. When choosing which size to make, we should always account for **EASE**, and this refers to the **FIT** of the sweater.

A sweater with **NEGATIVE EASE** will be smaller than our body measurements, and it will fit **TIGHTLY**. The fabric will pull a little bit (or a lot!), and it will stretch to hug our shape with wear. A sweater with **POSITIVE EASE** will be larger than our body measurements, and it will fit **LOOSELY**. The fabric will drape and fold. A sweater with **NO EASE** will have our exact body measurements, and it will fit **CLOSELY** (but not tightly) to our body.

But not let's see how we apply that when we read a pattern:

If your bust circumference is 38" [90 cm] and your pattern tells you:

Sizes: 1 (2, 3, 4).

Recommended ease: +20" [50 cm].

Finished measurement at bust: 50 (54, 58, 62)" [125 (135, 145, 155) cm].

Then pick a size with a finished measurement at bust 20" bigger than yours. That would be size 3.

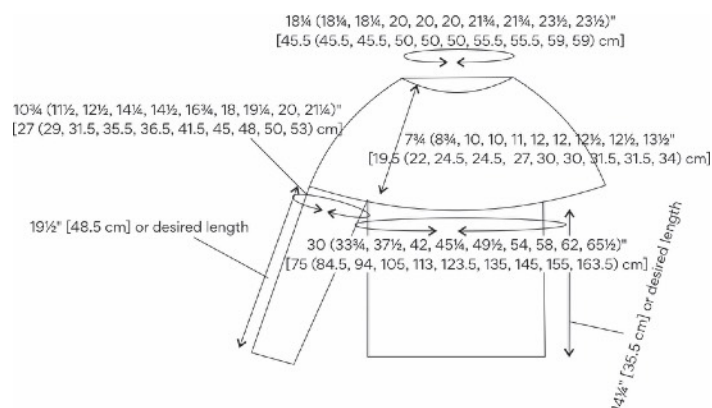
Sometimes the patterns show this information differently:

Sizes: To fit bust size 30 (34, 38, 42)" [75 (85, 95, 105) cm]

Finished measurement at bust: 50 (54, 58, 62)" 50 (54, 58, 62)" [125 (135, 145, 155) cm].

You need to make the math to figure out what the intended positive ease is: 20" [50 cm].

Most patterns will show you the different measurements given for a certain size with a schematic or a table of finished measurements, so once you choose the size closest to your



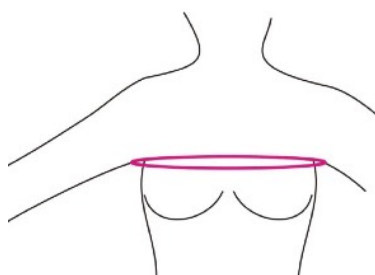
bust measurement + ease, you can check if the rest of the measurements for that size match your own, or if you need to make any modifications to them.

SOME SPECIAL CONSIDERATIONS: BUSTY WOMEN with NARROW SHOULDERS

Busty girls with narrow shoulders (small frame) have a harder time picking a size, because if they choose a size according to their bust measurement, they often will end up with a sweater that is **TOO BIG** for them in the shoulders, and therefore it might look sloppy all over.

These women will often find that the **CROSS BACK** measurements, the **ARMHOLE DEPTH** and/or the **UPPER ARM CIRCUMFERENCE** given in a pattern are bigger than hers, and therefore would need to alter all these 3 measurements to achieve a garment that fits them correctly.

To achieve a better fit in the shoulder area, use your **UPPER BUST** measurement (instead of your **FULL BUST**)



Once you get your Upper Bust measurement, you can choose a size that is 1 or 2" bigger than this measurement (which is probably smaller than your full bust if you are a busty woman with a narrow frame). Then check that the cross back/armhole/upper arm measurements match your own in this size you chose and decide if this alteration is good enough for you. A little bit of negative ease will not alter the overall fit of the sweater.

For women with a very small frame and a very large bust, the difference **FULL BUST/UPPER BUST** will be much bigger, and therefore the sweater will be too small at the bust. Also, if you are knitting a cardigan that buttons over the bust, the negative ease resulting from choosing a smaller size will make the sweater gap when closed.

In these cases, I would recommend using bust darts, which we'll see in depth later.

UNDERSTANDING CIRCULAR YOKES

Top down, circular yoke sweaters begin at the neckline and grow towards the hem.

The yoke section, which covers the shoulders and upper torso, is the focal point of the design. It is shaped through a series of increases to create a curve that follows the natural contours of the body.

In many designs, yoke shaping is usually concentrated in the short distance between the neckline and shoulders, where the majority of adjustments occur at a rapid rate. As the yoke expands, it accommodates the shoulder width, and by the time you reach the bottom of the yoke you should have enough stitches to make both sleeves and the body of the sweater.

This top-down construction allows for easy customization and fitting adjustments to ensure a comfortable and personalized fit for the wearer. You can try the yoke on as you make progress and decide whether it is the right size for you and whether the proportions will fit you well.

Once you reach the bottom of the yoke, you have to divide the stitches and allocate a certain amount for the body, and a certain amount for each sleeve. Remember that you can tweak the proportions.

For example: if the size you chose has a bit of extra ease on the bust, but you feel like the sleeves will be too tight, then you can redistribute the stitches: allocate fewer sts to the body and more to the sleeves.

KEY MEASUREMENTS FOR CIRCULAR YOKES

Yoke Depth: The depth of the yoke is an important factor in achieving a proper fit. It should comfortably cover your shoulders and sit at the appropriate height on your body. Measure from the base of your neck to your desired yoke depth, and adjust the pattern accordingly.

Some people prefer to measure the Yoke depth by using a ruler or a knitting needle under your armpit and then measuring from your back neck to this point.

In order for a circular yoke to fit comfortably, it is recommended that this measurement is at least 1" deeper than your actual yoke depth.

If you need to lengthen the yoke, just knit a few rounds plain or in pattern before dividing for the front and back.

If you need to shorten it, you will have to study the yoke pattern and see where you can eliminate some rows without disturbing the flow of the patterns. This is usually harder to achieve, so what you can do is: Knit a smaller size yoke, but add more stitches to the underarms: this will expand the yoke capacity without adding yoke depth.

GAUGE AND YARN SUBSTITUTIONS

Gauge is the number of stitches and rows within a certain unit of measurement (usually per inch, per 4" or per 10cm) that your knitted fabric produces.

When you knit from a pattern, you will find within the first paragraphs what the recommended gauge is, and the designer will also suggest a needle size for you to knit the pattern with. But here

comes trouble: You most probably won't be using the same yarn as the designer, and you might not knit with the same tension as him/her (probably tighter or looser).

Therefore, you need to make a swatch (a small sample). A swatch will tell you if the yarn you want to substitute the recommended one with will work, and what needles you need to match the recommended gauge.

DO YOU NEED TO SWATCH?

Yes. If you care about having a sweater that fits properly, there is no way of being certain of how a sweater will fit unless you are certain that you are knitting to the recommended gauge. It is the very basic start to a well-executed knit.

To swatch properly use the stitch pattern given in the instructions, and cast on at least 50% more stitches than what's indicated for 4" (for example, if the given gauge is 20 sts, cast on at least 30). Many people don't pay too much attention to row gauge (I admit I am lazy sometimes and I only measure it when I finish a pattern), but it is very important for some designs to match the row gauge too. So unless you are designing your own sweater, I strongly advise you to measure your row gauge too. For this, you should have to knit a swatch at least 4" long.

When you finish knitting your swatch, bind off all stitches and SOAK THE SWATCH. I know it is hard to resist the temptation to cast on right away but most yarns will vary in gauge after a soak and block, so it is very important that your swatch undergoes the same treatment as your finished sweater.

IF YOUR GAUGE DOESN'T MATCH THE RECOMMENDED ONE

Let's suppose the recommended gauge in the pattern is 20 stitches to 4" knitting on US 6 (4mm) needles:

- You get a smaller number of stitches (e.g. 18). Your gauge is LOOSER. Try again, using a smaller needle size, and see if you can get closer to the recommended number.
- You get a bigger number of stitches (e.g. 22). Your gauge is TIGHTER. Try again going up a needle size.

IF YOUR GAUGE IS REEEAAALLY DIFFERENT

Then probably you have chosen a yarn that's very different from the recommended one (much thicker or thinner).

If you still want to use this yarn, even though you won't be hitting the recommended gauge, there are some tricks you can use to make the yarn work for you:

If the yarn is HEAVIER than the recommended one (you are getting less stitches per inch), you can choose a smaller size than you would normally choose. For example, let's suppose you have a 40" bust measurement, and the pattern indicates a gauge of 5 sts per inch. The required number of stitches for your size would be 200 sts. But you make your swatch with a heavier yarn, and you are getting 4 sts per inch:

Your bust measurement of 40" x your gauge of 4 sts/inch = 160sts

Now you know that knitting at your new gauge you would require 160 sts, so you can check if there's a size in the pattern that calls for 160 sts at the bust (hint: this will be size 32" in your pattern).

In the same way, if you are getting more sts/inch, you could choose a larger size.

When you adjust patterns this way, you should always follow the LENGTH measurements corresponding to your size (armhole depth, total length, sleeve length, etc.), and the STITCH COUNTS, corresponding to the new size you chose.

This trick might not always work, since some designs might include fabric knitted in multiple directions, which would throw off this math, but it's a good trick to start customizing your sweaters.

FIBER MATTERS

Since we are talking about yarn substitutions, I think it is important to mention that the fiber content matters and not all yarns behave the same way, so it is crucial to study what yarns you are replacing and why the designer chose a certain fiber/yarn type for that particular design. Sometimes the wrong fiber can make the sweater fit completely different, and not always in a good way.

In general, yarns with some silk content will drape more and might stretch a little with blocking and wear. Yarns with alpaca will drape beautifully, they will be very warm and will not have a lot of structure. Yarns with cashmere will drape subtly, will have some halo and will be very light. Wool yarns will have more or less drape depending on the gauge they are knit at, but in general they are more structured. The way these yarns are spun will also have a greater role in the way they behave. Cotton yarns are not so warm, and they are not bouncy or elastic, so they will create flat fabrics that tend to stretch and drape.

BODY SHAPES AND STYLES

These paragraphs are not meant to dictate the way anyone should dress, and I always encourage everyone to try every different style at least once. I think with the proper modifications and size, we can make any sweater fit well... But there are some fashion advices for every type of body shape.

STRAIGHT SHAPE

In this body shape, the bust and hips are not prominent, and neither is the waist. Most women with this shape are typically thin, and they can enhance their look by wearing sweaters that accentuate their

waist to create the illusion of a more feminine and curvy shape. A belt over a pullover or cardigan will look fabulous and will create a more womanly figure. Wrap sweaters with big shawl collars and ties are also excellent. They will create the illusion of curves and will enhance the bust area.

While most body shapes need to be very careful when choosing a bulky sweater style, to avoid looking larger, women with a straight body can wear sweaters made with heavy materials more easily. Comfy sweaters paired with tight fitting clothes in the lower body (like skinny jeans, tights or pencil skirts) are excellent pairings for this body type.

PEAR SHAPES

A pear shaped body is heavier on the bottom than on the top. When choosing a sweater style, you aim to create a balance between the top and bottom halves, so figure hugging sweater-dresses are not a good style for them, it highlights this difference. A much more desirable length would be a sweater that ends at the waist or hits the hip.

A-line is a perfect for this type of body shape.

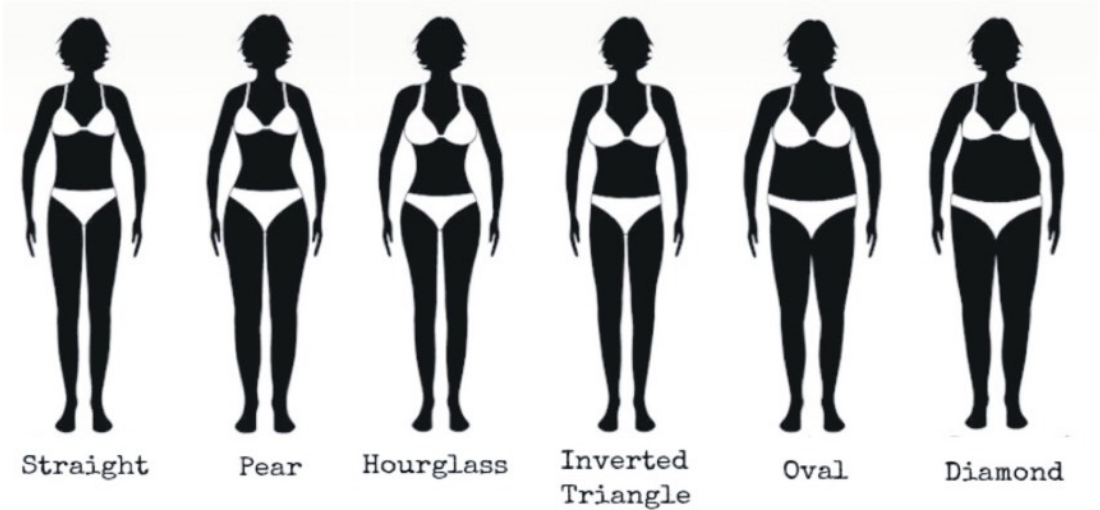
Larger necklines are flattering: wide V-necks, large cowls, boat necks. The best advice is to draw the attention to the upper half of the torso, so look for sweaters with patterning/embellishments in this area. Shoulder details (cables, colorwork, studs, sequins!) are great ideas too.

HOURLASS SHAPES

When choosing a sweater for this body shape, one should try to show off its feminine features. For example, these women would look really great in a knitted dress.

Wrap sweaters with belts are favorable for this body type since the belt will accentuate a full bust, a smaller waist and a rounded bottom. Detailing below the bust (buttons, embellishments) will draw the attention to the nicest features of this shape.

Even though women with this type of body will look beautiful in oversized sweaters too, if they want to show off their womanly curves they should choose a style of sweater that has some structure and it's not too baggy or loose. They can accentuate their figure with waist shaping and form-fitting details like bust darts. A style that suits this body shape and others not so much is 50's style cardigans that end at mid-section or high hip.



INVERTED TRIANGLE SHAPES

This type of body has a somewhat masculine look, with broad shoulders. Women with this shape often have a sporty look and slender legs.

The best styles for this type are those that draw the attention away from the shoulder line. Adding more volume to the lower torso and the hips downplays the broad shoulders and balances out the silhouette. Garments that can make the hips and thighs look fuller and rounder are a great choice, including flounces, ruffles, pleats, AND A LOT OF DRAPE. This will make them look curvier and their shoulders smaller.

Ideal for them are also belted garments that create the illusion of a more accentuated waist, like belted coats, wrap style cardigans, vertically pleated tops.

OVAL/DIAMOND SHAPES

Regardless of their size, these shapes of body carry the most of the weight in the mid-section (it includes some ladies in early pregnancy stages and puerperium).

When choosing a style for this body type, the best idea is to highlight their best assets and cover up a rounded tummy. Sweaters with a V-neck, large cowl necks, boat necks and square necklines will draw attention upwards. Cropped sweaters or sweater the end in the mid-section will accentuate the larger waist, so they are not the ideal style for this shape.

Buttoned cardigans and coats that go past the stomach (even down to the knees) will work great (could be left unbuttoned if they squeeze too much at mid-section). It is better to have a structured sweater on top with a looser body below the bust area (like an empire waist).

A pleated pullover, a draped cowl neck, a ribbed shawl collar long cardigan are great choices for this shape.

STUDYING SOME STYLES

OFF THE SHOULDER SWEATERS

Big cowls that transform into off-the-shoulders sweaters (or even dresses) are perfect for women with **Straight** Body types because they draw the attention towards the upper body and enhance the upper bust. If you add a belt (could be a knitted one!) you'll define the waist and make them extra flattering.

Pattern: Obsidian by Lisa Mutch



LARGE COWLS with STRIPES or PATTERNING

The patterning or stripes in the top half of the sweater minimizes the tummy and keeps the focus on the upper body, making it a good ally for **Oval** shaped bodies. It is also good for **Straight** body types: the ample cowl neck and texture enhances the upper torso and de-emphasizes the lower body. It works great for **Pear** shaped bodies too: the cowl neck enhances the smaller bust and provides balance with slightly larger hips.

Pattern: Oshima by Jared Flood



BASIC DEEP V-NECK (hip-hugging length)

In a solid color or with stripes, this style of sweater flatters very different body shapes.

With an accentuated waistline, it is perfect for women with an **Hourglass** shape. They can benefit from this shaping to enhance their figure. Women with an **Inverted Triangle** shape might want to go with a less curvy version and a more relaxed fit that will camouflage their subtle waist and smaller hips while showing off their collarbones in a feminine way.

Pattern: On the beach, by Isabell Kraemer



PONCHO OR BOXY PULLOVER

The undulating hemline and free-flowing draped fabric in this type of sweater creates a flair that suits different body shapes. The secret is DRAPE. Fabric draping from the upper torso creates slimming and flattering lines for most body types, and the draped silhouette creates a flow that easily camouflages problem areas as a round tummy, curvy hips and butts. It fits beautifully **Straight**, **Pear**, **Oval**, and **Hourglass** shapes. Women with an **Inverted Triangle** might benefit from a deeper neckline (or a V-neck). If you have a smaller bust and want to enhance it, try adding some striping in the upper half.

Pattern: Boxy (by yours truly)



YOKE SWEATERS

Sweaters with either colorwork or other intricate design on the yoke work perfectly for women with a **Pear** or a **Straight** body type. The shoulder and bust area are accentuated with beautiful patterns that draw the eye's attention to this area, balancing the body image (for Pear shapes) and enhances your upper half (for Straight types too). The length of the sweater is crucial. In this example it hits the top of the hips, which camouflages the ratio of the smaller waist and wider hips.

Pattern: Nikka Vord by Gudrun Johnston



SWEATERS WITH DRAPE, A-LINE SHAPES AND BIAS FABRIC

For women with **Oval**, **Diamond**, or **Pear** body types, drape is a key point for a flattering style. A generous draped collar enhances and brings attention to a smaller upper torso by providing more dimension and balance. This soft, flowing fabric creates a pleasing gathered look that helps to camouflage and downplay the larger mid-sections and hips of these body types.

Pattern: Anhinga by Norah Gaughan



CUSTOMIZING YOUR KNITS

We already talked about how we can adjust the size we choose in a pattern if our gauge doesn't match exactly the one given in the pattern.

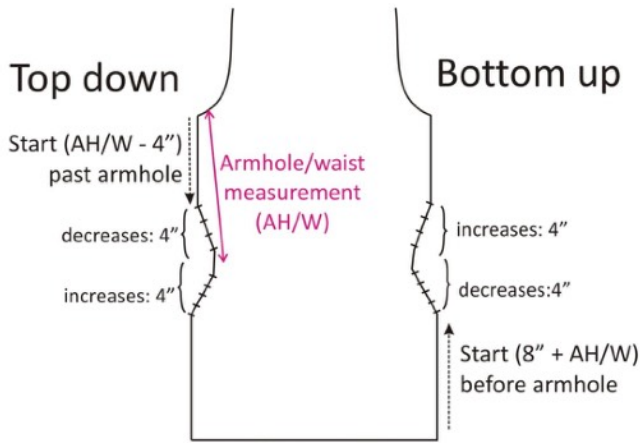
Now what happens if we take our measurements, we decide that MOST of them match the measurements for the size we chose, but there's one or two that need modification?

Adjusting Body/Waist Length

Whether you are knitting top down or bottom up, you can easily add/subtract some inches from the body.

If the sweater has some waist shaping, however, you should be careful and make sure that after you modify the sweater's length, the waist of the sweater will be properly placed. Waist shaping is usually achieved by working a series of decreases that will make the garment narrower at the waist, followed by a series of increases to go back to the original stitch count.

If you don't know when to start the waist shaping written for your pattern or if you are adding shaping to a straight sweater, measure your ARMHOLE/WAIST measurement and start waist shaping about 4" before your waistline and end it 4" after. For example, let's suppose your armhole/waist measurement is 9", then start working some decreases when your work measures 5" past the armhole (if you are knitting top down), or 13" before the armhole (if you are knitting bottom-up). Spread out the decreases within those 4", leave some rows in between and then spread out the increases within the next 4".



For waist shaping we use PAIRED decreases/increases, which are usually mirrored throughout the sweater. If you are working a seamless sweater (back and fronts at the same time), you should work to a certain point before the side 'seam' (or marker) and work a decrease or increase leaning to one side (often right), then work a bit past the side seam and work an increase/decrease leaning to the other side (left). The process should be repeated on the other side seam.

Waist decrease row: Knit to 4 stitches before side marker, k2tog, k2, slip marker, k2, ssk, knit to 4 stitches before the next marker, k2tog, k2, slip marker, k2, ssk, knit to end.

Decreases: K2tog (leaning to the right), ssk (leaning to the left).

Increases: M1r (leaning to the right), m1r (leaning to the left).

As a general rule, decreases/increases need to be separated by at least 4 rows of knitting, or else the shaping will be too accentuated and a bit bulky looking.

Making more room for Curvy Hips

Using the same type of shaping discussed above, you could make the bottom section of your sweater a larger size than the top by increasing some more stitches at the waist (if you are knitting a top-down sweater) or by casting on a few more stitches and then decreasing to the correct stitch count at the waist (if you are making a bottom-up piece).

One thing I learned the hard way is that if you have a pear shape, then your fullest part is at the bottom of your hips. But unless you are knitting a tunic or a dress, most sweaters won't get that low, so remember to measure yourself where your sweater will END (not at your fullest part) before you decide how much bigger you want it to be. You might end up with a sweater that has too much flare otherwise!

Adjusting Sleeves

You might need to make alterations to the sleeve length.

When working top-down: If you want to make shorter sleeves than what the pattern calls for, you need to make sure that you include all the necessary decreases within the length you will be working.

Measure the arm circumference where you want your sleeve to end and figure out how many stitches you will need at that point (by using your gauge). Then subtract that number from the upper arm stitch count, and divide it by 2. This will give you the number of paired decreases you need to work throughout the sleeve.

Now you know how long you want your sleeves to be, you know how many decreases you need to make, so you can spread them out along the sleeve properly.

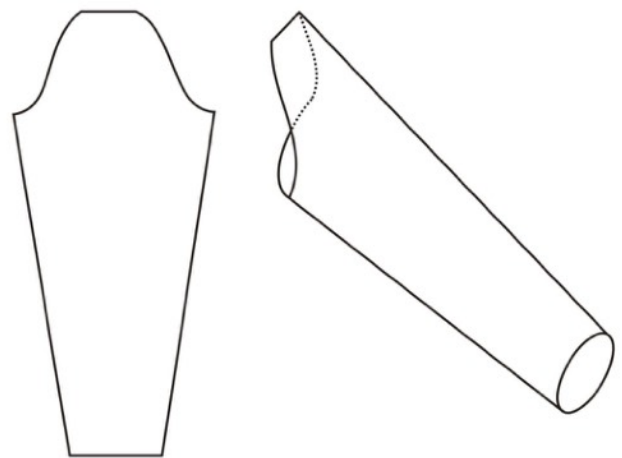
If you are working bottom-up, things need to be a little bit more planned, but the system is the same. Figure out how many stitches you want and work the increases up the sleeve.

Sleeves for Larger Sizes

Sometimes the larger sizes of a pattern do not have enough decreases at the sleeve, which results in cuffs that are way too loose (and impractical to wear). You can easily adjust this by working more decreases if you are working top down, or by casting on fewer stitches and increasing to the correct st count if you are working bottom up. If you usually have this problem, remember to check every pattern before working the sleeves!

MODIFYING A SLEEVE INTO A TOP-DOWN SET-IN SLEEVE

This method makes a great use of short rows. The bulging produced by them is a great resource to shape the sleeve tops at the shoulders.



To start, determine what will be the measurement of your upper arm circumference. Take into consideration the ease of the sleeve. Now figure out what the stitch count would be for your upper arm:

MEASUREMENT (inches) X ST GAUGE (per inch) = STITCH COUNT (to make things easier, we'll suppose this number is **60 stitches**).

Note: if you are modifying a pattern, you will probably have the measurement and the stitch count already calculated for you (if this is a bottom-up sleeve, this number will be the final stitch count of the sleeve before the sleeve cap shaping).

Now you have the most important number figured out. The rest is easy!

Another thing you should decide (and this will have more to do with the style of the sweater) is how deep you want your sleeve cap to be. A deep sleeve cap works better for sweaters that have accentuated armholes (narrow upper body), an intermediate, or a rather shallow sleeve cap (when the sweater has a more comfortable fit, in-between a set-in sleeve and a dropped shoulder). Remember this decision, as it will affect the way you work your instructions.



Pick up 60 stitches around your armhole opening. It is very important that you pick up the same amount of stitches from the front and from the back (30 st from the front, 30 st from the back.). You will be now ready to start a new round, so place a marker at the beginning of it.

There are a lot of ways to make the sleeves, and to customize them to perfection, but for me, there is a simple rule that works for almost any sweater, and it is quite simple to remember:

Row 1: Knit 66% of your stitches, wrap the next stitch and turn (or use a different style of short rows). In our example: Knit 40, w&t.

Row 2 (WRONG SIDE!): Purl 33% of your stitches, w&t.

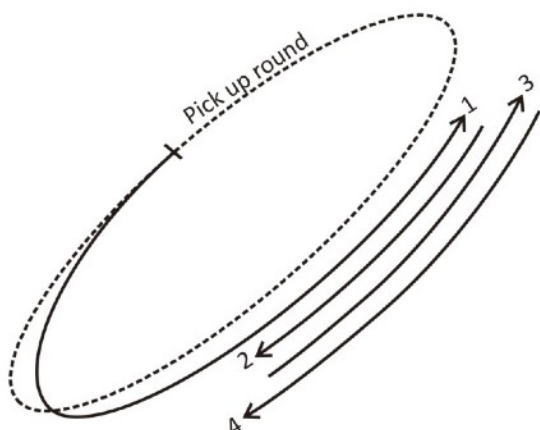
Row 3: Knit until you find your wrapped stitch and knit it together with its corresponding wrap. Now:

- If you want a deep cap (the most usual option for this style): Wrap the immediately next stitch and turn.
- If you want a medium cap: Knit 1 stitch, w&t.
- If you want a shallow cap: Knit 2 stitches, w&t.

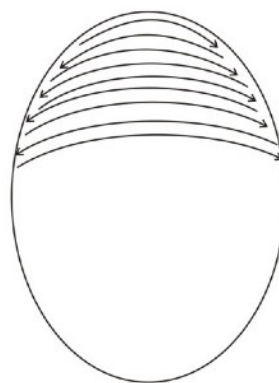
Row 4: Purl until you find your wrapped stitch and purl it together with its corresponding wrap. Now:

- Deep cap: Wrap the immediately next stitch and turn.
- Medium cap: Purl 1 stitch, w&t.
- Shallow cap: Purl 2 stitches, w&t.

What you just did, would be something like this:



If you continue to repeat rows 3 and 4, you will start getting closer and closer to the marker that indicates the beginning of the round (you will be 'using up' all your sleeve stitches as you make progress).



You can stop these repeats when you are 3-10 stitches from the marker (at each side). This number will depend on your gauge, personal taste, on how deep the armhole is... And it will not make a huge difference in the overall look of the sleeve.

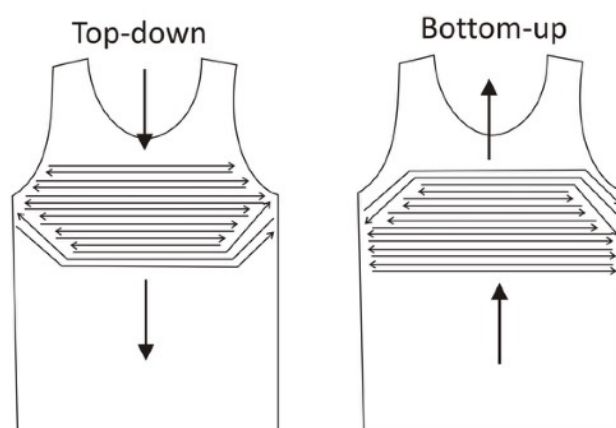
When all the repeats (short rows) are done, your sleeve cap is finished! All there is left to do is to work a full round, lifting the last wraps as you find them, and you will find yourself at the beginning of your sleeve, with the proper amount of stitches to work your way through it.

BUST SHAPING: DARTS

HORIZONTAL BUST DARTS

This type of darts uses short rows. They are useful especially for women with a big bust, to prevent sweaters from riding up in the front. The short-row technique comes in handy here because it can add length to a certain section of the body.

In this example, short rows are used to add length to the front of the sweater over the bust area.



You can make a sweater knitted in a smaller size adapt to a larger bust without all the extra fabric we would have if we sized the sweater according to the full bust measurement.

There are many ways to customize the darts, but to begin with, there are some things we must always consider.

- 1) Measure the length: Take an imaginary line above your bust and another one on your waist. Measure the distance between these lines down the side of your body, and over your full bust line. There will be a difference (if you are a busty girl) between these measurements, and this is how LONG your bust darts should be.

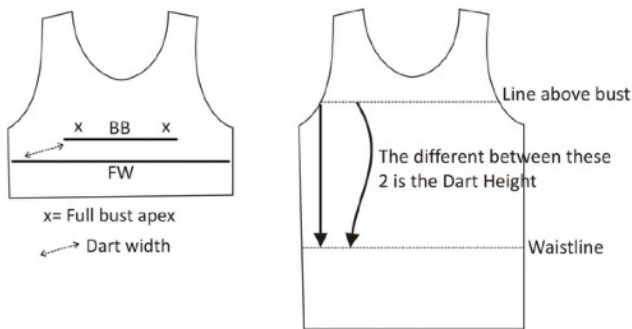
- 2) Measure the width: Generally speaking, we would say that bust darts should start 1" inside the side seam of the sweater, and end 1" before the apex of your full bust. This is a bit trickier, and it involves some math:

Measure yourself, from apex to apex of your full bust, and add 2" to this measurement. Let's call this measurement BB (bust to bust).

Take the front width of the pattern you chose (if you are knitting in the round, then take half of the bust measurement). We will call this measurement FW (front width).

To know how WIDE the bust dart must be:

$$(FW - 2'' - BB)/2 = \text{Dart width.}$$



And this is where the word gauge comes to play.

Let's say your measurements indicate that your darts must be 2" **LONG**: 2 X Row Gauge per inch = ____ rows.

And that they need to be 4" **WIDE**: 4 X Stitch Gauge per inch = ____ stitches.

This is flexible; we must not worry if we cannot accommodate all stitches or rows, just try to approximate to this number as much as we can!

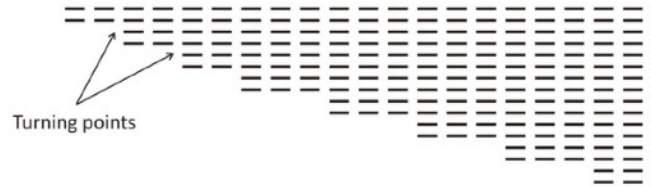
Let's suppose we have a gauge of 5 st and 7.5 rows per inch. In the example above, we would have:

$$2 \times 7.5 = 15 \text{ rows TALL.}$$

We need an even number of rows to make them symmetrical, so take this number up to 16 (we will have 8 turning points on each side).

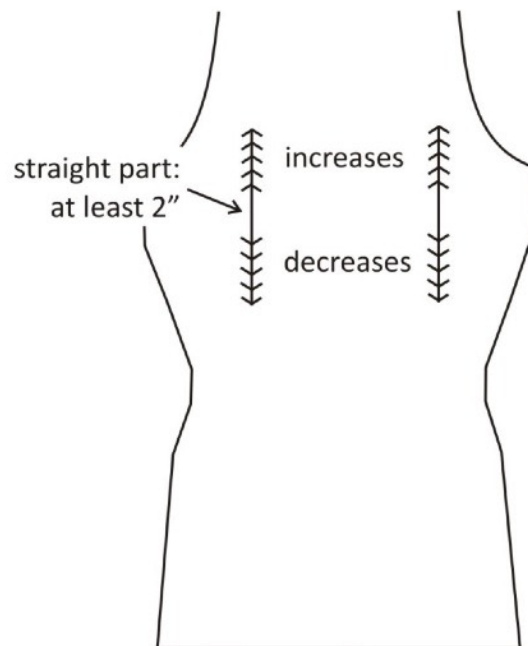
$$4 \times 5 = 20 \text{ stitches WIDE.}$$

So we basically need to distribute those 8 turning points for our short rows within 20 stitches. One would be able to do it randomly like this:



VERTICAL BUST DARTS

In the previous method, we saw how we could add room in the bust area by adding more rows in this section. Vertical darts, on the other hand, add more room by increasing the amount of stitches (not rows), so instead of making the garment LONGER in this area, they make it WIDER.



The key to this technique is to identify and mark a stitch (as you continue to knit, this stitch will form a column of stitches) that runs straight down the apex of each breast.

Once you mark that stitch with a marker at each side, the work is easy: You knit to the first marker, work an increase leaning towards the right, slip marker, knit the central stitch, slip marker and work an increase leaning towards the left. And then you repeat the process for the other breast, resulting in 4 stitches increased per row. Easy, right?

You repeat this process until you increase enough stitches to make room for your breast. Then you work a section without shaping (so that your boobs don't look like Madonna's) at least 2" long, and you reverse the shaping by working decreases.

For the decreases you work to 2 sts before the first marker, work a decrease leaning to the right, slip marker, knit 1, slip marker and work a decrease leaning to the left. And then you repeat for the other breast. You continue to repeat this process until you get back to the original stitch count, or until you use up all the stitches you had increased.

It all seems easy! But how many increases/decreases? How many rows in-between? When do I start?

If you are thinking of adding bust darts, you probably chose a size that matches the measurements of your upper torso (as explained before). So subtract the bust measurement of the size you chose to your full bust measurement. This number (in inches) should be multiplied by the st gauge per inch.

For example:

FULL BUST MEASUREMENT (46") - BUST MEASUREMENT OF THE CHOSEN SIZE (40") = 6"

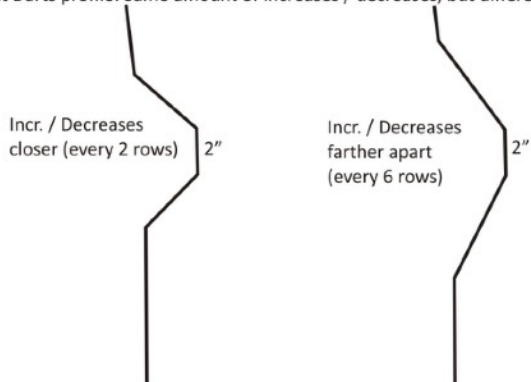
This means that you will need to add 6" of fabric to your full bust area. Now multiply that by your st gauge per inch.

BUST MEASUREMENT DIFF (6") X ST GAUGE PER INCH (5") = 30 st.

Now remember we will have 2 different darts (one for each breast), so we need to divide that number by 2. You should increase 15 st on each breast. But also, each dart will work with "pairs" of increases (one increase at each side of the central st), so we will round the number down to 14 to make it an even number. This means that we will have to work 7 sets of increases to achieve our final bust measurement, and then 7 sets of decreases to bring this number back to the original measurement.

The paired increases and decreases should be separated by an even number of rows. The closer they are, the sharper their shape will be; while the more separated they are, the more subtle they will look.

Bust Darts profile: Same amount of increases / decreases, but different shape

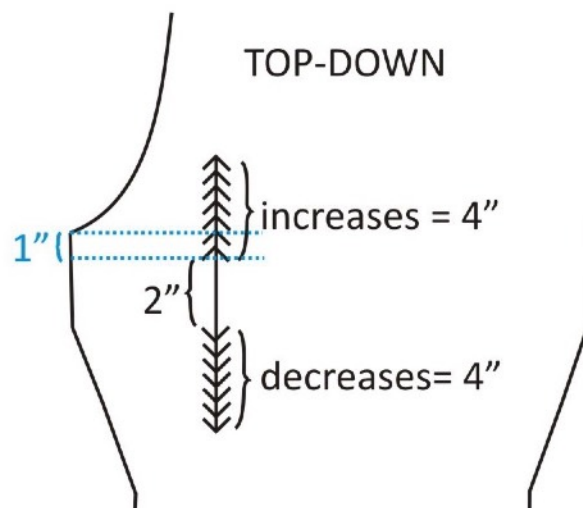


The increases should be complete (all done) at about 1" below the armhole (or 2" if you have a low bust line). Remember you need at least 2" of straight fabric between the increases and the decreases.

So, in this example, let's suppose your row gauge is 30 rows per 4".

You need 7 sets of increases, and since these are many increases, we will separate them by 4 rows. This means that your whole increase section will be 28 rows tall-----> Almost 4". This is how much the upper section of your dart will measure.

We said we need to finish all the increases 1" below the armhole (if we are working top-down), so you could start your dart shaping 3" before the armhole shaping.



OTHER CUSTOMIZATIONS

Adding Length to the back

If you just insert a couple of short rows within the fabric of the back of your sweater (no need to make them too short, you can bring both ends of these rows almost to the side seams), you will be adding some extra fabric here that will prevent it from riding up (especially useful if you wear low-rise jeans!).

For this, there is no need for any special technique: Just work in pattern to a couple of stitches before the end of row (or the side marker), wrap next stitch and turn. Work to a couple of stitches before the end of row (or the other side marker), wrap next stitch and turn.

You just add 2 rows this way every few inches to get a very subtle effect.

ROUNDED HEMS

This has been a very popular style for the last couple of years, so let's see how we can add this to our sweaters:

ROUNDED HEM TOP-DOWN

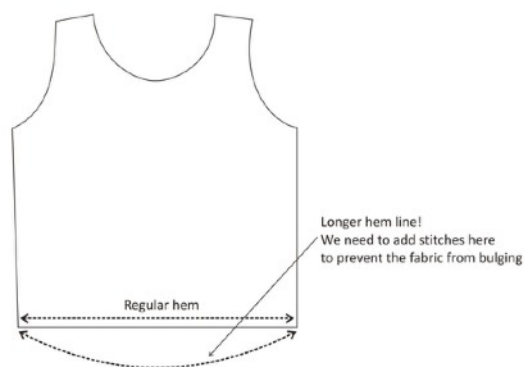
When you reach the desired length of the sweater (at the side seams) divide the body into front and back stitches, since the short rows will have to be worked separately. If you are working a sweater in pieces, you won't have this problem.

Start with the front, working a few short rows, not very close to each other, as you want some subtle shaping.

The one important thing you must understand is that in this case, you don't want the fabric that you are inserting to bulge outwards. You just want it to have a curved shape in the bottom of the sweater.

A curved line is obviously longer than a straight line (see the figure below), and what causes the fabric to bulge outwards when inserting full short rows is that both pieces of the fabric, over and below the short rows are the same length.

But if we add a few stitches to the fabric **BELOW** the short rows, then it will lie flat in a beautifully curved shape (this principle can be used for crescent shaped shawls too).



The easiest way to insert these stitches is to make increases **WHILE** making the short rows.

Row 1: Knit to 3 stitches before the side marker / end of row; increase 1 stitch (make-1-left), wrap next stitch and turn (or used your preferred short-row technique).

Row 2 (Wrong side!): Purl to 3 stitches before the side marker / end of row; increase 1 purled stitch (make-1-purl-left), wrap next stitch and turn.

Row 3: Knit to 4 stitches before the last wrapped stitch (the number 4 includes the st you increased on row 1), make-1-left, w&t.

Row 4: Purl to 4 stitches before the last wrapped stitch, make-1-purl-left, w&t.

As you see, with each set of short rows you increase 2 stitches (1 for each row) the final number of stitches. This will compensate the required length to make a curved line.

Work rows 3 and 4 just a few more times until you reach the desired depth of your curved hem, and then pick up all wraps.

When you finish your short rows for the front, work the short rows for the back, and only then you will be ready to work the ribbing or preferred edging (with a different stitch count than the rest of the body, of course).

SHIRT TAIL HEM

You can use the same techniques explained above, but in this case you just want to add length mostly to the back of your sweater. In this case, make sure that the marker indicating the beginning of the round is on the side seam just before the front piece.

Row 1: Knit 1/3 of your sts, m1l, w&t.

Row 2 (WS): Purl to BOR marker, sm, purl to the other side marker, sm, purl 1/3 of your sts, m1pr, w&t.

Row 3: Knit all the way to the BOR marker, now knit to 5 or 6 sts **BEFORE** your last wrapped st, m1l, w&t.

Row 4: Purl to 5 or 6 sts before your last wrapped st, m1pr, w&t.

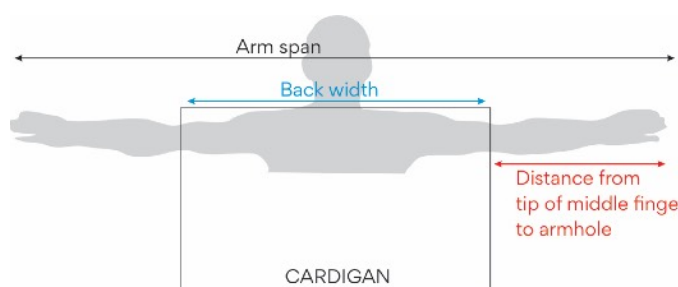
Repeat this process a few times, and you'll soon start wrapping sts that belong to the back piece.

Wrap only once or twice on the back, since you don't want to go too close to the center in this section.

Once you finish all your short rows, resume working in the round by picking up all the wraps, and then work hem.

HOW TO FIT A BOXY SWEATER

For boxy sweaters the fit is quite different, since most of the sweater won't conform to your body measurements. It greatly depends on how much ease you desire for that specific garment. However, Boxy sweaters fit best when the sleeves fit close to your body and are the right length. To do so, I like to measure my wingspan, then compare it to the sweater's with and figure out the armhole depth, sleeve circumference and sleeve length based on these calculations.



CONCLUSION

It would be great if every year we only wanted to wear classics, and our bodies always had the same measurements. Our wardrobes would have been full years ago, and we would only have to replace those items that are worn out.

But our bodies like to change all the time and so does fashion, trends and our own styles! So it's hard to find out what styles work best for us, and fitting sweaters is not always an exact science. I hope this workshop helped you gain confidence for your future projects!