

A sometimes-useful gauge-and-sizing hack for sweaters

by Deborah Robson

Swatching in practice

Sometimes the gauge I get doesn't exactly match the pattern I want to use, but I don't want to change patterns. The process I'm going to describe won't work well if there's a huge difference between the pattern's gauge specifications and the swatch, but I use it frequently when I get "close but not exact" with the specified gauge and I'm using a pattern that includes multiple sizes.

The "hack" involves using the stitch counts from a different size to accommodate my gauge.

I'm going to use the "Flax" pattern by Tin Can Knits as my example. It's available free so you can go look at it in detail, it is well written, and it has a lot of size options.

The regular "Flax" pattern calls for worsted- or aran-weight yarn at a primary gauge of 4.5 stitches/inch (18 stitches/4 inches). (I'll talk about primary gauge on the next page.)

<https://tincanknits.com/pattern/flax>

There is also a "Flax Light" pattern that calls for sock-weight (fingering-weight) yarn at a primary gauge of 6 stitches/inch (24 stitches/4 inches).

<https://tincanknits.com/pattern/flax-light?g=3>

(Both patterns have *optional* short-row shaping, which I'm going to ignore for the purposes of this discussion.)

A little gauge difference makes a big size difference

See the tables below for why we need to deal with a difference between the pattern's gauge and our swatch's gauge. It shows the significant difference in circumference that will result if we act as if we're "close enough."

Say I want to make a sweater with a 43-inch chest/bust measurement (size L). The "Flax" pattern at 4.5 stitches/inch calls for 194 stitches in the body to achieve that size.

If I get more than 4.5 stitches to the inch, my sweater will be too small. If my gauge is 5 stitches to the inch, 194 stitches will give me a 39-inch sweater.

Going the other direction, if I get fewer than 4.5 stitches to the inch, my sweater will be too large. If my gauge is 4 stitches to the inch, 194 stitches will give me a 48½-inch sweater.

Neither will do.

What happens to your sweater size if your gauge swatch shows that you . . .

have more stitches/inch than are specified?

194 stitches in body circumference divided by	
stitches/inch (2.54cm)	= body circumference
4.5	~ 43 inches
4.75	~ 41 inches)
5	~ 39 inches
5.5	~ 35¼ inches

Your sweater will end up too small.

have fewer stitches/inch than are specified?

194 stitches in body circumference divided by	
stitches/inch (2.54cm)	= body circumference
4.5	~ 43 inches
4.25	~ 45½ inches
4	~ 48½ inches
3.75	~ 52 inches

Your sweater will end up too large.

When I contacted Tin Can Knits to request permission to use some screenshots of "Flax" in my explanation (page 4), they were kind enough both to say yes and also let me know that they have some blog posts on exactly this topic! So to see more about this type of hack, check out <https://blog.tincanknits.com/2016/04/07/how-to-knit-a-garment-at-a-different-gauge/> and <https://blog.tincanknits.com/2018/02/01/off-gauge-guidance/>.

Here's the thing

This is the gist of the hack, although we'll walk through it more slowly in a moment: **you'll use the linear measurements for your target size and the stitch counts for a different size.**

Let's take a quick initial look at how to start the process. To help us keep track of the key items we're working with, I've made a table (below and repeated on the next page) that tracks the sizes for this pattern, their finished chest measurements, and the number of stitches in the chest circumference of the sweater.

Example 1:

- Say I've got 5 stitches to the inch and want a 43-inch (L) sweater.
- I'll want about 5×43 stitches in the body = 215 stitches.
- The number of body stitches in the 47-inch size (XL) is 212, which is in the right neighborhood (at this gauge, about a half-inch different*).

Example 2:

- Say I've got 4 stitches to the inch and still want a 43-inch (L) sweater.
- I'll want about 4×43 stitches in the body = 172 stitches.
- The number of stitches in the 39-inch size (ML) is 176, again in the neighborhood (at this gauge, about one inch different*).

Now let's look at how to go through the whole process, in more detail.

Checking out the pattern The pattern's primary gauge

What I'm calling the pattern's "primary gauge" is the body gauge. Usually there are two needle sizes specified, one (larger) for the main part of the sweater and one (smaller) for the ribbing or other finishes.

For "Flax," the primary gauge information is:

18 sts & 22 rounds / 4" in stockinette using larger needles

That's 4.5 stitches/inch. The pattern specifies smaller needles of US size 6/4mm and larger needles of US size 8/5mm (**or as required to meet gauge**).

Needle size means nothing. Only gauge matters. The suggested needle size can, of course, be helpful. For example, I know I knit loosely in comparison to most people, so my first needle size for swatching will always be two metric sizes smaller than the one that's recommended.

- For now, ignore rows per inch. All we care about at the moment is **stitches per inch**.
- For now, ignore the smaller needle size. We only want to figure out the **primary/larger needle**.

For the pattern, we have a primary gauge of 4.5 stitches/inch and . . . needle size to be determined by swatching, with a reference point of US size 8/5mm. (The smaller needle will be proportionately smaller than our primary needle.)

Stitch counts in the body/chest circumference

The other component of the pattern that we'll be keeping an eye on is the number of stitches in the body/chest circumference. This is the key measurement in sizing a sweater.

So now you want to hunt down how many stitches the pattern uses for the chest or body circumference. On "Flax," this is measurement **a** in the schematic and the table on page 2 and the stitch counts are found on page 4, in the righthand column where it says "Separate body and sleeves" (at the arrow). At the end of that section, it says:

Sleeve sts are on hold and there are 80 (88, 92, 100, 108, 118, 126, 140, 150, 158, 166, 176, 194, 212, 230, 248, 262, 278, 296) body sts on the needles.

"Body sts" means you're in the right place. Another clue is in the next section where it says:

Work in stockinette (knit every round) until body measures. . . .

The pattern is written in a sensible way with the children's sizes in regular type and the adults' in boldface.

* There is usually about 2 inches difference between sizes. A half-inch to one-inch difference can generally be accommodated in blocking.

	Children's sizes							Adult sizes											
	months		years					XS	S	SM	M	ML	L	XL	XXL	3XL	4XL	5XL	6XL
size	0-6	6-12	1-2	2-4	4-6	6-8	8-10												
chest (inches)	18	19.5	20.5	22	24	26	28	31	33.5	35	37	39	43	47	51	55	58	62	66
stitches in body	80	88	92	100	108	118	126	140	150	158	166	176	194	212	230	248	262	278	296

Notes:

1. Dimensions usually refer to the finished garment, not the body underneath. I do a quick math check to confirm this: 194 stitches ÷ 4.5 stitches (the pattern gauge) = 43.1 inches. Bingo.

2. Ease is the difference between the circumference of the body and the circumference of the garment. It can vary by style, size, and individual preference, can be positive or negative, and is a whole separate topic. Between 2 and 4 inches of positive ease is a place to start.

Checking out yarn/needle/gauge options
Gauge and the fabric's hand

Next we'll switch away from the pattern and focus on discovering the hand of the fabric you like best with the yarn you'll be using. In theory, the yarn is not wildly different than what the pattern was designed for. However, the fabric you like may come out at a quarter- or a half- or a whole stitch different in a 4-inch section than the pattern's specs, and as we've seen, that can throw the finished size off by enough to make you wish it fit.

In other locations, I've talked about my swatching process. For "Flax" I would cast on 22 stitches, for a center

stockinette portion of 18 stitches (4.5 × 4 inches, based on the original pattern gauge) and a 2-stitch garter border on each side. This is what's illustrated in the images below.

At this point you primarily want to know if you like the fabric you are getting. You may like the fabric at 4½ stitches per inch. When you use a larger needle size and get 4 per inch, the fabric may feel pleasanter—or too loose. When you use a smaller needle size and get 4¾ per inch, you may like the density or it may be too tight and stiff. It's worth doing more than one swatch to find out what you like best.

KEEP each of your swatches so you can compare them to each other. Be sure to record which sizes of needles you used. You can always reclaim the yarn for the actual sweater if you end up needing it. It's best to judge a washed/dried swatch. I sometimes skip this, but . . . it's much wiser not to. The more years I knit, the more consistently I wash and dry my swatches.

The fabric feels best at _____ stitches/inch.

For this example, let's say you want that 43-inch sweater, the pattern has been written for 4½ stitches per inch and you like the swatch best at 4 stitches per inch and you achieved that on 5.5mm needles (body/primary size).

size	Children's sizes							Adult sizes											
	months		years					XS	S	SM	M	ML	L	XL	XXL	3XL	4XL	5XL	6XL
0-6	6-12	1-2	2-4	4-6	6-8	8-10													
chest (inches)	18	19.5	20.5	22	24	26	28	31	33.5	35	37	39	43	47	51	55	58	62	66
stitches in body	80	88	92	100	108	118	126	140	150	158	166	176	194	212	230	248	262	278	296

Key swatch

Swatch #1:
 18 stitches = 4 inches/10cm
 4½ stitches/inch
 194 stitches = 43.1 inches/109cm

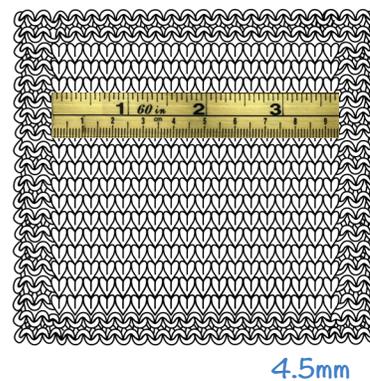
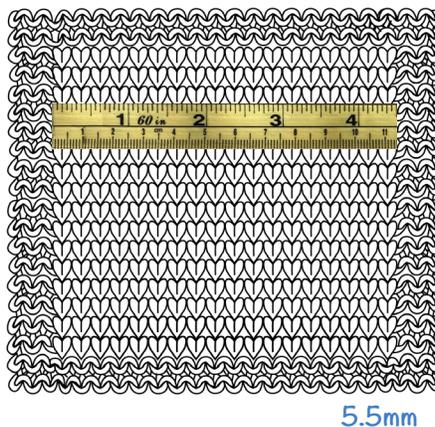
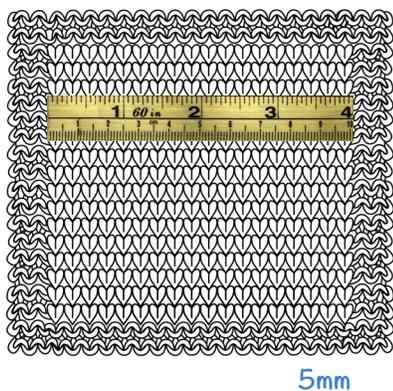
Using a bigger needle

Swatch #2:
 18 stitches = 4½ inches/11.4cm
 4 stitches/inch
 194 stitches = 48.5 inches/123cm

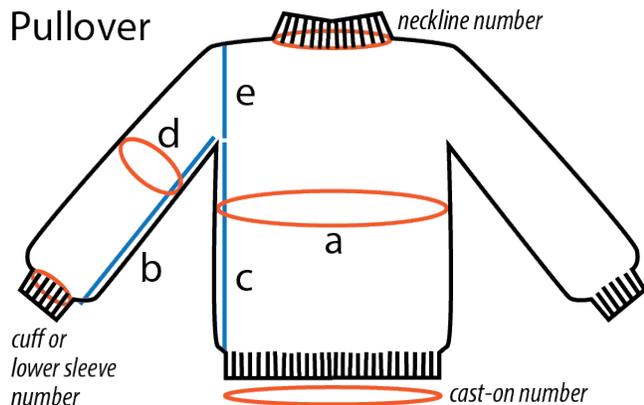
Using a smaller needle

Swatch #3:
 18 stitches = 3¾ inches/9.5cm
 4¾ stitches/inch
 194 stitches = 40¾ inches/104cm

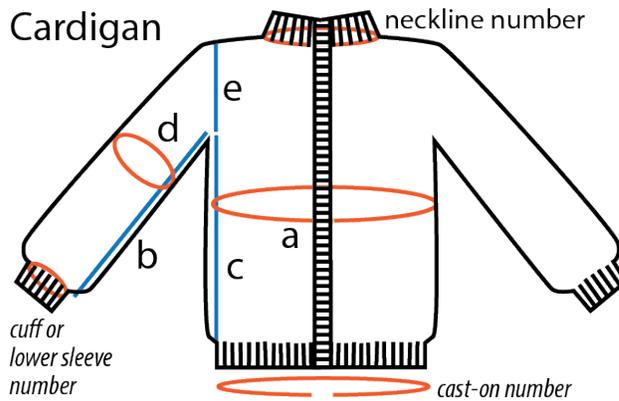
Keep in mind that knitting is flexible. Although we're being careful with gauge, 4.8 (swatch #3, 18 ÷ 3.75) can become 4.75 (4¾).



Pullover



Cardigan



Sweater dimensions indicated in RED are stitch-dependent and will be determined by the gauge. Sweater dimensions indicated in BLUE are length-dependent and will be determined by a tape measure or ruler. With regard to yarn quantities: they will vary, depending on your gauge (more stitches to the inch, more yarn). You do have an extra skein, don't you?

- a** = body circumference
- b** = sleeve length from underarm
- c** = body length from underarm
- d** = upper sleeve circumference
- e** = armhole or yoke depth

Finding the hack

Here's where the fun starts.

To achieve a 43-inch chest circumference on the sweater at 4 stitches/inch, the number of stitches you want for the part that says "work . . . until body measures" is $43 \times 4 = 172$.

- The 43-inch size is adult size L on the pattern.
- The closest to 172 in the chest stitch count is adult size ML.

You'll be using:

- **Stitch counts from size ML.**
- **Length measurements from size L.**

In practice

The images above are generic diagrams of sweaters, not specifically from "Flax." The details to the right, however, are taken directly from the pattern itself, with kind permission from Tin Can Knits.

To make working the pattern easier:

- I highlight the stitch counts and measurements I'll be using (I don't usually color-code as I have on the examples, but it can be useful)
- I cross out stitch counts and measurements I don't need
- I cross out options I don't need

size note:

The pattern includes the following sizes, which will be referred to in this order unless otherwise noted: 0-6 mo (6-12 mo, 1-2 yrs, 2-4 yrs, 4-6 yrs, 6-8 yrs, 8-10 yrs, **Adult XS, S, SM, M, ML, L, XL, XXL, 3XL, 4XL, 5XL, 6XL**).

pattern:

This sweater is worked in the round from the top down. You cast on at the collar, the yoke is knit, sleeve sts are placed on hold on waste yarn, the body is completed, then sleeves are knit last.

yoke:

There are two options for working the cast-on. Option 1 is the most straightforward - simply cast on, work the ribbed neckline, then proceed through the yoke. **For Option 2 you cast on and immediately begin the yoke, then return later to pick up stitches along the cast-on edge and work the ribbing. Option 2 adds a little more structure at the neckline which is especially useful in larger sizes.**

Option 1: Using smaller circular needles **cast on 56 (62, 68, 74, 74, 76, 78, 86, 86, 86, 90, 90, 90, 96, 96, 96, 96) sts**, place BOR marker and join for working in the round.

Establish 1x1 ribbing: (k1, p1) around

Work in ribbing as established (knit the knits and purl the purls) until piece measures $\frac{1}{4}$ (1.5)" from cast-on for **Child (Adult)** sizes. Change to larger needles.

Option 2 (added structure): Using larger circular needles **cast on 56 (62, 68, 74, 74, 76, 78, 86, 86, 86, 90, 90, 90, 96, 96, 96, 96) sts**, place BOR marker and join for working in the round. Knit 1 round.

All options:

Next round: knit, increasing $\frac{1}{4}$ (4, 4, 4, 8, 16, 12, 18, 22, 26, 24, 36, 46, 48, 54, 56, 72, 86) sts evenly spaced

[60 (66, 72, 78, 82, 94, 96, 104, 108, 112, 114, 126, 136, 144, 150, 152, 166, 182) sts]

Marker set-up: [p10 (11, 12, 13, 13, 14, 14, 15, 15, 15, 15, 16, 16, 17, 17, 17, 19, 21), PM, k20 (22, 24, 26, 26, 33, 33, 34, 37, 39, 41, 42, 47, 52, 55, 58, 59, 65, 70), PM] twice (these raglan markers indicate divisions between right sleeve, front, left sleeve, and back sections)

Set-up round 1: [kfb, knit to 2 sts before raglan marker, kfb, k1, SM] 4 times [8 sts inc - 2 per section]

Set-up round 2: [k1, p10 (11, 12, 13, 13, 14, 14, 15, 15, 15, 15, 15, 15, 16, 16, 17, 17, 17, 19, 21), k1, SM, knit to marker, SM] twice

separate body and sleeves:

On the next round the body and sleeves are separated. Sleeve sts are placed **on hold on waste yarn** (using a darning needle, thread waste yarn through live sleeve sts). Keep BOR marker in place, all other markers can be removed.

Next Round: [place 26 (29, 30, 31, 33, 34, 38, 43, 45, 47, 49, 53, 58, 62, 67, 71, 77, 79, 83) sts on waste yarn (the sts from BOR to first raglan marker), using **backwards loop method** cast on $\frac{1}{4}$ (4, 4, 6, 6, 6, 6, 8, 8, 8, 8, 8, 8, 10, 12, 12, 14, 16) sts, knit to marker] twice

Sleeve sts are on hold and there are 80 (88, 92, 100, 108, 118, 126, 140, 150, 158, 166, 176, 194, 212, 230, 248, 262, 278, 296) body sts on the needles.

body:

Work in stockinette (knit every round) until body measures

For regular length: 5 (5.5, 6, 7, 9, 12, 14, 13.5, 13.5, 14.5, 14.5, 15.5, 16.5, 17, 17.5, 18.5, 18.5, 18.5, 18.5)" from underarm (or $\frac{1}{4}$ (1.5)" short of desired length for **Child (Adult)** sizes).

~~**For cropped length:** 3 (3, 4, 5, 6, 7, 8, 8.5, 9.5, 9.5, 9.5, 10.5, 11.5, 11.5, 12.5, 12.5, 12.5, 12.5, 12.5)" from underarm (or $\frac{1}{4}$ (1.5)" short of desired length for **Child (Adult)** sizes).~~

All options: Change to smaller needles and work in 1x1 ribbing for $\frac{1}{4}$ (1.5)" for **Child (Adult)** sizes. Bind off all sts loosely.

stitches at chest/bust

"Highlight" can mean actually highlighting, circling, or just crossing out everything that I don't need. I like obvious markers. I also mark changes

in needle size (and write in the needle size I will be using).

Keep a sharp eye for the **p** or **k** at the beginning of a series (as I've marked with fuchsia asterisks in "Marker set-up" and "Set-up round 2" in the middle column of this page).

If you were following this path through the pattern, you would now be ready to pick up your 4.5mm (smaller) needles, cast on 90 stitches, and start your $1\frac{1}{2}$ inches of ribbing.

Pattern images in columns 2 and 3 <https://tincanknits.com/pattern/flax> © Tin Can Knits 2020, used by permission.