

Some thoughts about gauge and swatching with regard to sweaters

by Deborah Robson

Gauge matters when you want to knit a sweater that fits the way you want it to. How much does it matter? Imagine you're knitting a sweater where there are 200 stitches in the body circumference. The chart shows how the size changes with a difference of only one stitch in 4 inches or 10cm. Depending

on your stitch gauge, the resulting garment may fit a toddler (finger-weight yarn) or a generous adult (bulky-weight yarn). The chart also includes likely yarn sizes to achieve those stitch counts (with approximate wraps per inch) and the calculated chest/bust circumference of the resulting sweater (using

Craft Yarn Council data).

Hint: The best way to determine the chest circumference you want is to measure a sweater that fits the recipient the way you want, ideally a pullover for a pullover pattern, although a buttoned cardigan can work if it needs to. That number is _____ inches/cm.

200 stitches in body circumference							
yarn weight and approx. wraps/inch	divided by number of stitches in		= body circumference of garment (rounded)		2-4" (5-10 cm) ease*		
	1 inch or 2.5cm	4 inches or 10cm	inches	cm	child/youth	women's sizing	men's sizing
Bulky (6-9)	3	12	67	165		"Standard" measurements for these sizes are not uniform: check the pattern	
	3.25	13	62	155			
	3.75	15	53	135			
Worsted/Aran (9-12)	4	16	50	125		XL	XL
	4.25	17	47	120		XL	L, XL
	4.5	18	45	110		L	L
	4.75	19	42	105		M, L	M
	5	20	40	100		M	S, M
	5.25	21	38	95		S, M	S
DK, lt. worsted (11-15)	5.5	22	36	90		S	S
	5.75	23	35	85		XS, S	
Sport/Baby (12-18)	6	24	33	83		XS	
	6.25	25	32	80	10	XS	
Fingering/Sock/Baby (14-30)	6.5	26	31	77	10	XS	
	6.75	27	30	75	8, 10	XS	
	7	28	29	71	6, 8		
	7.25	29	28	69	6		
	7.5	30	27	67	4, 6		
	7.75	31	26	65	4		
	8	32	25	62	2		

* The desired amount of ease will depend on personal preference and can vary significantly by size and style. It can be negative (body-hugging) or very loose, or anywhere in between. The notes here just give one example.

Stitch gauge & row gauge

Most sweater patterns give both a stitch gauge and a row gauge. For almost all designs, the **stitch gauge is crucial** for getting a predictably sized garment. The row gauge is useful information, but if it is critical for any reason the pattern will usually state that and give a reason why. Most row-gauge-dependent measurements are determined with a tape measure.

So pay attention to the stitch gauge and let the row gauge take care of itself (barring the unusual design, and see the note on page 2).

How I swatch

I don't know about you, but I find it very fiddly to try to count stitches on a gauge swatch. The technique I use eliminates that step. All I have to do is measure the interior (usually stockinette) portion of my gauge swatch. How do I do this? I count the stitches when I cast on!

Here's how I go about it, and there are diagrams of some sample swatches on the next page.

For relatively regular yarns, I make a gauge swatch with a stockinette center of about 4x4 inches/10x10cm (the horizontal

measure matters most: I knit to make the swatch approximately square both for aesthetic reasons and to be sure I have enough fabric to measure easily). For moderately irregular yarns, I make a swatch with stockinette center of about 6×6 inches/15×15cm. For an extremely uneven yarn or under other extraordinary circumstances, I might go larger. For the most part these two sizes have served me well.

For my cast-on, I'll use the number of stitches that are "supposed" to be in either 4 or 6 inches (10 or 15cm) plus 4—the latter will constitute two stitches of garter edging.

Thus if the pattern I'm considering calls for 16 stitches in 4 inches/10cm, I'll cast on 20 stitches for a 4-inch swatch (16 + 4) or 28 stitches for a 6-inch swatch (1.5 × 16 = 24 + 4 = 28). If I don't have a pattern in mind and simply want to see how a yarn performs, I'll choose a specific number for the center section—16, 20, 24, or similar—and make a note of my choice

so I don't have to count later.

I knit a couple of rows of garter stitch to begin and end the swatch, and keep the two edge stitches at each side also in garter stitch (most of my baseline swatches are stockinette, but the center can be a pattern stitch if that seems more useful).

Then it's easy to measure the predetermined number of center stitches and see if I'm getting the specified gauge or something else.

Do wash and block your swatch before measuring. Treat the fabric in your swatch in the way you plan to treat the finished garment.

Personal knitting quirks

A quick note to acknowledge that some people's gauges can differ depending on what they are knitting and how they are knitting it. Some of the factors that may alter your gauge include:

- working flat or in the round
- rowing out (different tension on knit and purl rows)

- throwing or picking
- combination knitting
- needle type

If your knitting practice is affected by these, you probably already know it. There are resources on the internet to show how to manage these issues, which are beyond the scope of this discussion, and you can still use the ideas presented here.

Row gauge revisited

If your row gauge varies from the pattern specifications, it won't be by much. When necessary, you can slightly alter the frequency of increase or decrease rows or rounds. I rarely find that this is needed.

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. I've put together a separate document on a sizing hack that I frequently use.

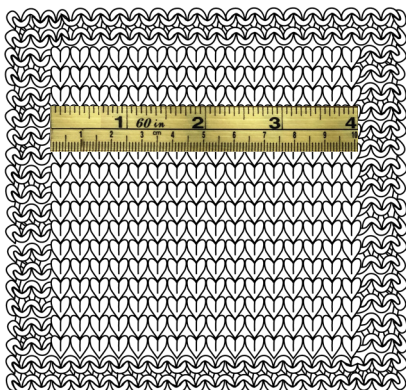
Here are three sample swatches with 16 stitches in the center, along with their measurements and the math to demonstrate (1) how many stitches would be required for a 40-inch (102cm) sweater circumference and (2) the circumference if 160 stitches were used. A relatively minor swatch difference makes a difference of one or two sizes in the resulting sweater.

Swatch #1:

16 stitches = 4 inches/10cm

(4 stitches/inch or 2.54cm)

160 stitches = 40 inches/102cm



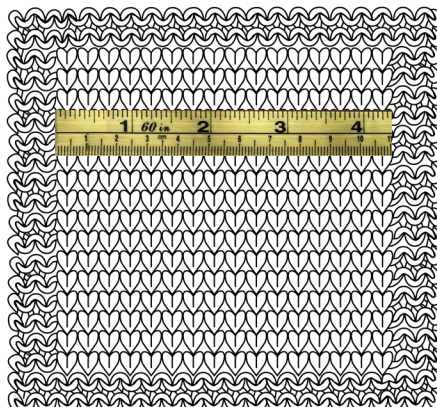
Swatch #2:

16 stitches = 4 3/8 inches/11cm

(3.6 stitches/inch or 2.54cm)

144 stitches = 40 inches/102cm

160 stitches = 44 1/2 inches/113cm



Swatch #3:

16 stitches = 3 7/8 inches/9.8cm

(4.12 stitches/inch or 2.54 cm)

165 stitches = 40 inches/123cm

160 stitches = 38 3/4 inches/98.5cm

