We will begin with the body of our sweaters, which begin at the hem and are then worked up to the armpits. This week will cover the considerations of hems, and what stitches and treatments work for the hem that you want. The hem is the bottom border of the sweater. We will also begin with an easy calculation, so that you may cast on and work your hem in time for next week's lesson.

Choosing your Hem Pattern
Stockinette stitch (and stockinette-based stitch patterns where the wrong side of the fabric is purled) curls naturally, which is a result of the knit side of the stitch actually being smaller than the purl side. So unless you want a rolled edge on your sweater (and some people, I’m sure, do!) you’ll need to work the first few inches of your sweater in a stitch pattern that is composed fairly equally of knit and purl stitches. Some very popular and easy hem treatments are Garter stitch, Seed stitch, Moss stitch, and any type of ribbing. Turned hems are also an option--more on those later!

If you don’t have a knit/purl pattern in mind already, then you may want to consult a stitch dictionary. Look for “knit/purl” patterns, or any stitch that appeals to you that combines knit and purl stitches. Vertical motifs are the ones most commonly used for hems. Swatch the patterns you are considering, if you like, so that you can get a sense of how they work with your chosen yarn and how they interact with the stockinette fabric you will use for the rest of the sweater. It may be necessary to use another needle size to make the stitch gauge of your hem match that of your sweater. If you are knitting a basic stitch, like two-by-two ribbing, however, further swatching is probably not necessary.

Many knitting patterns direct you to cast on with a needle one or two sizes smaller than the one you intend to use for the bulk of the pattern. This is because tighter cuffs and waistband make a warmer sweater, with fewer gaps to let chill air in. If this sounds like what you want, then you should feel free to use a smaller needle. The other advantage of casting on with a smaller needle is that the tighter stitches are more even looking, forming a neater hem. Also, some stitches in which the knits and purls do not stack in neat columns, such as seed stitch and garter, are wider than stockinette, and using a smaller needle on these sections will make them match the width of the rest of the sweater better. That said, I did not bother with this and just cast on with the needle size I plan to use for the whole piece.

Choose a hem treatment that you like, and you’re almost ready to go!

Identifying the Repeat
I chose a k3, p1, k1, p1 ribbing because it looks a little fancier than a plain ribbing, and because it will transform easily into a one-by-one ribbing which I intend to use later in the piece. Whatever border treatment you decide to use, you’ll need to identify the number of stitches in the repeat.

My chosen pattern has a 6-stitch repeat. The repeat is the number of stitches before the pattern repeats again; so a k2, p2 rib has a 4 stitch repeat, and a k1, p1 seed stitch has a 2 stitch repeat. Garter stitch can be worked over any number of stitches and has no repeat—it will work for any stitch count. You probably shouldn’t go higher than an 8 stitch repeat, for convenience…but if you are in love with a 12 or 20 stitch pattern then it is definitely possible (with some resourcefulness) to make it work! Once you have identified your repeat, you know your gauge and your desired measurements (which you calculated at the end of the last lesson!); you are ready to cast on!

First Steps
We’ll begin with the torso, or body of your sweater. To calculate your number of cast-on sts, refer to your gauge and
Multiply A by 2 to get the circumference all the way around the hem of your sweater

\[ A \times 2 = \ldots \]

Now, multiply this number by S = \ldots

In my case, S equals 4.75 stitches to the inch, and my desired measurement for the hem of my sweater is 34 inches. So I’ll multiply 34 by 4.75, which equals 161.5 stitches.

First of all, it is not possible to cast on fractional stitches, so I’ll have to round this number up or down to a whole number of stitches.

Second of all, I need to make sure that my cast on number is divisible by the REPEAT of my chosen border treatment. Since the stitch pattern I’m using has a repeat of 6 stitches, I need the number of stitches I cast on to evenly divide by 6. 162/6 = 27 so I will cast on 162 sts. Make sure to test your number carefully—if you don’t you will not end up with a full repeat of your stitch pattern at the end of your round.

The number you calculated above, rounded to the nearest whole number that divides by your hem stitch repeat, is your cast on number = \ldots

**Turned Hems**

A turned hem is a tailored hem which blends in completely with the fabric of the sweater. One the right side it is smooth stockinette, but unlike a plain stockinette hem, it does not curl! This is achieved by a hem facing that is knitted and sewn to the inside of the sweater. If you are working a turned hem, begin in stockinette; you will return to the CO edge at the end of the sweater to knit the inside hem facing.

**Knitting the Hems**

When you know what needle size you’re using for the hem, CO the number of stitches you calculated onto a circular needle many inches shorter in circumference than your intended measurement, and place a marker for the beginning of the round. I also placed a marker for the midpoint of the round, which will not be useful until later, so you are under no obligation to do so yet. Now, begin knitting in your chosen hem stitch!

Work in your chosen stitch pattern for a few inches. You may choose this number arbitrarily, or refer to your sample garment for the length. I’ll be going for 4 inches, because I like the look of deep ribbing, but many find this a little long and work only for 2 or 3 inches. It is up to you! Refer to your favorite sweater or any sketches you have made to figure out the hem length that will work best for YOU.

When you are done with the hem length, you will switch to stockinette. In the next lesson, we’ll go over how to work waist and bust shaping into the torso; but if you want a sweater with a straight body, you can skip that class and just work in stockinette until your piece is as long as the measurement labeled “E” on your schematic. Check your favorite sweater or sketch to see if you want waist shaping—if the body is a straight tube then you can skip it, but if there are any curves to accommodate bust or hips, then you will want to work some shaping.

If you do want to work waist shaping, stop after your hem is complete. In the next lesson, we will be discussing shaping in the body of the sweater, and I promise to walk you through the math as painlessly as I can.