Quokka Socks

There are some great sock patterns available but I really wanted to record a formula for socks that can be used for almost any yarn/hook combination. I also wanted the socks to be worked from the toe up so that you can easily try them on as you go and to have short-row heels because they're neat and simple. Additionally, I wanted the socks worked in extended single crochet because it's thin, and smooth and stretchy (for crochet).

Hence, the Quokka Socks pattern. I named this pattern after the cute little marsupials that only live here in Western Australia - famously on a small island off the coast where Roger Federer took a selfie with some of them last year.

Materials
Any yarn between a 4ply sock weight and a 12ply aran weight using a hook that gives you a firm fabric. The amount of yarn you need will depend up the size of sock you make, the length of leg you work and the weight of yarn you use. For example, I only used 56g for my 4ply socks but that's light weight yarn and I made very short leg sections because I wanted ankle socks.

Gauge
A gauge swatch is essential for this project and it won't take long.
Make a chain 5" long and work at least 5 rows of extended single crochet (esc) so that you can measure your 4" worth of stitches well in from the edges (no need to work in the round – this will be near enough). Count the number of stitches you have in a 4" section and divide that number by 4. That's your gauge in stitches per inch (spi) which you'll use in the stitch count calculation below. **G =**

Notes
Standard American terminology used.
scinc = single crochet increase - work 2 sc into the same stitch.
esc = extended single crochet – please google if you're not sure.
sc2tog = single crochet 2 together to decrease – again, please google if you're not sure.

Sizing and fit

I made the socks shown here in a sock weight yarn with a 2.5mm hook at a gauge of 7 stitches per inch (spi). You can, however, use the pattern with almost any yarn/hook combination with a little bit of maths. *[My calculations/workings are shown in square brackets throughout the pattern as an example.]*

Measure foot and calculate stitch count and starting chain

1. Measure foot length.
2. Calculate sock length, L, by subtracting a negative ease of 0.5" from foot length.
3. Measure foot circumference (at ball).
4. Calculate sock circumference by subtracting negative ease of 0.5" to 1" from foot circumference (crochet is not stretchy so allow less ease than hand knitted and commercial socks)
5. Calculate stitch count, S, for the foot and leg sections by multiplying your gauge in stitches per inch (G) by your sock circumference (and round that number to the nearest multiple of 4).
6. Divide your stitch count, S, by 5 to get F, the number of sc for the tip of each side of toe. If you want a longer, narrower toe, subtract 1 or 2. If you want a shorter, wider toe, add 1 or 2.

1 longer, narrower toe

2 regular toe

3 shorter, wider toe

Your calculations:

Sock length, L =

Stitch count for main sections, S =

Stitch count for beginning each side of toe, F =

[My Calculations:
Foot length = 9.5" so L = 9.5 – 0.5 = 9"
Foot circumference = 8" so, for a negative ease of 0.5", my sock circumference is 7.5".
My gauge is 7 esc spi so, stitch count calculation = 7 x 7.5 = 52.5 and (after rounding) S = 52.
Divide S by 5 = 10.4. But, I wanted a longer, narrower toe so I used F = 8.]

Instructions

Toe

Worked in single crochet.
Foundation: ch F + 1 (F for the stitch count each side and 1 for the turn)
R1: sc in 2nd and each ch to end; rotate and work 1 sc in each bottom side of the chains (2F)
R2: (scinc, sc in next 6, scinc) twice (2F + 4)
R3: sc in each sc around with no increase (2F + 4)
R4: (scinc, sc in each sc to 2nd last sc on side, scinc in last sc) twice (2F + 8)

Continue repeating rounds 3 and 4 until you have the stitch count, S, you calculated above. You may need to work your last round with only 2 increases (1 each side) to get to your S.

Note: Because of the natural drift of the single crochet stitch, you might want to work an extra sc at the end of some odd numbered rounds to slightly shift the start of your next round and cause your increases to fall at the side edges. Ignore that extra stitch in your counting – just start counting the next round's stitches from the scinc at the beginning of the round.

[I worked 18 rounds till I had 52 stitches.]

Take a note of the length of your work so far (toe depth).

T =   *[My toe depth (T) = 2.25".]*

Foot

Switch to extended single crochet (esc).
Proceed by working in unjoined continuous rounds of esc until your work measures your sock length, L, minus your toe depth, T. This calculation works because the heel has almost the same depth as the toe.

The length of your work to just before the heel = L – T =

[My sock length L = 9" and my T = 2.25" so I worked until the foot measured 9" - 2.25" = 6.75".

Heel

Switch to single crochet (sc).
The heel is worked in rows on only half of the sock stitches H = S/2.

H =   *[My H = 26.]*

For a standard short-row heel, you start with half the stitches (H), decrease down to half the number of stitches in the toe after R1 (F) then increase back up to H stitches.

Lay your sock down so that the foundation chain of the toe is flat. You should have finished your last foot section round at one side edge but, if not, esc across till you are at the side.

Shortening rows:

Here, by leaving the last stitch unworked on each row after R1, you decrease your stitch count and create bumps at the edges which will be smoothed out as you work the second (lengthening) half of the heel.

R1: ch1, turn, **sc** in H stitches across (working on the wrong side i.e. from inside your sock) (H)
R2: ch1, turn, sc in H - 1 stitches (i.e. decreasing 1 at end of row by leaving 1 stitch unworked) (H-1)
Repeat R2 until only F stitches remain, finishing with a wrong side row (F)

[I worked 19 rows, decreasing from 26 down to 8. (first row has no decrease)]

Lengthening rows:

You will increase 1 stitch at the end of each row until you have H stitches again.
The tricky part of short row heels is making the ends of the lengthening rows neat and non-gappy. You need to smooth out the bumps created on the shortening rows and there are a few ways to do it. I saw this method in Milobo's *Socks that Fit!* and it's the best I've seen. I'm not sure if Milobo created it but I'm glad she used it there.

R1: ch1, turn, sc in F sc across row, sc in side of last stitch, ss into the previous row's unworked stitch (this fills in the bumps and starts creating a smooth edge) ((F+1) sc – the ss is not counted)
R2: (no ch), turn, skip ss, sc across row, sc in side of last stitch, ss into unworked stitch just below it. (F+2)
Repeat R2 until all of the bumps have disappeared, finishing with a wrong side row (H)
[For me that was 18 rows.]

Leg

S*witch to extended single crochet (esc) and working in continuous rounds on the right side.*

There will be a small gap on each side between the heel and the instep which you close by adding a couple of extra stitches. Just choose a couple of loops evenly spaced across the gap and work sc stitches into them. You decrease the extra stitches out again in the following rounds.

R1: (no ch), turn, esc H stitches across the top of your heel, sc twice into the gap, esc across H instep stitches, sc twice into the gap. (S + 4)
R2: (esc in next H stitches, sc2tog) twice (S + 2)
R3: (esc in next H-1 stitches, sc2tog) twice (S)
R4: esc in each stitch around (S)
Repeat R4 until leg is desired height (allowing for the cuff to come).

[I wanted ankle socks so only worked 9 rounds for a length of 1.3"]

Cuff

R1: *(fpdc around next stitch, esc in next stitch), repeat from * to end of round.
Repeat R1 until you have the depth of cuff you like.

To finish off, smooth out the jog at the end of the last round by working the last post stitch as an fpsc (instead of a fpdc) then work a slip stitch into the stitch following it.

[I worked 2 cuff rounds.]

Thanks for chosing this pattern. I hope you enjoy making these socks.