

Crystalline Lattice knit with CPY Panda Wool (bamboo-wool-nylon)

Designed by Janice Kang

Crystalline Lattice Socks

Designer Notes

The slipped stitch cable pattern in the cuff resembles the gamma Se crystal structure,

<http://cst-www.nrl.navy.mil/lattice/struk.jmol/a8.html>. A 3x1 rib pattern at the top flows smoothly into the lattice pattern and then into the slip stitch heel flap. The crystalline lattice stitch pattern is not as stretchy as a typical rib, so the cuff may have more stitches than you are used to.

Materials

Yarn: Two (50gm/170yd) skeins of [Crystal Palace Panda Wool](#) yarn
Fingering weight waste yarn

Needles: Five double pointed needles 2.5mm or size needed to obtain gauge
Tapestry needle



Size

Woman's medium (large), fits approx US size 8(10) shoe
Cuff length measured to top of heel flap: 6"(4-1/2")

Gauge

18 sts & 24 rnds = 2x2 inches stockinette

Notes

- Slip sts as if to purl with yarn in back unless otherwise instructed.
- The socks knit up much faster if you create the cables without a cable needle. Go to this URL for photos and instructions on how to do the CL & CR without a cable needle: <http://www.flickr.com/photos/bogiebogie/sets/72157594392044365/detail/>. If you choose to cable without a cable needle, *slip the stitches in round 6 of the stitch pattern as if to knit*.
- CL = Cable Left: Sl 1 st onto a cable needle and hold in front. K the next 2 sts, then knit the st from the cable needle.
- CR = Cable Right: Sl 2 sts onto a cable needle and hold in back. K the next st, then knit the 2 sts from the cable needle.

Instructions

Tubular cast-on

Using waste yarn, cast on 37(41) sts onto one needle. Cut waste yarn.

Row 1: Using the project yarn, *k1, yo*, repeat between *'s until 1 st remains, k1. 73(81) sts. Turn.

Row 2: p1, k1, *sl1wyif, k1*, repeat between *'s until 1 st remains, p1. 73(81) sts. Turn.

The cuff will now be divided onto 4 DPNs and joined in the round.

Round 1:

- *k1, sl1wyif* 10 times. 20(20) sts on Needle 1.
- Onto an empty needle, *k1, sl1wyif* 8(10) times. 16(20) sts on Needle 2.
- Onto an empty needle, *k1, sl1wyif* 10(10) times. 20(20) sts on Needle 3.
- Onto an empty needle, *k1, sl1wyif* 8(10) times. 16(20) sts on Needle 4. One stitch remains on the left needle.
- Transfer the last st on the left needle onto the Needle 1, making it the first stitch of the round. 21(21) sts on Needle 1.

Round 2:

- k2tog, p1, *sl1wyib, p1*, repeat between *'s around. 20(20) sts on Needles 1 & 3; 16(20) sts on Needles 2 & 4. 72(80) sts total.

Round 3:

- *k1, sl1wyif*, repeat between *'s around.

Round 4:

- k1, p1, *sl1wyib, p1*, repeat between *'s around.

Remove waste yarn.

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Ribbing

k3, p1, repeat between the *'s until the length from the cast on edge measures 1".

Cuff

Work in the Crystalline Lattice Cuff stitch pattern [Chart A] until the length from the cast on edge measures 6" (4-1/2"), following the special instructions for round 8 of the last pattern repeat [Chart B].

Heel Flap

The heel flap is worked on Needles 3 & 4 over 35(39) sts and may be consolidated onto one needle. Turn.

Row 1 (WS) : k3, *k1, p3*, repeat between *'s across all heel sts. 35(39) sts.

Row 2 (RS) : p4, *sl1, k1, sl1, p1*, repeat between *'s until 3 sts remain, k3.

Repeat rows 1 & 2, 16(18) more times for a total of 34(38) rows.

Heel turn

Row 1 (WS) : sl1, p18(20), p2tog, p1, turn

Row 2 (RS) : sl1, k4, ssk, k1, turn

Row 3 (WS) : sl1, purl to within 1 st of the gap, p2tog, p1, turn

Row 4 (RS) : sl1, knit to within 1 st of the gap, ssk, k1, turn

Repeat rows 3 & 4 until all stitches have been worked, ending the last WS row with p2tog and the last RS row with ssk. 19(21) heel sts.

Gusset

Rnd 1:

- With the right side facing, pick up and knit 17(19) garter ridges along the left side of the heel flap onto the needle holding the heel stitches, then pick up and ktbl 1 st in the corner where the top of the heel flap meets the instep. 37(41) sts.
- Onto an empty needle, pick up and ktbl 1 st at the edge of the instep. Work the first 19(19) instep sts as follows: k2, p1, *sl1, k2, p1*, repeat between *'s. 20(20) sts.
- Onto an empty needle, work the next 18(22) sts of the instep as follows: *sl1, k2, p1*, repeat between *'s until 2 sts remain, k2. Pick up and ktbl 1st where the instep meets the top of the heel flap. 19(23) sts.
- Onto an empty needle, pick up and ktbl 1 st at the top of the heel flap, then pick up and knit the remaining 17(19) garter ridges along the right side of the heel flap, k9(10) sts from the next needle. This is the center of the sole. 27(30) sts.
- Onto an empty needle, k26(29), k2tog. 27(30) sts.

Rnd 2:

- Needle 1: k2tog, k1, p1, *sl1, k2, p1*, repeat between *'s to the end of the needle. 19(19) sts.
- Needle 2: *sl1, k2, p1*, repeat between *'s until 3 sts remain, k1, k2tog. 18(22) sts.
- Needle 3: k2tog, k to end. 26(29) sts.
- Needle 4: k all sts. 27(30) sts.

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Gusset Decreases

Rnd 3:

- Needles 1 & 2: Work Rnd 3 of the Crystalline Lattice Instep Pattern [Chart C].
- Needle 3: k1, ssk, k to end.
- Needle 4: k until 3 sts remain, k2tog, k1.

Rnd 4:

- Needles 1 & 2: Work Rnd 4 of the Crystalline Lattice Instep Pattern [Chart C].
- Needle 3 & 4: k all sts.

Next Rnd "Decr rnd" (odd rounds)

- Needles 1 & 2: work next rnd of the Crystalline Lattice Instep Pattern [Chart C].
- Needle 3: k1, ssk, k to end.
- Needle 4: k until 3 sts remain, k2tog, k1.

Next Rnd "Knit rnd" (even rounds)

- Needles 1 & 2: work next rnd of the Crystalline Lattice Instep Pattern [Chart C].
- Needle 3 & 4: k

Continue alternating "Decr rnds" with "Knit rnds" until there are 17(19) sts on Needle 3, and 18(20) sts on Needle 4. 72(80) sts total.

Foot

Work the foot as follows until it is 2-1/4"(2-1/2") shorter than the desired length.

- Needle 1 & 2: work next rnd of the Crystalline Lattice Instep Pattern [Chart C].
- Needle 3 & 4: k all sts

Toe shaping

Knit 1 round, ending after working the sole stitches.

Needles 1 & 2 (Instep): k1, ssk, knit across the instep sts until 3 sts remain, k2tog, k

Needles 3 & 4 (Sole): k all sts

Knit Rnd:

- k all sts

Decr Rnd:

- K1, ssk, knit across the instep sts until 3 sts remain, k2tog, k
- K1, ssk, knit across the sole sts until 3 sts remain, k2tog, k

Continue alternating Knit Rnd and Decr Rnd until there are a total of 22 sts.

Finishing

Needles 1 & 3: pass the first st over the second stitch.

Needles 2 & 4: pass the last st over the second to the last st.

Graft the toe closed with the Kitchener st, weave in the ends and enjoy!

Definitions

dpn: double pointed needle

k: knit

k2tog: knit 2 together

ktbl: knit through back of loop

p: purl

rnd: round

sl: slip stitch as if to purl unless otherwise instructed

sl1wyib: slip 1 as if to purl with yarn in back

sl1wyif: slip 1 as if to purl with yarn in front

ssk: slip 2 stitches individually as if to knit, then knit those 2 stitches together through the back loops

st or sts: stitch or stitches

yo: yarn over

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Chart A - Cuff 72(80) stitches

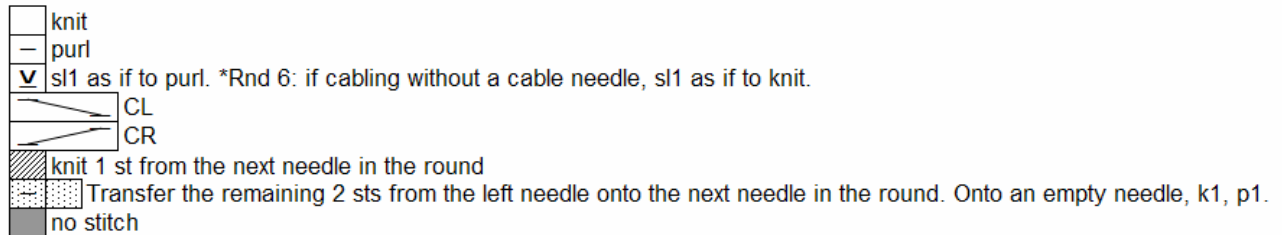
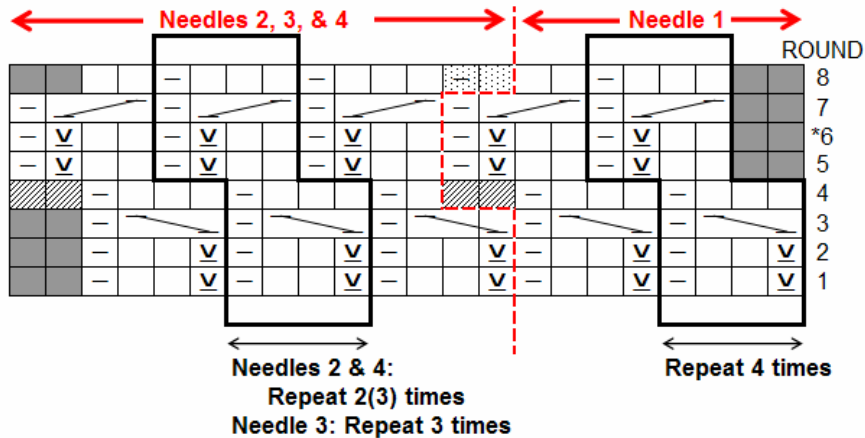


Chart A, Crystalline Lattice cuff pattern: 72(80) sts

Notes:

- If you choose to [cable without a cable needle](#), *slip the stitches in round 6 as if to knit.*
- There are special instructions for round 8 of the last pattern repeat of the cuff [Chart B].

Rnd 1 & 2: *sl1, k2, p1* around

Rnd 3: *CL, p1* around

Rnd 4:

- Needle 1: *k3, p1*, repeat between *'s to the end of the needle. k2sts from Needle 2 onto Needle 1. 22(22) sts.
- Needles 2, 3, & 4: k1, p1, *k3, p1*, repeat between *'s to the end of the needle. k2sts from the next needle in the round onto the right needle.

Rnd 5 & 6: *k2, sl1, p1* around

Rnd 7: *CR, p1* around

Rnd 8:

- Needle 1: *k3, p1*, repeat between *'s until 4 sts remain. K2. Transfer the remaining 2 sts from the left needle onto the next needle in the round (Needle 2). 18(18) sts on Needle 1.
- Needles 2, 3, & 4: k1, p1, *k3, p1*, repeat between *'s until 4 sts remain. **K2**. Transfer the remaining 2 sts from the left needle onto the next needle in the round.
[Note that the red K2 was a correction added 4/23/07.]

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Chart B - LAST PATTERN REPEAT FOR CUFF, ROUND 8 ONLY

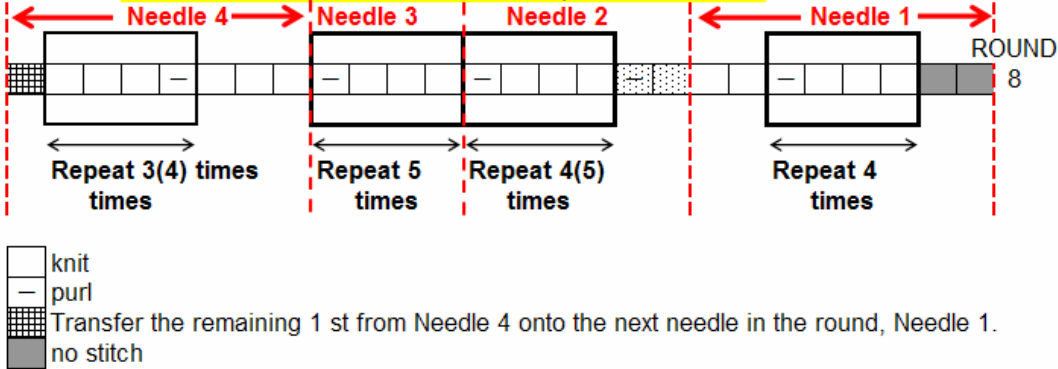


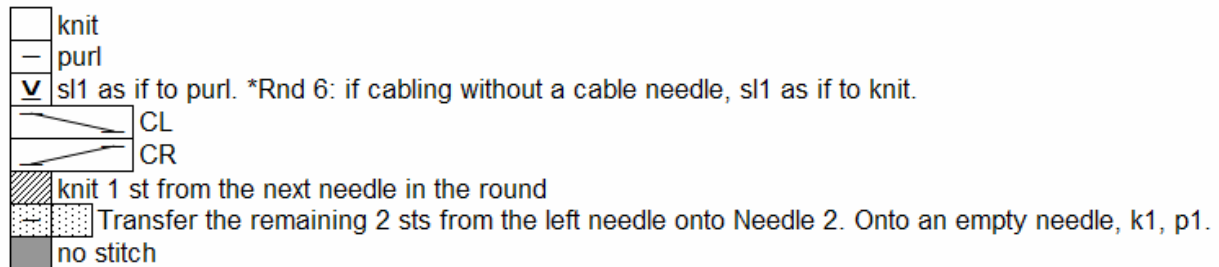
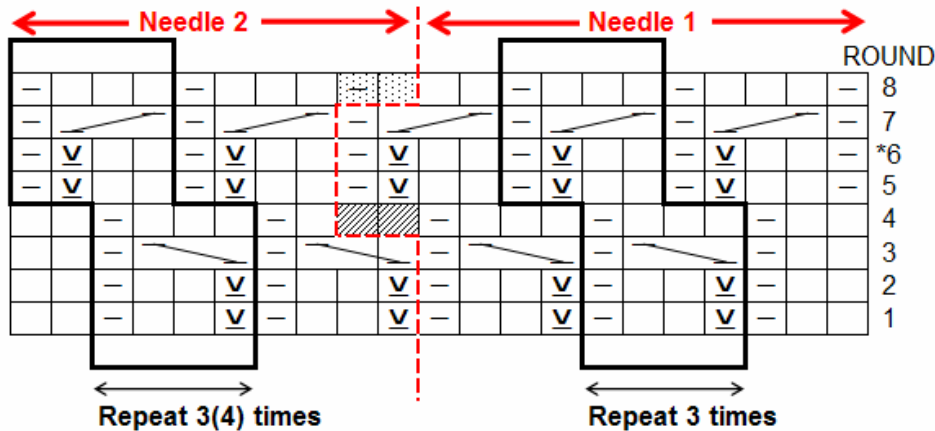
Chart B, LAST PATTERN REPEAT FOR CUFF, ROUND 8 ONLY

Rnd 8:

- Needle 1: *k3, p1*, repeat between *'s until 4 sts remain. K2. Transfer the remaining 2 sts from the left needle onto the next needle in the round (Needle 2). 18(18) sts on Needle 1.
- Needle 2: k1, p1, *k3, p1*, repeat between *'s to the end of the needle.
- Needle 3: *k3, p1*, repeat between *'s to the end of the needle.
- Needle 4: k3, *p1, k3*, repeat between *'s until 1 st remains. Transfer the remaining 1 st from the left needle onto the next needle in the round (Needle 1).

19(19) sts on Needle 1; 18(22) sts on Needle 2; 20(20) sts on Needle 3; 15(19) sts on Needle 4.
72(80) sts total.

Chart C - Instep 37(41) stitches



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Chart C, Crystalline Lattice Instep Pattern: 8 Rnds, 37(41) sts

Note: If you choose to [cable without a cable needle](#), slip the stitches in round 6 as if to knit.

Rnd 1 & 2:

- Needle 1: k2, p1, *sl1, k2, p1*, repeat between *'s
- Needle 2: *sl1, k2, p1* repeat between *'s until 2 sts remain, k2

Rnd 3:

- Needle 1: k2, p1, *C1L, p1*, repeat between *'s
- Needle 2: *C1L, p1*, repeat between *'s until 2 sts remain, k2

Rnd 4:

- Needle 1: k2, p1, *k3, p1*, repeat between *'s. k2 sts from Needle 2 onto Needle 1.
- Needle 2: k1, p1, *k3, p1*, repeat between *'s until 2 sts remain, k2

Rnd 5 & 6:

- Needle 1: p1, *k2, sl1, p1*, repeat between *'s
- Needle 2: *k2, sl1, p1*, repeat between *'s

Rnd 7:

- Needle 1: p1, *C1R, p1*, repeat between *'s
- Needle 2: *C1R, p1*, repeat between *'s

Rnd 8:

- Needle 1: p1, k2, *k1, p1, k2*, repeat between *'s until 2 sts remain. Transfer those 2 sts onto Needle 2.
- Needle 2: k1, p1, *k3, p1*, repeat between *'s

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About the Designer

Janice Kang lives in California and has been an avid knitter for many years. You can see more of her work on her blog, <http://knitflix.blogspot.com>.