Welcome to the Craft Yarn Council Certified Knitting Instructors Program

The Craft Yarn Council (CYC) is a non-profit organization which was formed in 1981 and is committed to developing greater consumer awareness and acceptance of crocheting, knitting and crafting with yarn through educational and promotional programs. Its members are the nation’s leading yarn producers, hook and needle manufacturers, publishers, and industry consultants.

The Certified Instructors Program is an expansion of the Extension Master Volunteer: Knitting and Crocheting Program, which the Council for many years offered through various local county cooperative extension offices around the United States. It now focuses on the preparation of instructors to teach crocheting and knitting.

It is the wish of the Craft Yarn Council that your participation in this educational program will not only bring you the satisfaction of enhancing your own personal knitting and crochet skills, but the satisfaction and personal gratification of expanding this talent to future generations. May your participation in this program impart knowledge and skills that will bring benefits both you and your students can enjoy for a lifetime!

Special thanks to The National Association of Family and Community Education (formerly National Extension Homemakers’ Council), The National NeedleArts Association and the Cooperative Extension Service for making the accomplishments of this program possible.

Also, special thanks to the Certification Master teachers who have worked tirelessly to improve the quality of this program and to guide students. They include Evie Rosen, Dixie Berryman, Arnetta Kenney, Barbara Van Elsen and Edie Eckman. Very special thanks to Tina Bliss of Bliss Design without whose technical expertise in graphic design, knitting and crocheting these revisions would not have been possible. Finally, thank you to Leisure Arts, Inc. [www.leisurearts.com] for providing many of the diagrams included in this program.

**Tip:** Throughout the notebook, there are stitch and technique instructions. We encourage you to make samples of each using a smooth, light colored, medium-weight yarn (Diagram 0). These samples help you to better understand a technique AND will be excellent visual aids for teaching.
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Knitting needles are the primary tool used in knitting. They are made from a variety of materials, including metal alloys, plastics, wood and bamboo, and are sold in pairs (Diagram 1). They vary in thickness and most commonly range in size from 1 (2.25 mm) to size 50 (25 mm). In the U.S. a numbering system was traditionally used to denote needle sizes, while most other countries used millimeter sizing. Today most needle packages show both numerical and metric sizing.

### Common Needle Sizes

#### Knitting Needle Sizes

<table>
<thead>
<tr>
<th>Millimeter Range</th>
<th>U.S. Size Range</th>
<th>Millimeter Range</th>
<th>U.S. Size Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.25 mm</td>
<td>1</td>
<td>6 mm</td>
<td>10</td>
</tr>
<tr>
<td>2.75 mm</td>
<td>2</td>
<td>6.5 mm</td>
<td>10 1/2</td>
</tr>
<tr>
<td>3.25 mm</td>
<td>3</td>
<td>8 mm</td>
<td>11</td>
</tr>
<tr>
<td>3.5 mm</td>
<td>4</td>
<td>9 mm</td>
<td>13</td>
</tr>
<tr>
<td>3.75 mm</td>
<td>5</td>
<td>10 mm</td>
<td>15</td>
</tr>
<tr>
<td>4 mm</td>
<td>6</td>
<td>12.75 mm</td>
<td>17</td>
</tr>
<tr>
<td>4.5 mm</td>
<td>7</td>
<td>15 mm</td>
<td>19</td>
</tr>
<tr>
<td>5 mm</td>
<td>8</td>
<td>19 mm</td>
<td>35</td>
</tr>
<tr>
<td>5.5 mm</td>
<td>9</td>
<td>25 mm</td>
<td>50</td>
</tr>
</tbody>
</table>

Basic knitting needles come in 10” (25cm) and 14” (35cm) lengths. There are other types of knitting needles available for special purposes as well. One type is called double-pointed, because there is a point on each end (Diagram 2). They come in sets of 4 or 5 and are used to make socks, mittens and other small, round projects that do not have a seam.

Another type is a circular needle, which is one long flexible needle that comes in varying lengths with a point on both ends (Diagram 3). Circular needles are used to make pullover sweaters and other projects that can be worked as a “tube” without a seam. They also can be used for knitting back and forth and are especially useful for afghans and other large projects that require a large number of stitches.
### Knitting Accessories

**Stitch markers:** Placed on the needle and carried throughout the knitting to mark points of increase, decrease, or changes in pattern (Diagram 4A). The Split-Lock design can also be slipped through completed work to mark for buttonhole placement or any other necessary marking.

**Row counters:** Used to record the number of rows completed (Diagram 4B). Some counters slip onto a needle and are manually advanced as each row is completed. There also are electronic counters and apps for digital devices.

**Point protectors:** Rubber tips which can be placed on the point of the knitting needle to keep stitches from slipping off and to protect the tip of the needle (Diagram 4C).

**Stitch holders:** Used to temporarily hold stitches, which will later be worked into a garment, such as for necklines and pocket facings (Diagram 4D).

**Cable stitch holders:** Used to temporarily hold a few stitches to the front or back of work while forming a cable (Diagram 5A).

**Yarn bobbins:** Used in multi-colored knitting (Diagram 5B). Each color being used in the design is wrapped around a bobbin, and the bobbins are allowed to hang from the work, a short distance from the needle. Since the bobbin stores the yarn, there are no long strands to tangle or become knotted while knitting, so the colors are much easier to manipulate while creating the design. Bobbins are available in several sizes to accommodate different weights of yarn.

**Yarn or tapestry needles:** Used to sew knitted pieces together. The large eye allows easy threading of various thicknesses of yarn and the blunt end prevents splitting the yarn (Diagram 6).

**Crochet hook:** Used in picking up dropped stitches and to correct mistakes. It is best to work with a crochet hook the same size millimeter as your knitting needle or slightly smaller (Diagram 7A).

**Knitting needle size and stitch gauge tools:** They come in a variety of configurations (Diagram 7B). They usually have rulers and cutouts for each needle size for ease in determining the size of double-pointed or circular needles that no longer have a label attached.

**Pins:** Long, rust-proof “T-pins” and straight pins with large heads are used for holding together your garment pieces for sewing and also are used for blocking (Diagram 7C).
Standard Yarn Weight System

There is a vast range of yarns available today in natural and manmade fibers and blends of the two, from fine strands to bulky textures. To make it easier for consumers to select the right yarn for a project, members of the Craft Yarn Council teamed up with industry manufacturers, editors, publishers and designers to create a standardize system of organizing yarns by weights or thicknesses called the Standard Yarn Weight System.

To simplify the vast number of yarns available, they grouped similar yarns into broad ranges and assigned each category a symbol ranging from 0 to 6, with 0 being the finest weight yarn, 6, the thickest. (See page 6 for the Standard Yarn Weight System chart—Diagram 7D.)

For each category, they also suggested a knit and crochet gauge and needle and hook range. However, they stress these are only guidelines and reflect the most commonly used gauges and needle or hook sizes for specific yarn categories.

For teachers with first-time knitters, it is extremely helpful to discuss the differences in yarn weights and the general end uses for each category. It’s also important to guide first-timers away from heavily textured yarns, which make it difficult to see stitches and which are sometimes difficult to rip out.
## Standard Yarn Weight System

### Categories of yarn, gauge ranges, and recommended needle and hook sizes

<table>
<thead>
<tr>
<th>Yarn Weight Symbol &amp; Category Names</th>
<th>0 Lace</th>
<th>1 Super Fine</th>
<th>2 Fine</th>
<th>3 Light</th>
<th>4 Medium</th>
<th>5 Bulky</th>
<th>6 Super Bulky</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Yarns in Category</td>
<td>Lace</td>
<td>Super Fine</td>
<td>Fine</td>
<td>Light</td>
<td>Medium</td>
<td>Bulky</td>
<td>Super Bulky</td>
</tr>
<tr>
<td>Fingering, 10 count crochet thread</td>
<td>Sock, Fingering, Baby</td>
<td>Sport, Baby</td>
<td>DK, Light Worsted</td>
<td>Worsted, Afghan, Aran</td>
<td>Chunky, Craft, Rug</td>
<td>Bulky, Roving</td>
<td></td>
</tr>
<tr>
<td>Recommended Needle in Metric Size Range</td>
<td>1.5 – 2.25 mm</td>
<td>2.25 – 3.25 mm</td>
<td>3.25 – 3.75 mm</td>
<td>3.75 – 4.5 mm</td>
<td>4.5 – 5.5 mm</td>
<td>5.5 – 8 mm</td>
<td>8 mm and larger</td>
</tr>
<tr>
<td>Recommended Needle U.S. Size Range</td>
<td>000 to 1</td>
<td>1 to 3</td>
<td>3 to 5</td>
<td>5 to 7</td>
<td>7 to 9</td>
<td>9 to 11</td>
<td>11 and larger</td>
</tr>
<tr>
<td>Recommended Hook in Metric Size Range</td>
<td>Steel*** 1.6 – 1.4 mm Regular hook 2.25 mm</td>
<td>2.25 – 3.5 mm</td>
<td>3.5 – 4.5 mm</td>
<td>4.5 – 5.5 mm</td>
<td>5.5 – 6.5 mm</td>
<td>6.5 – 9 mm</td>
<td>9 mm and larger</td>
</tr>
<tr>
<td>Recommended Hook U.S. Size Range</td>
<td>Steel*** 6, 7, 8 Regular hook B–1</td>
<td>B–1 to E–4</td>
<td>E–4 to 7</td>
<td>7 to I–9</td>
<td>I–9 to K–10½</td>
<td>K–10½ to M–13</td>
<td>M–13 and larger</td>
</tr>
</tbody>
</table>

* GUIDELINES ONLY: The above reflect the most commonly used gauges and needle or hook sizes for specific yarn categories.
** Lace weight yarns are usually knitted or crocheted on larger needles and hooks to create lacy, openwork patterns. Accordingly, a gauge range is difficult to determine. Always follow the gauge stated in your pattern.
*** Steel crochet hooks are sized differently from regular hooks—the higher the number, the smaller the hook, which is the reverse of regular hook sizing.

This Standards & Guidelines booklet and downloadable symbol artwork are available at:

**YarnStandards.com**
Yarn Labels

The label on a ball, skein or hank of yarn contains important information about the manufacturer, content, recommended hook and needle sizes, gauge and care of the yarn as well as the yarn weight symbol (Diagram 8A). Key for diagram:

1. Name and identifying number of color
2. Dye lot number
3. Company name or symbol yarn
4. Yarn’s brand name
5. Care instructions
6. Company name and address
7. Length of yarn in meters and in yards
8. Weight in grams and ounces
9. Ply—number of thin strands twisted together to make the yarn
10. Yarn content—what the yarn is made of
11. Suggested knitting needle size and expected gauge (number of stitches to the inch) for this yarn.
12. Yarn weight symbol

Diagram 8A

Dye Lots

Yarn is dyed in batches called ‘dye lots.’ Each time the dye is mixed for a new lot, the dye is a little different. When buying more than one skein of yarn for a project, check the dye lot number carefully. If all the skeins you purchase are marked with the same dye lot number, you can be sure they will be identical in color. Try to buy all of the yarn you will need for a project at the same time, so you will be sure to get enough skeins of the same dye lot number.

On some labels it will say: ‘no dye lot’ yarn. These yarns are spun from fiber that is already colored before it is assembled into skeins or balls and color differences are not evident.
Yarns

Yarn is sold in balls, hanks, on spools, or on cones (for machine knitting), but it is most often wound into skeins. A skein is wound in a special way that prevents the yarn from tangling as you work. Hanks get tangled if you try to use them, so they must first be rewound into balls (Diagram 8B).

You can wind the yarn by hand, using the instructions shown here, or use one of the commercially available yarn winders and “swifts”, which are basically an extra pair of “arms” (Diagram 8C).

Winding a Hank of Yarn Into a Ball

Whether you are using a commercial winder or working by hand, first remove any labels, yarn ties and knots from the yarn hank.

Untwist the hank, so it looks like a thick circle of yarn. Either follow the commercial winder instructions or place yarn over the back of a chair.

Find one end and wind the yarn around your fingers about 20 times.

Slip the yarn off your fingers. Now hold it in your fingers and wind another 20 times or so around your fingers and the already wound yarn.

Slip the yarn off your fingers, turn slightly and start winding again, around the yarn and your fingers (Diagram 8D). As you are wrapping and turning the yarn, it is important not to wind the ball so tightly that the yarn stretches and loses its elasticity.

Care Symbols

The care symbols used on yarn labels are the same as those used on ready to wear garments. You should become familiar with these symbols. Here is the guide of commonly used care symbols prepared by the Textile Industry Affairs and accepted by the Federal Trade Commission’s Care Labeling Rule. (See page 9.)

It is advisable to keep the yarn label on file after a project is finished in order to have the correct laundering instructions. When giving a gift, enclose a label so the recipient can care properly for the garment.
# Guide to Apparel/Textile Care Symbols

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td></td>
<td>Do Not Wash</td>
<td>Normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent Press</td>
<td></td>
<td>Do Not Bleach</td>
<td>Permanent Press</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delicate/Gentle</td>
<td></td>
<td>Do Not Iron</td>
<td>Delicate/Gentle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand Wash</td>
<td></td>
<td>Do Not Dry</td>
<td>Hand Wash</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Wash

**Water Temperatures**
- **(Maximum)**
  - 200°F (95°C)
  - 160°F (70°C)
  - 140°F (60°C)
  - 120°F (50°C)
  - 105°F (40°C)
  - 85°F (30°C)

## Bleach

- Any Bleach When Needed
- Only Non-Chlorine Bleach When Needed

## Dry

- Normal
- Permanent Press
- Delicate/Gentle

### Tumble Dry Cycles

- **Any Heat**
- **High**
- **Medium**
- **Low**
- **No Heat/Air**

### Tumble Heat Settings

- **Lowest Heat**
- **Drip Dry**
- **Dry Flat**

## Iron

### Iron Dry or Steam

- **Normal** 200°C (390°F) High
- **Medium** 150°C (300°F) Medium
- **Low** 110°C (230°F) Low

## Dryclean

### Dryclean - Normal Cycle

- **A** Any Solvent
- **P** Any Solvent Except Trichloroethylene
- **F** Petroleum Solvent Only

### Dryclean - Additional Instructions

- **Do Not Wash**
- **Do Not Bleach**
- **Do Not Iron**
- **Do Not Dry**

## Additional Instructions (in Symbols or Words)

- **Line Dry / Hang to Dry**
- **Tumble Dry**
- **In the shade** (added to line dry, drip dry, or dry flat)
- **No Steam** (added to iron)

---

*This chart illustrates care symbols accepted by the Federal Trade Commission as part of a conditional exemption to the FTC Care Labeling Rule (16 CFR 423). This chart is referenced from ASTM D5489-96c, Fig. 1, Commercial and Home Laundering and Drycleaning Symbols, which illustrates the symbols to use for laundering and drycleaning instructions. As a minimum, laundering instruction shall include, in order, four symbols: washing, bleaching, drying, and ironing; and drycleaning instructions shall include one symbol. Additional words may be used to clarify language-dependent instructions.*

---

**Textile Industry Affairs**

For free care instruction assistance call: 850-522-6270 Fax: 212-505-3300

Email: info@TextileAffairs.org

Internet: www.TextileAffairs.org

Distributed by:

We urge you to purchase the latest Annual Book of ASTM Standards that contains the complete symbol set from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2950.
Substituting Yarns

Can't find the yarn recommended in a pattern or simply don't like it and want to substitute another? Theoretically, yarns are interchangeable when they have the same gauge when knitted by the same person with the same needles. However, if the textures and fibers are different, the “hand” or feel of a project using a substitute yarn might be entirely different. Be wary of using fibers such as cotton or linen when the pattern calls for wool and vice versa: the first two fibers have less elasticity and will require additional stitches to achieve the right fit. Ask the assistance of a local yarn retailer or an experienced knitter for advice.

Standard Knitting Abbreviations and Symbols Found in Commercial Patterns

Knitting patterns are written in a special language, full of abbreviations, asterisks, parentheses, and other symbols and terms. These short forms are used so instructions will not take up too much space. They may seem confusing at first, but once understood, they are really easy to follow.

Following is a list of knitting abbreviations used by yarn industry designers and publishers and adopted for the Craft Yarn Council’s Standards & Guidelines for Crochet and Knitting. The most commonly used abbreviations are highlighted. In addition, designers and publishers may use special abbreviations in a pattern, which you might not find on this list. Generally, definitions of special abbreviations are given at the beginning of a book or pattern. (See page 11.)
Knitting Abbreviations

### Abbreviation Description

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>[ ]</code></td>
<td>work instructions within brackets as many times as directed</td>
</tr>
<tr>
<td><code>( )</code></td>
<td>work instructions within parentheses in the place directed</td>
</tr>
<tr>
<td><code>* *</code></td>
<td>repeat instructions following the asterisks as directed</td>
</tr>
<tr>
<td><code>*</code></td>
<td>repeat instructions following the single asterisk as directed</td>
</tr>
<tr>
<td><code>&quot; &quot;&quot;&quot; &quot;&quot; &quot;&quot; &quot;</code></td>
<td>inch(es)</td>
</tr>
<tr>
<td><code>alt</code></td>
<td>alternate</td>
</tr>
<tr>
<td><code>approx</code></td>
<td>approximately</td>
</tr>
<tr>
<td><code>beg</code></td>
<td>begin/beginning</td>
</tr>
<tr>
<td><code>bet</code></td>
<td>between</td>
</tr>
<tr>
<td><code>BO</code></td>
<td>bind off</td>
</tr>
<tr>
<td><code>CA</code></td>
<td>color A</td>
</tr>
<tr>
<td><code>CB</code></td>
<td>color B</td>
</tr>
<tr>
<td><code>CC</code></td>
<td>contrasting color</td>
</tr>
<tr>
<td><code>cm</code></td>
<td>centimeter(s)</td>
</tr>
<tr>
<td><code>cn</code></td>
<td>cable needle</td>
</tr>
<tr>
<td><code>CO</code></td>
<td>cast on</td>
</tr>
<tr>
<td><code>cont</code></td>
<td>continue</td>
</tr>
<tr>
<td><code>dec</code></td>
<td>decrease/decreases/decreasing</td>
</tr>
<tr>
<td><code>dpn</code></td>
<td>double pointed needle(s)</td>
</tr>
<tr>
<td><code>fl</code></td>
<td>front loop(s)</td>
</tr>
<tr>
<td><code>foll</code></td>
<td>follow/follows/following</td>
</tr>
<tr>
<td><code>g</code></td>
<td>gram</td>
</tr>
<tr>
<td><code>inc</code></td>
<td>increase/increases/increasing</td>
</tr>
<tr>
<td><code>k</code> or <code>K</code></td>
<td>knit</td>
</tr>
<tr>
<td><code>k2tog</code></td>
<td>knit 2 stitches together</td>
</tr>
<tr>
<td><code>kwise</code></td>
<td>knitwise</td>
</tr>
<tr>
<td><code>LH</code></td>
<td>left hand</td>
</tr>
<tr>
<td><code>lp(s)</code></td>
<td>loop(s)</td>
</tr>
<tr>
<td><code>m</code></td>
<td>meter(s)</td>
</tr>
<tr>
<td><code>M1</code></td>
<td>make one—an increase—several increases can be described as &quot;M1&quot;</td>
</tr>
<tr>
<td><code>M1 p-st</code></td>
<td>make one purl stitch</td>
</tr>
<tr>
<td><code>MC</code></td>
<td>main color</td>
</tr>
<tr>
<td><code>mm</code></td>
<td>millimeter(s)</td>
</tr>
<tr>
<td><code>oz</code></td>
<td>ounce(s)</td>
</tr>
<tr>
<td><code>p</code> or <code>P</code></td>
<td>purl</td>
</tr>
</tbody>
</table>

### Abbreviation Description

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td><code>pat(s)</code></td>
<td>pattern(s)</td>
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<tr>
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<tr>
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<td>slip 1, knit 2 together, pass slip stitch over the knit 2 together; 2 stitches have been decreased</td>
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<tr>
<td><code>sl1p</code></td>
<td>slip 1 purlwise</td>
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<td>slip stitch (Canadian)</td>
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<td><code>ssk</code></td>
<td>slip, slip, knit these 2 stitches together—a decrease</td>
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<td><code>sssk</code></td>
<td>slip, slip, slip, knit 3 stitches together</td>
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<td>stitch(es)</td>
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<td><code>wyif</code></td>
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<td><code>yon</code></td>
<td>yarn over needle</td>
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Knit Chart Symbols

Stitch charts in knit and crochet patterns are being used more and more as an addition to or in place of words to describe a pattern stitch. Following are the standardized knit symbols that have been adopted by members of the Craft Yarn Council and are considered to be the clearest and easiest to render and to read (Diagram 11). For the most part each symbol represents a stitch as it looks on the right side of the work. Always refer to the pattern key for additional symbol definitions.

- **K on RS, p on WS**
- **P on RS, k on WS**
- **P on RS, K on WS on a color chart**
- **Yarn over (yo)**
- **K2tog on RS, p2tog on WS**
- **p2tog on RS, K2tog on WS**
- **SSK on RS, SSP on WS**
- **SSP on RS, SSK on WS**
- **Right-slanting inc**
- **Left-slanting inc**
- **Sl 1 purlwise with yarn at WS of work**
- **Sl 1 purlwise with yarn at RS of work**
- **K3tog on RS, p3tog on WS**
- **SK2P, SSSK on RS, SSSP on WS**
- **S2KP2 on RS, S2PP2 on WS**
- **K1 tbl on RS, p1 tbl on WS**
- **P1 tbl on RS, k1 tbl on WS**
- **Bobble**
- **Sts do not exist in these areas of chart (70% shade)**
- **Make 1 (M1) knitwise on RS, M1 purlwise on WS**
- **Make 1 (M1) purlwise on RS, M1 knitwise on WS**
- **Inc 1-t0-3**
- **Inc 1-t0-4**
- **Inc 1-t0-5**
- **Dec 4-to-1 (right-slanting)**
- **Dec 4-to-1 (left-slanting)**
- **Dec 4-to-1 (vertical)**
- **Dec 5-to-1**
- **K1, wrapping yarn twice around needle**
- **Bind off**

Diagram 11

---

2/1 RPC Sl 1 to cn, hold to back, k2; p1 from cn
2/1 LPC Sl 2 to cn, hold to front, k1; p2 from cn
2/2 RC Sl 2 to cn, hold to back, k2; k2 from cn
2/2 LC Sl 2 to cn, hold to front, k2; k2 from cn
2/2 RPC Sl 2 to cn, hold to back, k2; p2 from cn
2/2 LPC Sl 2 to cn, hold to front, p2; k2 from cn
2/2 RPC Sl 3 to cn, hold to back, k2; sl last st from cn to LH needle and purl it; k2 from cn
2/2 LPC Sl 3 to cn, hold to back, k2; sl last st from cn to LH needle and purl it; k2 from cn

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**REV. 2013/03/21**
The Standard Yarn Weight System, the Standard Knitting Abbreviations and Symbols, and the Standard Knit Chart Symbols are part of the Industry Standards & Guidelines for Crochet and Knitting. In 2003, the publishers, fiber producers, needle and hook manufacturers and yarn members of the Craft Yarn Council worked together to set up these series of guidelines to bring uniformity to yarn, needle and hook labeling and to patterns, whether they appeared in books, magazines, leaflets or on yarn labels. This included establishing uniform pattern sizing and the ranking of patterns by skill level. The goal was to make it easier for consumers to select the right materials for a project and complete it successfully. These changes are being implemented over time as products and packaging are redesigned and new books and leaflets are published.

The Craft Yarn Council received valuable input from allied associations in the United States, such as The National NeedleArt Association, the Crochet Guild of America, and The Knitting Guild Association, as well as from industry designers and knitters and crocheters nationwide.

Ultimately, the objective is to design global standards and guidelines that will be used by companies worldwide. To this end, the Council has reached out to individuals, manufacturers and trade associations in the United Kingdom, Germany, Italy, France, as well as in Australia and New Zealand to ask their input.

The Council stresses the Standards & Guidelines are ‘organic’ and will change over time as requests are made for helpful information and new products enter the marketplace.

Manufacturers, publishers and designers are urged to adopt these guidelines. Downloads of the graphic symbols are available at www.YarnStandards.com at no charge. The Council asks that the following credit line be given:

**Source:** Craft Yarn Council, www.YarnStandards.com

### SKILL LEVELS FOR KNITTING

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>Beginner</td>
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<tr>
<td>2</td>
<td>Easy</td>
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<td>3</td>
<td>Intermediate</td>
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<tr>
<td>4</td>
<td>Experienced</td>
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Casting On

The first step of knitting is to put stitches onto your knitting needles. This is called casting on (CO). There are a wide variety of methods of casting on. You may want to explore your resources and decide which method you prefer. Three of the most popular are described here.

Long Tail or Sling Shot

This method uses a double strand of yarn and single needle. This is sometimes called the sling shot method. This method will give you a firm attractive edge and can only be used at the beginning of a piece.

**STEP 1**

Measure off a length of medium-weight yarn, allowing 1” (2.5cm) for each stitch you will cast on. Make a slip knot there and leave the length of yarn attached. The slip knot will be your first stitch.

To make a slip knot, make a pretzel shape with the yarn (Diagram 13).

Slip the needle into the pretzel as shown (Diagram 14).

Pull down on both ends of the yarn to tighten the knot (Diagram 15); then gently pull the two ends apart, to tighten the loop.

**STEP 2**

Hold the needle as shown in Diagram 16 with the short end of yarn over the thumb and the long end over the index finger.

Both strands of yarn should rest in the palm with the last three fingers holding them down.
STEP 3

Pull the needle downward, then insert the point of the needle through the loop that is on your thumb (Diagram 17).

Move the point of the needle over, then around the right-hand strand of yarn (Diagram 18).

Bring the point of the needle back through the thumb loop (Diagram 19).

STEP 4

Drop the thumb loop, then pull on the short end of yarn with your thumb (Diagram 20). This will tighten the stitch. You now have two stitches on your needle.

Repeat this process until you feel comfortable with it.

When casting on many stitches, tie two balls together, cast on your stitches, and cut one ball off. This way you will always have enough yarn.

The sling shot method appears different on each side. The smooth side is generally considered to be the right side of your work. In other words, if you were going to begin working stockinette stitch immediately after your cast-on row, you would purl the first row.
**Knitting-On**

The knitting-on method of casting on uses two needles and one length of yarn. It’s often used for teaching beginners because it uses basic knitting technique.

Begin by making a slip knot. Insert the right needle into the stitch on the left needle as if to knit (knitwise). Wrap the yarn around the right needle as if to knit (Diagram 21).

Draw the yarn through the first stitch to make a new stitch, but do not drop the stitch from the left needle (Diagram 22).

Slip the new stitch to the left needle as shown (Diagram 23). Repeat this process until the required number of stitches is cast on.

**Cable Cast-On**

The cable cast-on is similar to knitting-on and is an excellent method for the beginning knitter since it uses basic knitting technique. It is also necessary any time you are casting on additional stitches at the end of a row, or are making buttonholes calling for cast-on stitches.

To practice cable cast-on (or to use this method to begin any new piece), start with a slip knot and knit it, but do not slip the old stitch off the left needle. Instead, slip the new stitch on to the left needle. Now that you have two stitches, you can proceed as described below.

**STEP 1**

Insert the needle into the space between the first two stitches (Diagram 24).
STEP 2

Wrap the yarn as you do for knitting, and pull a stitch through, but do not slip any stitches off the left needle (Diagram 25).

STEP 3

Bring the new stitch up and slide it onto the left needle (Diagram 26).

Insert the needle into the space between the new stitch and the one before it, and repeat the above steps.

Tip: You can keep the cast-on stitches elastic by making the new stitches a little larger than normal or by using a larger needle in your right hand.

Styles of Knitting

There are two basic styles of knitting—the English or American method sometimes referred to as the throw style and the continental method. With the throw method, the yarn is held in the right hand. With the continental method, yarn is held in the left hand. Some left-handed people find the continental method of knitting easier to learn since the yarn tension is controlled by the left hand.

How to Work Knit Stitches

English or American Method

Hold the needle with the cast-on stitches in your left hand, as shown in Diagram 27.

To control the tension of your yarn, it is helpful to wind the yarn that comes from the skein through your fingers. One suggestion is to drape the yarn over your index finger, under the middle and ring fingers and around your pinky as shown in Diagram 29. However, people hold the yarn differently and whatever works best to control the yarn is fine.
Knitting uses only two basic stitches — the knit stitch and the purl stitch. It is the variations and combinations of these two stitches that create all the different stitch patterns which are possible in knitting. First, you will learn the knit stitch. The steps show the knit stitch made using the English method of holding the yarn in your right hand.

First Row

STEP 1
Cast on 10 stitches using medium-weight yarn and size 7–9 (4.5–5.5mm) needles or the size needle recommended for the yarn.

Now hold the needle with the stitches in your left hand, and insert the right needle into the front of the first stitch from right to left as shown in Diagram 30. The yarn should be in the back of your work.

STEP 2

Wrap the yarn around the right needle from back to front, so that it rests between the two needles (Diagram 31).

STEP 3

Slide the right needle down (Diagram 32).

Then bring the point forward through the stitch, bringing the yarn with it (Diagram 33).
STEP 4

Slip the old stitch off the left needle. Be careful to slip only the one stitch that was worked off the left needle — do not allow any others to slip off (Diagram 34).

The new stitch is now on the right needle (Diagram 35).
Repeat the above steps for each stitch on the left needle. Notice that at the beginning and end of each stitch, the yarn is at the back of the work. At the end of the row, all the new stitches will be on the right needle, and the left needle will be empty.

Second and All Other Rows

Switch the needle with the new stitches over to your left hand. Put the empty needle into your right hand.

Be sure to pull the yarn straight down at the beginning of the row. If it is pulled up and over the needle, it will look like two stitches instead of one.

STEP 1

Cast on 10 stitches using medium-weight yarn and size 7–9 (4.5–5.5mm) needles or the size needle recommended for the yarn.
Insert the needle into the first stitch as shown in Diagram 36.
Work each stitch in the row as before.
Additional rows are worked in the same way.
Knit Stitch—Continental Method

**STEP 1**
Hold the needle with the cast on stitches in your left hand. Hold the empty needle in your right hand. Wrap the yarn around the fingers of your left hand.

**STEP 2**
With the yarn in back of the needles, insert the right needle into the stitch closest to the tip of the left needle from left to right (Diagram 37).

**STEP 3**
With your index finger, bring the yarn between the needles from left to right (Diagram 38).

**STEP 4**
With your right hand, bring the right needle (with the loop of yarn) toward you and through the stitch (Diagram 39A), slipping the old stitch off the left needle.

Tighten the new stitch on the shaft of the right needle (Diagram 39B).

**Second and All Other Rows**
Repeat Steps 2–4 across the row.
To begin the next row, hold the empty needle in your right hand and the needle with the stitches in your left hand. The working yarn always hangs straight down from the stitch closest to the tip of the needle (Diagram 40).
Garter Stitch

There are many patterns of stitching. The simplest pattern is to knit every row. This forms a pattern called garter stitch. It has a bumpy texture, looks the same on both sides and it does not curl along the edge as some other stitch patterns do.

Look at Diagram 41, and compare it to the rows of knitting you have worked. You will see that there are ridges in the pattern.

**Tip:** One ridge is equal to two rows of knitting. Written instructions will often tell you to work a certain number of ridges instead of rows when you are working garter stitch, because the ridges are easy to count.

How to Work Purl Stitches

**English Method**

**STEP 1**

Now you are ready to learn the other basic stitch in knitting — the purl stitch. A purl stitch looks just like the back of a knit stitch. If you purl every row, you get a bumpy texture, which is exactly like a knitted garter stitch. (However, if your knitting instructions call for garter stitch, you can assume that you are supposed to knit every row, unless the instructions state differently.) Following are the step-by-step instructions and diagrams for creating the purl stitch.

Cast on 10 stitches using medium-weight yarn and size 7–9 (4.5–5.5mm) needles or the size needle recommended for the yarn.

Now hold the needle with the stitches in your left hand, making sure the yarn from the skein is in front of the needle. Insert the right needle from back to front into the first stitch on the left needle as shown in Diagram 42. The right needle is now in front of the left needle.

**STEP 2**

Wrap the yarn around the right needle, as shown in Diagram 43. The yarn will still be at the front of your work.

**STEP 3**

Slide the right needle down, then bring the tip from front to back through the stitch, bringing the yarn with it (Diagram 44).
STEP 4

Slip the old stitch off the left needle (Diagram 45). You now have a new stitch on the right needle.

Continue purling across the row, following the above steps. Notice that at the beginning and end of each stitch, the yarn is at the front of your work.

Work additional rows by switching the needle with the stitches to your left hand, then beginning to purl the new stitches.

Purl Stitch—Continental Method

STEP 1

Cast on 10 stitches using medium-weight yarn and size 7–9 (4.5–5.5mm) needles or the size needle recommended for the yarn.

Hold the needle with the stitches in your left hand, the empty needle in your right hand and wrap the yarn around the fingers of your left hand.

With the yarn in front of the needles, insert the right needle from the back to front into the first stitch on the left needle as shown in (Diagram 46).

STEP 2

With your index finger, bring the yarn between the needles from right to left around the right needle (Diagram 47).

STEP 3

Move your left index finger forward while moving the right needle (with the loop of yarn) through the stitch and away from you (Diagram 48), slipping the old stitch off the left needle.

Tighten the new stitch on the shaft of the right needle.

Repeat Steps 1–3 across the row.

Second and All Other Rows

To begin the next row, hold the empty needle in your right hand and the needle with the stitches in your left hand. The working yarn always hangs straight down from the stitch closest to the tip of the needle.
When you have finished knitting a piece, you will still have a row of loops on your needle. You must bind off (fasten down) these loops or your work will unravel.

Knit the first two stitches of the row. Now using the point of the left needle, lift the first stitch up and over the second stitch and off the end of the right needle (Diagram 49).

You have just bound off one stitch. There should be one stitch remaining on your right needle (Diagram 50). Now knit the next stitch in the row. Lift the second stitch over the third and off the needle. Continue in this way across the row.

**Tip:** It is very important to work your bind-off row loosely. It needs to be elastic, just like your knitting. If you have difficulty, a larger size needle may be used only for the bind-off row.

At the end of the row, you will have one stitch remaining on your needle. Cut the yarn and pull the tail of yarn through the last stitch. This is called ‘finishing off’ the yarn and will prevent the work from unraveling (Diagram 51).

Make sure the tail of yarn is at least 3” (7.5cm) long. You can leave it longer if desired, for use in stitching together the finished project.

The same procedure would be followed for binding off in purl, except the stitches are purled instead of knitted.

Always bind off in pattern, knitting the knit stitches and purling the purl stitches.
Stockinette stitch is one of the most common stitches. It is created very simply by knitting one row, purling the second, knitting the third, purling the fourth and so on (Diagram 52A). Make a practice square in stockinette stitch, following the directions below.

**STEP 1**
Cast on 16 stitches using medium weight yarn and size 7–9 (4.5–5.5mm) needles or the size needle recommended for the yarn.

**STEP 2**
Work alternating rows of knitting and purling until the piece measures 4” (10cm) from the beginning.

**STEP 3**
Bind off, leaving a 3” (7.5cm) tail.

Look at your finished square. You will see that one side of your work (the knit side) is smooth. It is called the stockinette side (Diagram 52B).

The other side is bumpy and is known as reverse-stockinette stitch. It is also called the purl side (Diagram 53). As you are working stockinette stitch, if the purl side is facing you, purl the stitches to maintain the pattern. If the knit side is facing you, knit the stitches.
Common Errors and Correcting Them

Check your knitting frequently, since errors in knitting are much easier to correct if they are one or two rows from the needle. Common errors which occur in knitting include dropping stitches, holes, twisted stitches, and split stitches.

**Tip:** When putting stitches back onto the needle, insert the right-hand needle from back to front and the left-hand needle from front to back through each stitch so that the right loop of each stitch is forward on the needle. This prevents twisted stitches.

1. A dropped stitch is caused by a stitch falling off the needle. Because this particular stitch is not interlocked with the others, this may result in a "run" similar to that found in a T-shirt or sock.

2. A hole in the knitting may be caused by having the yarn in the wrong position for a knit or purl stitch by putting the project down in the middle of a row and then resuming the knitting in the wrong direction, or by failing to interlace or twist the yarn when changing colors.

3. A split stitch is caused by separating the strand of yarn when inserting the knitting needle into a stitch.

4. A twisted stitch is crossed at the base of a stitch. It is caused by wrapping the yarn around the needle in the wrong direction or by inserting the needle into a knit or purl stitch incorrectly, such as when inserting the needle into the stitches when correcting an error.

**Ripping Back Knitting**

If you should make an error in a pattern, do not rip all the stitches out. It might be possible to correct it using a crochet hook, following the methods described in Correcting Mistakes in Garter (see page 26) and Stockinette Stitches (see page 27), or removing stitches one at a time until you reach the error.

To rip back knitting one stitch at a time, slip the left needle into the stitch at the base of the first stitch on the right needle (Diagram 54).

To correct a mistake that is more than several rows back, it is better to rip the work back to the last good row. To do this, first rip back to the row just above it by removing the needles and carefully pulling on the end of the yarn unravelling the stitches. Then follow the same process as mentioned above. Hold the work so that the yarn end is at the left side. Now insert one of your needles into the stitch below the first one, inserting from front to back. Then rip the stitch. Repeat this procedure for each stitch across until you pass the mistake.

Now continue your work.
Correcting Mistakes in Garter Stitch

Mistakes happen even to expert knitters and are expected to happen; however, you will make fewer mistakes as you gain experience.

As noted earlier, you must always pick up a dropped stitch, or your work will eventually have a “run” in it. If the stitch has not run, you can simply replace it onto the needle. If it has run, you can pick it up with a crochet hook, following the directions below.

Look at Diagram 55 to see what your work will look like when a stitch has “run” for two rows.

Tip: You can tell the number of rows that a stitch has run by the number of yarn “bars” above the dropped stitch. What you must do is to re-make the dropped stitches by picking up the bars of yarn one at a time beginning with the lowest bar.

Each bar must be drawn through the dropped loop below it, using a crochet hook. The tricky part of picking up stitches in garter stitch is that one row should be picked up from the front of your work; the next row from the back. Here’s how to tell the difference.

Look at the stitches that are in the same row as the bar (Diagram 56). If the bases of the stitches are smooth, the stitch should be picked up by following the procedure shown in Diagram 56. To pick up the lower bar which is in a smooth row in Diagram 56, pull the bar through the loop with the crochet hook as shown making a new stitch. It should look the same as the others in the same row.

If the bases of the stitches are “bumps,” follow Diagram 57. To pick up the next bar so that the resulting stitch looks like a “bump,” insert the hook into the loop from back to front, then pick up the bar of yarn. Pull it through to the new stitch. Now put the stitch on the left needle, inserting the needle from the front to the back of the stitch, and knit the stitch in the usual way.
Correcting Mistakes in Stockinette Stitch

To pick up dropped stitches in stockinette stitch is simpler than for garter stitch. Hold your work with the knit side facing you (Diagram 58).

Insert the crochet hook into the stitch from front to back, and pick up the bar of yarn above it (Diagram 59). Each stitch can be picked up the same way, since all the stitches look the same in stockinette.

If the error is several rows back, it is better to rip out the stitches. Refer to Ripping Back Knitting (see page 25).

Correcting Twisted Stitches

Take a look at your work after you have completed several rows of stockinette stitch. If any of your stitches look like those in the row that is marked in Diagram 60, you are either inserting your needle into the back of the stitch when you work it, instead of the front, or you are putting the yarn over the needles incorrectly, or picking up a dropped stitch incorrectly.

**Tip:** Think of each stitch as having two feet — a front and back foot. The front foot is closest to the end of the needle. When you make a knit or purl stitch you are inserting the needle into the front “foot” of the stitch. If you mistakenly insert the needle into the back of stitch, you produce a twisted stitch.

**Tip:** If you see a twisted stitch in the row you just completed, correct it by knitting or purling through the back foot of the twisted stitch. If the twisted stitch is several rows below, you will have to rip back to the stitch. See Ripping Back Knitting, page 27.
### Making a Gauge Swatch

Understanding gauge is the key to successful knitting and crocheting. Gauge is the single most important element in producing a knit project of a specific size. It is the number of stitches and rows in each inch. You must achieve the gauge specified in a pattern to ensure that it will fit properly. Yarn and needle size, weather and emotions can change your personal knitting tension.

In a pattern, gauge is usually given for a 4" (10cm) square. However, many teachers recommend that you knit at least a 6" square and then measure 4" (10cm) in the center (Diagram 61) because the stitches along the edge can be lose or curl and distort the gauge.

Do a gauge swatch for each project using the yarn, needles and pattern stitch called for at the beginning of every pattern. Cast on four times the desired number of stitches per inch and extra stitches for a more accurate measurement. Example: Gauge is 5 sts = 1" (2.5cm). Cast on 20 sts (plus extra stitches). Work in pattern st for 4" (10cm) or more. Slip work off the needle, lay right side down on a smooth hard surface and measure across the center of the swatch (Diagram 61).

Your swatch should measure 4" (10cm) square. If it does not measure exactly 4" (10cm) by 4" (10cm), you are off gauge and you must make adjustments.

If your swatch measures smaller, knit another swatch using the next larger size needles. If it measures larger, knit another swatch using the next smaller size needles. Work your gauge swatch until you come as close as possible to the gauge called for.

When knitting a project, continue to measure across the width of the entire piece every 3" (7.5cm) to be sure that your gauge has not changed. Generally, gauge will change 1/2 stitch per inch (2.5cm) per needle size.

Row gauge is not as critical because a pattern usually specifies the number of rows or project length.

**Tip:** When knitting a project, continue to measure across the width of the entire piece every 3" (7.5cm) to be sure that your gauge has not changed. Generally, gauge will change a 1/2 stitch per inch (2.5cm) per needle size.
Gauge — Solving the Problem

Gauge is to be 4 sts per inch (2.5cm) with size 9 (5.5mm) needle. Cast on 16 stitches, which should measure 4” (10cm) wide. Work in stockinette stitch for 4” (10cm).

Gauge swatch is too small

PROBLEM 1
Swatch measures 3.5” (8.9cm) instead of 4” (10cm)
16 sts divided by 3.5 (8.9) = 4.5 sts per inch (2.5cm)

SOLUTION
Since gauge is 1/2 stitch per inch (2.5cm) too tight, go up one needle size to size 10 (6mm).

PROBLEM 2
Swatch measures 3.25” (8.26cm) instead of 4” (10cm)
16 sts divided by 3.25 (8.26) = 4.9 or approximately 5 sts = 1” (2.5cm)

SOLUTION
Since gauge is 1 stitch per inch (2.5cm) too tight, go up 2 needle sizes to size 10.5 (6.5mm).

Gauge swatch is too large

PROBLEM 1
Swatch measures 4.5” (11.5cm) instead of 4” (10cm)
16 sts divided by 4.5 (11.5) = 3.5 sts per inch (2.5cm)

SOLUTION
Since gauge is 1/2 stitch per inch (2.5cm) too loose, go down 1 size needle to size 8 (5mm).

PROBLEM 2
Swatch measures 5.33” (13.5cm) instead of 4” (10cm)
16 sts divided by 5.33 (13.5) = 3 sts per inch (2.5cm)

SOLUTION
Since gauge is 1 stitch per inch (2.5cm) too loose, go down 2 needle sizes to size 7 (4.5mm).
Combinations of Knit and Purl Stitches

Ribbing

Ribbing is one of the most common patterns that combines knit and purl stitches. It can be done in a variety of combinations, the most common of which is a K1, P1 rib. It is imperative that you remember to always have your yarn in back when you knit and in front when you purl.

Any combination of knit and purl stitches can be used in ribbing, for example “knit 3, purl 1” or “knit 2, purl 2”.

Tip: Once the sequence of stitches is established, you always knit the knit stitches and purl the purl stitches as they appear on the row on which you are working (Diagram 62). In the diagram the ribbing has been stretched out to allow you to see the pattern more clearly. Ribbing tends to contract, so that only the knit stitches can be seen.

Seed Stitch

Working with an even number of stitches.
Row 1: *K1, p1; repeat between * across row.
Row 2: *P1, k1; repeat between * across row.
Repeat these two rows (Diagram 63).
A rule for the seed stitch: Knit the purl stitches and purl the knit stitches of the previous row.

Basketweave Stitch

Working with a multiple of 8 stitches.
Row 1: *K4, p 4; repeat from * across row.
Rows 2–6: Repeat Row 1.
Row 7: *P4, k4; repeat from * across row.
Row 8–12: Repeat Row 7.
Repeat Rows 1–12 for pattern (Diagram 64).
Exploration of the basketweave could include working with a different multiple of stitches and a different number of rows.
Cable Stitch

Left Spiral Cable

A cable stitch is usually formed on an even number of stitches worked in stockinette stitch. However, cables also can be formed with an odd number of stitches. If there are an even number of stitches, half are slipped onto a cable needle and the cable needle is placed at the front of the work, if the cable is to be crossed to the left (Diagram 65A).

Knit the second half of the stitches (Diagram 65B).

Next, knit those stitches which are on the cable needle, taking care not to twist them. If it is difficult to knit the stitches from the cable needle, slip them onto the left needle and then knit them (Diagram 65C). These crossings should be repeated regularly, traditionally every 4th, 6th, or 8th row.

To make the cables stand out more, work them on a background of reversed stockinette stitch, or simply enclose them between one or two purl stitches worked on either side (Diagram 66).
**Right Spiral Cable**

To cross the stitches to the right, place the cable needle to the back of the work (Diagram 67A).

Knit the second half of the stitches (Diagram 67B).

Next, knit those stitches which are on the cable needle, taking care not to twist them. If you have difficulty knitting the stitches from the cable needle, slip them onto the left needle and then knit them (Diagram 67C). These crossings should be repeated regularly, traditionally every 4th, 6th or 8th row.

To make the cables stand out more, work them on a background of reversed stockinette stitch, or simply enclose them between one or two purl stitches worked on either side (Diagram 68).
Cable Stitch Sample

Following is a 6-stitch simple cable pattern. It is suggested to work a sample of this particular cable pattern to become familiar with the cable stitch. There are many variations of the cable stitch; you should explore other resources for more patterns.

Cable Stitch — Multiple of 10 sts plus 2 sts. CO 22 sts.
Row 1: P3, * k6, p4; repeat from * across row, ending with k6, p3.
Row 2: K3, *p6, k4; repeat from * across row, ending with p6, k3.
Repeat rows 1 and 2 two more times. (6 rows in all)
Row 7: P3, * slip next 3 sts on a cable needle and place in front of work. K next 3 sts then k the 3 sts from the cable needle (forms cable), p4; repeat from * across row, ending with a cable and p3.
Row 8: Repeat Row 2.
Repeat these 8 rows for pattern stitch (Diagram 66).

Joining a New Yarn

Most projects require more than one skein of yarn. It is best to add new yarn at the beginning of a row so the joining is not visible in the middle of a piece of work.

STEP 1
To join yarn at the beginning of a row, simply drop the old yarn and pick up the new yarn and continue knitting using the new yarn (Diagram 69).

STEP 2
After you have worked a few rows, twist the ends around each other and weave them into the edges in opposite directions on the wrong side.
This same method is used when you are knitting an item with stripes or bands of color.
If, however, you are changing colors in the middle of a row in order to make a design, hold the color which has just been worked to the left and pick up the new color yarn from underneath twisting the colors to avoid holes in the work.

Tip: Do not tie yarn ends with a knot. Knots create bumps, unravel and are unsightly. Instead, follow the finishing instructions that follow.
Before your knitting project is complete, you must finish off all your yarn ends. Weave in all the yarn ends securely being sure that none show on the right side of your work.

To do this, thread the yarn end through a size 16 tapestry needle or a yarn needle (blunt point with a large eye) and weave it through the back of stitches along the seam edge, about 1” (2.5cm) in one direction and 1” (2.5cm) in the reverse direction (Diagram 69A). Pick up only the surface loops on the wrong side of the project. Cut off excess yarn. Weave in only one yarn end at a time to avoid a bulky spot in your work.

To slip a stitch (sl) means you move it from the left needle to the right needle without working it. Unless the directions say otherwise, slip the stitch as if to purl but with yarn to the wrong side, which means insert the right needle into the left needle’s stitch as if you were going to purl and move the stitch over from one needle to the other without purling (Diagram 69B).

You can also slip a stitch as if to knit. You will do this when you are going to move the stitch as in a decrease: sl 1, k1, psso and ssk.

Yarn overs (yo) are used to make spaces in a piece of work, often creating a lacy effect, and generally adding an extra stitch.

On a knit row, with yarn at back of work, bring the yarn forward between the two needles, then back over the right needle to the back of the work. Knit your next stitch, and you will see you have added another loop to your needle (Diagram 70).

On a purl row, with yarn at front of work, bring yarn over the right needle to the back of the work, then bring it back forward again between the two needles. Purl the next stitch and you will see you have added an extra loop to the right needle (Diagram 71).
Tip: Remember to treat the yarn over as a stitch when you come back to it on the next row. That is how the eyelet space is created.

When a yarn over falls after a knit stitch and before a purl stitch, work as follows:
Bring the yarn forward between the needles, then back over the top of the right needle and forward between the needles again, so that it is now in position to purl the next stitch (Diagram 72).

When a yarn over falls after a purl stitch and before a knit stitch, work as follows:
Take the yarn over the right needle to the back, so that it is now in position to knit the next stitch (Diagram 73).

Method 1

**Increasing**

*Knitting in front and back of the same stitch*
There are different methods to increase stitches. Three of the more commonly used methods are described on these pages. Depending upon your project and pattern stitch, you may prefer one method over another.

Generally, increases are shown worked on the knit side of stockinette stitch. These three methods may also be worked on the purl side. You should explore other resources for further methods of increasing.

**STEP 1**
Insert needle into the front of the stitch knitwise. Knit the stitch but do not remove from left needle (Diagram 74).

**STEP 2**
Insert right needle into back of the same stitch and knit again (Diagram 75).
STEP 3
Remove the stitch from left needle (Diagram 76).

Method 2
*Knitting between stitches, M1 or Make One*

**STEP 1**
Insert left needle under thread between two stitches and knit (Diagram 77A). This will leave a small hole or eyelet.

**STEP 2**
To prevent a hole, twist the thread that you pick up between the stitches and knit it through the back loop (Diagram 77B).

Method 3
*Knit into stitch below*

**STEP 3**
Insert right needle into side of the loop just below the next stitch on left needle. Knit the loop, then knit next stitch on left needle. This type of increase is not recommended for raglan increases (Diagram 78).
Decreasing

**Knitting or Purling 2 Stitches Together (K2tog or P2tog)**

One method of shaping a knitted piece is by decreasing the number of stitches. The most common way of doing this is to knit 2 stitches together or purl 2 stitches together. The method you choose depends on what stitching pattern you are using. If the stitches would normally be knitted, then knit 2 together to decrease (Diagram 79).

To knit 2 stitches together, just insert the right needle into two stitches at the same time (Diagrams 79 & 80). This will result in a decrease of one stitch. This decrease will slant to the right.

If the stitches would normally be purled, then decrease by purling 2 together. Purling 2 stitches together is done by inserting the needle into 2 stitches at once, and then purling them as if they were one stitch (Diagram 81).

**Slip, Slip, Knit (SSK)**

Slip the first stitch as if to knit (Diagram 82A), then slip the next stitch as if to knit.

Insert the left needle into the front of both slipped stitches. (Diagram 82B).
Knit slipped stitches together (Diagram 82C).

This decrease slants to the left (Diagram 83) and is interchangeable with sl 1, k1, psso. However, because ssk is closest to k2tog in appearance, it is often used when the decrease will be visible, as in raglan sleeve sweaters.

**Slip, Knit and Pass (SKP)**

Slip the first stitch from the left needle to the right needle knitwise (Diagram 84).

Knit the next stitch, so there are two stitches on the right needle (Diagram 85).

Use the left-hand needle to "pass" the slipped stitch back over the knitted stitch and off the end of the right needle, by putting the left needle into the front of the slipped stitch and lifting it over the knitted stitch as shown in Diagram 86.

You have completed one slip, knit and pass (skp) and by doing so, you have decreased (dec) a stitch. Notice that the decreased stitches slant to the left.

Compare a k2tog decrease with an skp decrease.
Circular Needles

While circular needles are most commonly used when making a seamless “tube” such as a pullover sweater, they are also quite popular for working back and forth to form a flat item, such as an afghan or cardigan.

When working with circular needles, cast on stitches in the same manner used with straight knitting needles. In order to work rounds, forming a tubular piece of work, simply start by knitting or purling the first stitch which was cast on. This automatically joins the work. Before joining the work, check carefully to see that the cast on ridge lays on the inside of the needle and never rolls around the needle (Diagram 87).

To keep track of rows, place a stitch marker at the beginning of the round. Work until you reach the marker and then slip it to your right needle. Continue working each round and slipping the marker.

When working circularly, continue knitting without turning the work. Check the first three rounds to be sure that it is not twisted around the needle.

Double-Pointed Needles

The most common uses for double-pointed needles are for working smaller items, such as socks, mittens, turtlenecks, or the sleeve of a sweater. When knitting a tubular piece with four needles, the stitches are divided as evenly as possible on each of three of the needles, and the fourth needle is used to knit the stitches.

When working with four needles, the stitches may be cast on in two ways. (1) You may cast on all of the stitches on one needle and then slip a third of the stitches on each of the other two needles, or (2) you may cast on a third of the stitches directly on each of the three needles (Diagram 88).

When working with five needles, stitches are divided by four with the fifth needle used to knit them. Using five double pointed needles can be helpful when decreasing a large number of stitches or knitting sock heels.

Arrange the needles to form a triangle on a flat surface, being careful that the cast-on edge does not twist.

Carefully pick up the three needles and hold the first needle in your left hand and the third needle in your right hand with the yarn in position to knit. Insert the fourth needle into the first stitch on the left hand needle and work the stitch. The work is now joined and ready for the first round of knitting. Be careful not to twist the stitches (Diagram 89).

Tip: When knitting in the round, remember the right side always faces you. When working a Stockinette stitch, knit all the stitches on every round, since you are always working on the front side of the piece. When working with a Garter stitch, alternate knit and purl rows.
Lace Pattern Stitches

There are many variations of knit pattern stitches. The pattern stitches listed below are simple patterns. You should explore your resources for exposure to the many pattern variations available, such as textured, ribbed, diagonal, lace, crossed, and novelty stitches.

When working a pattern stitch, you must cast on a multiple of stitches in order to achieve that pattern repeat. Therefore, the number of stitches you cast on your needle should be divisible by the multiple of stitches required for a particular pattern stitch, plus any additional stitches, plus any selvage stitches.

Garter Lace Stitches

Working with a multiple of 2 stitches

*For a test sample cast on 14 stitches.

Rows 1–6: Knit
Row 7: K1, *yo, k2tog; repeat from * across row, k1.
Row 8: K1, *yo, p2tog; repeat from * across row, k1.
Row 9: K1, *yo, k2tog; repeat from * across row, k1.
Row 10: K1, *yo, p2tog; repeat from * across row, k1.

Repeat Rows 1–10 for pattern (Diagram 90A).

Lattice Stitch

Working with a multiple of 3 stitches.

*For a test sample cast on 15 stitches.

Row 1 (WS): Purl.
Row 2: K2, * yo, k3, pull first stitch of knit 3 over the other 2 sts; repeat from *, end k1.
Row 3: Purl
Row 4: K1, *yo, k3, pull over as before; repeat from *, end k2.

Repeat Rows 1–4 for pattern (Diagram 90B).

Feather & Fan

Working with a multiple of 11 stitches.

*For a test sample cast on 22 stitches.

Row 1 (RS): K2tog twice, * (yo, k1) 3 times, yo, k2tog 4 times; repeat from *, ending (yo, k1) 3 times, yo, k2tog twice.
Row 2: Purl.
Row 3: Knit.
Row 4: Purl.

Repeat Rows 1–4 for pattern (Diagram 90C).

Eyelet Fabric

Working with a multiple of 4, plus 3.

*For a test sample cast on 23 stitches.

Row 1 (WS): Purl.
Row 2: K2, * yo, k2tog, k2; repeat from *, end yo, k2tog, k3.
Row 3: Purl.
Row 4: K4, *yo, k2tog, k2; repeat from *, end yo, k2tog, k1.

Repeat Rows 1–4 for pattern (Diagram 91).
Reading a Color Chart

The following section of the CIP notebook focuses on color knitting. Designs for most color knitting projects are depicted on a chart or graph. Each box in the graph represents a stitch and each line a row. The odd-numbered rows represent the right side of the fabric and are read from the right to the left. The even-numbered rows represent the wrong side of the design and are read from the left to the right. The individual boxes of the graph are either colored to present the shade yarn to use or have a symbol representing a specific color (Diagram 92).

Unless otherwise instructed, start to read the chart from the bottom up to the top. Generally, color knitting patterns are worked in stockinette stitch. If you are working in the round, read every row from the right to the left.

![Diagram 92]

**Diagram 92**

1. Chart name  
2. Key to chart  
3. Chart row numbers  
4. Chart stitch numbers  
5. Stitch repeat information  
6. Row repeat information  
7. Start point for different sizes  
8. Shaping start/end points

Color Knitting in Horizontal Rows

To create horizontal lines of color, carry the yarn you are not using up the side of your work. In this way you do not have to cut the yarn and will not have to weave in any ends (Diagram 93).

[Diagram 93]

Color Knitting in Vertical Rows

To create vertical lines of color with 4 or fewer stitches, you can carry the yarn across the back of your knitting or use separate balls or bobbins for each stripe, twisting the yarn colors around each other on every row.
Fair Isle/Stranded Knitting

Patterns worked in this method are usually repeated across the row, and color changes occur every few stitches (Diagram 94A). The color not being used is carried across the wrong side of the work. There are two methods to accomplish this.

METHOD 1:

Drop the color in use and lay the color you are carrying across it from right to left and resume working. This will result in your yarn twisting. It can be untwisted manually at your discretion. You must space stitches carefully to maintain an even tension (Diagram 94B). Following are examples if you are carrying yarn across a knit and purl row.

**KNIT ROW:**

Go into the next stitch as usual. Lay the yarn in your left hand between the needles from right to left. Complete that stitch taking care not to catch the extra strand. This will be secured by the next stitch (Diagram 94B).

**PURL ROW:**

Go into the next stitch as usual. Lay the yarn in your left hand over the tip of the right hand needle from right to left. Complete the stitch as usual taking care not to catch the extra strand (Diagram 94C).

METHOD 2 — TWO-HANDED:

Hold the predominant color yarn in your right hand and the other color in your left hand (Diagram 94D).
Fair Isle Test Sample

Cast on 20 sts.

Work the graph in stockinette stitch using two colors (Diagram 94E).

Weaving

For larger patterns, color repeats or Fair Isle Knitting, usually four stitches and over, weaving is the most frequently recommended technique. Again the yarn is not cut, but carried along the back of the knitting when not being used. The difference is that the unused yarn is woven over and under the stitches being knitted (Diagram 95A).

Twisting

For Fair Isle or Intarsia

The yarn not being used is twisted around the working yarn every two or three stitches. The same technique of twisting yarns is recommended for knitting blocks of color with separate balls or bobbins, which is called intarsia knitting.
**Intarsia/Bobbin Knitting**

Bobbins are used when the pattern has areas of contrasting color; i.e. argyle patterns or a kitten on a baby’s sweater. The use of bobbins keeps the yarns from tangling. Use a separate bobbin for each color change so that the yarn is not carried across the back of the work.

Attach each bobbin as you would attach a new ball of yarn, leaving an end to be woven in later. Bobbins are always kept on the wrong side of your work. When changing color always put the bobbin you have been working with to the left and pick up the new color from under it as in Diagram 95C. This will prevent holes in your work.

Intarsia and stranded knitting are generally worked from a color chart. Each square on the chart is a stitch on your work. The charts are worked from the bottom up. The right side rows are read from right to left. The wrong side rows from left to right. If stranded knitting is worked in the round all rows of the chart will be read from right to left. Intarsia is not knit in the round.

**Intarsia Test Sample**

Cast on 11 sts. Follow chart (Diagram 95D) in St st using three colors of yarn.
Duplicate Stitch

**STEP 1**
Correctly done, this technique enables you to create intarsia-type designs, flowers and initials on a stockinette stitch background in such a way that you can scarcely tell that the design was not knitted in.

Thread a tapestry needle with yarn and fasten on wrong side. Bring the needle and thread up through the base of a stitch. Then pass needle and thread under two strands of the stitch above (Diagram 96).

**STEP 2**
Insert needle back into base of original stitch, completing one duplicate stitch. (Diagram 97) Keep repeating these steps wherever you wish to cover a background stitch with another color.

You may wish to explore the duplicate stitch by using the alphabet graphed in Diagram 98.
Mosaic patterns are slip stitch patterns. They are done with two different colors, using one at a time. The colors are changed at the beginning of each right side row. Mosaic may be worked in stockinette stitch, garter stitch, or a combination of the two. There are three basic rules for mosaic patterns:

1. Every slip stitch is slipped with the yarn held in back of the right side rows and in front on the wrong side rows. In other words, the yarn is always held on the wrong side when slipping a stitch. For instance, when doing garter stitch on wrong side rows, be sure to bring the yarn to the front (the wrong side) before slipping a stitch.

2. Every wrong side row is exactly like the preceding right side row (the same stitches are worked and the same stitches are slipped). Because of this, each row on the chart is really two rows of knitting—the first row is read from the right and the second row from the left.

3. On every row that begins and ends with a black stitch, the black stitches are knit and the white ones are slipped. On every row that begins and ends with a white stitch, the white stitches are knit and the black stitches are slipped (Diagram 99).
Double Knitting

**With one color**

In double knitting, two fabrics are created at the same time. In traditional double knitting patterns, color and design motifs are frequently reversed, i.e., the color and design motif on one side is the mirror image of the other, and the two fabrics are interlocked.

Cast on 10 sts. Inc 1 st in each st.

Row 1: *K1, with yarn in front (wyif) sl 1, move yarn to back, repeat from * across.

Repeat Row 1 until piece is desired length.

Bind off: K2tog twice, bring the 1st k2tog stitch over the second, binding off 1 st; *k2tog, bind off 1 st; repeat from * across.

**With two colors making each side a contrasting color**

**METHOD 1:**

Cast on 20 sts, alternating color of each st.

Row 1: *K1 using color of existing st, bring both colors to the front, p1 with contrasting color, return both colors to the back and repeat from * across.

Repeat Row 1 until piece is desired length.

Bind off: K2tog twice, bring the 1st k2tog stitch over the second, binding off 1 st; *k2tog, bind off 1 st; repeat from * across.

**METHOD 2:**

Using double pointed or circular needles, cast on 20 sts, alternating color of each st.

Row 1: With color A, * K1, wyif sl 1, with yarn in back (wyib) repeat from * across. Push sts to opposite end of needle.

Row 2: With color B, *wyib sl 1, wyif p1, repeat from * across.

Repeat these two rows until the piece is desired length.

Bind off: K2tog twice, bring the 1st k2tog st over the second, binding off 1 st; *k2tog, bind off 1 st; repeat from * across.
Short Rows

STEP 1

Short rows are often used to achieve proper fit for the shoulder slant. They are also used for bust darts, to create a flare in a skirt or cape, and other such shapings. Short rows may be worked on the knit side or purl side of stockinette stitch.

*Work to desired point. Bring yarn to opposite side of work (front side on a knit row, back side on a purl row) and slip next stitch as if to purl. Return yarn to other side and slip stitch back to left needle. Turn piece and work back across stitches. You have just worked a short row (2 rows of knitting). Repeat from * to work another short row (Diagram 100).

When you work Step 1, notice this creates a horizontal bar in your work. After working all short rows, you are ready to work across all stitches on your needle, work as follows:

STEP 2

When you come to the horizontal bar on the following row (or round), make it less visible by working the bar together with the stitch it wraps around by knitting or purling them together (Diagram 101).

Short Rows for Shoulders

Tip: Remember, to do a wrap on the knit side, bring yarn to the right side of your work, slip the next stitch, return yarn to the back side of your work, and slip the slipped stitch back to the left needle. For the purl side, bring yarn to back side, slip 1, return yarn to the front, and slip stitch back to the left needle.

Sweater Back Test Sample

CO 24 sts.
Row 1: Purl.
Row 2: Knit.
Row 3: Purl.
Row 4: K to last 4 sts, wrap, turn.
Row 5: P to last 4 sts, wrap, turn.
Row 6: K to last 8 sts, wrap, turn.
Row 7: P to last 8 sts, wrap, turn.
Row 8: K8, *pick up wrap and k it tog with next st on left hand needle, k3; repeat from *, k to end of row.
Row 9: P16, *pick up wrap from right side of work and p tog with next st on left hand needle, p3; repeat from * once.
Front Right Shoulder Test Sample

CO 12 sts.
Row 1: Purl.
Row 2: Knit.
Row 3: Purl.
Row 4: K to last 4 sts, wrap, turn.
Row 5: Purl.
Row 6: K to last 8 sts, wrap, turn.
Row 7: Purl.
Row 8: K 4, *pick up wrap and k it together with next st on left hand needle, k3, repeat from *.

Grafting or Kitchener Stitch

Kitchener stitch is primarily used for weaving the toe-edge of socks. It is not recommended for shoulder seams because it doesn't have the strength of other seams. Following are step-by-step instructions for grafting stockinette and k1, p1 ribbing.

Test Sample

Make two.
Cast on 20 sts.
Work St st for 2 inches, ending with a K row.
DO NOT BIND OFF. Leave stitches on needle.
Leave a strand of yarn about 3 times longer than the width of the piece to be grafted. Thread yarn end onto tapestry or yarn needle.

On Stockinette Stitch:

Place one set of stitches on a second needle. With purl sides together and needles pointing to your right with yarn coming from the back (far) needle:

STEP 1
Go into the first stitch on the front (near) needle as if to purl and leave the stitch on the needle. Pull yarn through (Diagram 102).

STEP 2
Go into the first stitch on the back needle as if to knit and leave the stitch on the needle. Pull yarn through (Diagram 103).
**STEP 3**
Go into the first stitch on the front needle as if to K, slip stitch off the needle. Go into the next stitch on the front needle as if to P and leave stitch on the needle. Pull yarn through.

**STEP 4**
Go into the first stitch on the back needle as if to P and slip stitch off the needle. Go into the next stitch on the back needle as if to K and leave stitch on the needle. Pull yarn through.

Repeat Steps 3 and 4 until all stitches are woven.

A shorter way to say Steps 3 and 4 is:
Step 3: Front needle: K, take off, p, leave on.
Step 4: Back needle: P, take off, k, leave on.

**On K1, P1 rib:**

**Test Sample**
Make two.

CO 8 sts. Work in k1, p1 rib for two inches.

DO NOT BIND OFF. Leave stitches on needle.

Leave a strand of yarn about 3 times longer than the width of the piece to be grafted. Thread yarn end onto tapestry or yarn needle.

With the purl sides together, needles pointing to your right and with yarn coming from the back needle, follow the shorter or abbreviated instructions to graph together k1, p1 ribbing.

Step 1: Front needle: P, leave on.
Step 2: Back needle: K, leave on.
Step 3: Front needle: K, take off, k, leave on.
Step 4: Back needle: P, take off, p, leave on.
Step 5: Front needle: P, take off, p, leave on.
Step 6: Back needle: K, take off, k, leave on.
Repeat steps 3 through 6.

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**More Advanced Techniques**

**Tubular Cast On**
For more experienced knitters, try the tubular cast on method. This method is for ribbing made up of knit 1, purl 1 stitches only. It produces a neat edge but is not recommended to use with heavier, bulky yarns.

**Instructions for tubular cast on**
With a contrasting color (crochet cotton or a thinner yarn than the garment is being made with works well) cast on half the number of desired stitches, plus 1 stitch. With the main color, work as follows:
Row 1: K1, *yo, k1; repeat from * across row.
Row 2: K1, *yarn to front sl 1, yarn to back, k1; repeat from * across row.
Row 3: Sl 1, *yarn to back, k1, yarn to front, sl 1; repeat from * across row.
Rows 4 and 5: Repeat Rows 2 and 3 once more.
Row 6: K1, *p1, k1; repeat from * across row.
Row 7: P1, *k1, p1; repeat from * across row.
Continue to repeat Rows 6 and 7 for the desired ribbing length. The contrasting color should be pulled out of your work allowing the first row of stitches to spread to its natural elasticity.

**Invisible Cast On**

This method has a nice rounded edge, is very elastic and does not have a right or wrong side. It is necessary to have two different size needles—one pair that is called for in the pattern and a pair two sizes smaller.

**Instructions for invisible cast on**

With needles called for in the pattern and scrap yarn, CO half of the stitches plus 1.

K1 row, p1 row for 4 rows.
Attach MC yarn.
K1 row, p1 row for 4 rows.
Change to smaller-size needles.
* K1 st from needle, pick up back of first st of first row of MC and p1; repeat from * across row.
Remove scrap yarn.

**Three Needle Bind Off or Binding Off Two Pieces Together**

This bind off method is used when joining edges with an equal number of stitches such as shoulder seams. It requires three needles.

Hold right sides of pieces together with both needles pointing to the right (Diagram 104).

*Insert 3rd needle through the first stitch on both needles and knit them together (Diagram 105). Repeat from * once, bind off. Continue in this manner until all sts have been bound off. Fasten off.
Seaming

Mattress Stitch

Many knit projects must be assembled. Common methods used are mattress stitch, back stitch, weaving and slip stitch. Mattress Stitch is excellent for most sweater seams and leaves a small but comfortable inside seam. It is sometimes called an “invisible seam” because it almost disappears. Thread a yarn needle with matching yarn. With right sides facing you, place edges to be seamed together (Diagram 106).

Beginning at hem edge, secure yarn through both sides. With needle pointing up, pick up the bar between first and second stitches on right hand side. Cross to opposite side, pick up bar, return to right hand side. Put needle into same space it came from and pick up bar. Continue in this manner until four or five stitches have been made. Be sure to match rows. Tighten yarn until it holds seam firmly. Continue stitching picking up every row bar until seam is finished.

If the project that requires seaming is knitted in a very textured yarn, which will fray and be difficult to pull through the stitches, use a lighter weight, smoother yarn in a matching color instead.

Back Stitch

This stitch is a good firm stitch for seams that get heavy wear, such as shoulders and sleeve seams. Use a tapestry needle with matching yarn. Place pieces with right sides together. Secure yarn on the edge of the work. Working one stitch in from vertical edge, insert needle from back to front at A, pull yarn through. Insert needle from front to back at B, then from back to front at C; pull yarn through (Diagram 107). Continue working in this manner across. On bound-off edges, be sure the bind-off loops are hidden in the seam and do not show on the right side (Diagram 107).

Slip Stitch

Slip stitch is a strong stitch, excellent for afghan assembling. It may be used for garments, but it is a little bulky compared to mattress and back stitch. It is especially good for the knitted pieces that have been edged with single crochet. Make a slip knot and place on crochet hook. With right sides together, insert hook through both edges, yarn over and pull through fabric and through loop on hook. Insert hook under next stitches, yarn over and pull through fabric and through loop on hook. Continue in this manner until seam is complete.

This stitch may be worked on the bound off edges under all loops, two innermost or two outside loops of both pieces (Diagram 108).
Slip stitch along the side edges has a different appearance (Diagram 109).

**Overcast Stitch**

While not a recommended seaming technique for most knitting projects, overcast stitch is used when knitted fabric is wrapped around objects and in yarn graffiti. Insert the threaded needle through both thicknesses, from back to front, as shown (Diagram 109A).

Bring the thread over the edge, then insert the needle from back to front.

Picking up stitches leaves a small ridge on the opposite side. Usually you will pick up stitches with the right side facing you, so this ridge will be on the wrong side.

When instructed to pick up stitches along a horizontal edge, use one of the needles and the yarn that you are going to continue working with. Insert your knitting needle from the front to the back under two strands at the edge of the worked piece (Diagram 110). Put the yarn around the needle as if to knit, then bring the needle with the yarn back through the stitch to the right side, resulting in a stitch on the needle. Repeat this along the edge.

**Tip:** If you are making a collar that will turn down, it may lay nicer if you pick up the stitches with the wrong side facing you.

Diagram 111 illustrates picking up stitches along side edges. Insert your knitting needle from the front to the back under two strands at the edge. Put the yarn around the needle as if to knit, then bring the needle with the yarn back through the stitch to the right side, resulting in a stitch on the needle.

Repeat this along the edge.

If you have a large number of stitches to pick up, divide your work into quarters, marking the sections with pins. Pick up a quarter of the total stitches in each section. This will help keep your stitches even and well spaced.
Tip: If the instructions do not say how many stitches to pick up, follow this general rule: Pick up one stitch in each stitch along a horizontal or bound off edge and pick up three stitches in every four rows along a vertical edge. On a diagonal edge, pick up 1 stitch in each stitch or row. If it is easier, you may pick up stitches using a crochet hook, sliding each one onto your knitting needle.

There are basically three buttonhole types: round, vertical, and horizontal. After working a buttonhole, you may want to leave it unfinished, or finish the edges by working an overcast stitch or buttonhole stitch around the edge. You should explore your resources for more information on buttonholes.

Yarn Over Buttonhole

This is the simplest method for a buttonhole. It is suitable for small buttons and for forming eyelets. Working on the right side, yarn over, then knit 2 stitches together. On the next row, the yarn over is treated as a stitch.

Vertical Elongated Eyelet Buttonhole

Tip: This buttonhole, as well as all other vertical buttonholes, works especially well in k1, p1 ribbing.

Test Sample

CO 9 sts.

Row 1: (WS) P1, (k1, p1) to end.

Row 2: (K1, p1) to end.

Repeat Rows 1 & 2 two times.

Row 7: Repeat Row 1.

Row 8: (RS) k1, p1, k1, yo, k2tog, rib to end.

Row 9: Work rib pattern.

Row 10: Work to buttonhole and purl into the hole, drop off the st above the hole, rib to end (9 sts).

Continue in rib stitch for 1", leaving sts on needle. Continue with two-ball vertical buttonhole pattern that follows.
Two Balls Vertical Buttonhole

With the right side of work facing you, knit to desired position of the buttonhole. Work will be divided here for the base of the buttonhole. Using a separate ball of yarn for each side, work each side simultaneously until buttonhole is desired length. Rejoin the sections by working across all stitches with the main yarn.

Test Sample

Row 1: (RS) Work 5 sts, drop yarn. With a contrasting color, complete the row.
(Do NOT twist the old and new yarns together.)
Row 2: Work to dropped yarn, drop and pick up other yarn without twisting them together to form a hole and complete the row.
Row 3 & 4: Repeat Row 2
Row 5: Work all sts with first yarn.
Leave sts on needle and continue with one-row horizontal buttonhole that follows.

One-Row Horizontal

Tip: When binding off, always use first 2 loops on right hand needle. All sts are slipped as if to purl.

Test Sample

Work 1” in garter st (9 sts).
On next RS row, work as follows.
Buttonhole row: K3, sl 1 and bring yarn to front of work, sl 1 more st and bind off 1 st ignoring yarn in front. Sl 1 st and bind off 1 st. Sl 1 st and bind off 1 st. 3 sts have been bound off. Sl first st on right-hand needle to left-hand needle. Turn work.
Wrong side: Bring yarn between needles to wrong side. Purl into the first st on the left needle and slip the new purl st back from right needle to left. Repeat this 3 more times until 4 sts have been made. This is one more st than was bound off. Turn work.
Right side: Slip first st from left needle to right needle and bind off 1 st. This is the extra st. Sl 1 st on right needle back to left needle and K each st across remainder of row.
Blocking is a process of wetting or steaming knitted or crocheted fabric to shape pieces to specific dimensions, to smooth stitch irregularities, and to flatten curling edges.

Before blocking any project, carefully check the yarn label for care instructions. Some yarns should never be washed; others need only to be machine washed and dried to retain their shape; others like cotton yarns must be blocked carefully because these fibers have little resiliency and are easily overstretched.

It's also important to check for color fastness before certain blocking methods, especially if more than one color yarn is used. To check for colorfastness, wet a small piece of yarn and blot it between paper toweling. If the color comes off, do not wet block.

There are tools that make the blocking process easier, such as blocking boards, rust-proof pins, and blocking wires. Blocking boards provide a smooth surface on which project pieces can be shaped and/or pinned in place. However, many people improvise blocking surfaces by spreading towels on table tops, mattresses or on the floor. Rust-proof pins are a necessity to avoid rust marks on your knitted or crocheted fabric. Blocking wires can be used instead of pins or in combination with pins.

Generally, individual pieces of a project are blocked before joining. To ensure that project pieces are blocked to the correct size and shape, always refer to your pattern instruction sheet and the schematic diagram if provided.

Lay the piece(s) out flat without stretching it. When measuring a shaped armhole depth, it is important to measure correctly (Diagram 112A), measuring straight up from first underarm bind off to desired length of underarm. Do not measure around the armhole curve.

You would measure a raglan armhole depth as in Diagram 112B.

Sleeve length should be measured as in Diagram 112C.
You should fold your knits and store them flat. Wrapping them in acid-free tissue paper, which is sold in craft stores, is recommended. Knits are stretchy by nature and will sag out of shape if you hang them up. This rule applies to knits of either natural or man-made fibers.

If you store your knitwear in a plastic bag, make sure that the bag is not sealed airtight. Many times changes can occur in yarn color in an air-tight atmosphere because of interaction between the plastic and dyes used in yarn production. If using a “zip-tight” type of storage bag be sure to punch a couple of small holes in the bag with a needle to allow air to circulate.

Follow the care instructions on the yarn label. If an item is made of a machine washable and dryable yarn, then be sure to machine wash and dry that item, otherwise you may find your project has not regained its original shape after washing.

If you have used a yarn which recommends dry cleaning or hand washing, do not put that garment in the washing machine. First, either trace the outline of your project on a piece of paper, or measure it carefully and write the measurements on a diagram (Diagram 113).

Wash it gently in a basin or sink, using lukewarm water and a mild soap or washing solution designed for fine hand washables.

It is always best to check the colorfastness of the yarn before you do any washing, hand or machine. Use your gauge swatch or several strands of leftover yarn. Dip the yarn in water. Blot the fibers with paper towel. If any color comes off on the paper, dry clean the knitting.

If you are planning to hand wash your knitting, but do not wring, twist or scrub it. Those motions are the ones which will cause the yarn to shrink and mat. Rinse your garment until the water runs clear. Squeeze the water out, do not wring. Pick up the item using your hands to support the wet fabric. Do not pick it up by the shoulder or corner, for this could cause it to stretch and sag.

Now lay it out flat on a thick bath towel, roll it up and squeeze out the water. Unroll it and lay it out flat once more on a dry bath towel. Pat it into shape using your traced outlines as a measurement guide.

Let the piece remain flat until completely dry. Do not place it near a heat source, nor dry it in the sun. The heat and direct sunlight will damage the fibers.
Standard Body Measurements & Sizing

[ Also refer to YarnStandards.com ]

Most crochet and knitting pattern instructions will provide general sizing information, such as the chest or bust measurements of a completed garment. Many patterns also include detailed schematics or line drawings. These drawings show specific garment measurements (bust/chest, neckline, back, waist, sleeve length, etc.) in all the different pattern sizes (Diagram 114). To insure proper fit, always review all of the sizing information provided in a pattern before you begin. Also refer to: YarnStandards.com

When sizing sweaters, the fit is based on actual chest/bust measurements, plus ease (additional inches or centimeters). The chart entitled “Fit” recommends the amount of ease to add to body measurements if you prefer a close-fitting garment, an oversized garment, or something in-between.

FIT

Very-close fitting: Actual chest/bust measurement or less
Close-fitting: 1–2" (2.5–5cm)
Standard-fitting: 2–4" (5–10cm)
Loose-fitting: 4–6" (10–15cm)
Oversized: 6" (15cm) or more
How to Measure

1. Chest/Bust — Measure around the fullest part of the chest/bust. Do not draw the tape too tightly.

2. Center Back Neck-to-Cuff — With arm slightly bent, measure from back base of neck across shoulder around bend of elbow to wrist.

2a. Hand — For the cuff measure, lay the hand out flat with the thumb laying close to the hand and measure around.

3. Back Waist Length — Measure from the most prominent bone at base of neck to the natural waistline.

4. Cross Back — Measure from shoulder to shoulder.

5. Sleeve Length — With arm slightly bent, measure from armpit to cuff.

6. Upper Arm — Measure around the widest section of the upper arm located above the elbow.

7. Armhole Depth — Measure from the top outside edge of the shoulder down to the armpit.

8. Waist — Measure your waist at the smaller circumference of your natural waist, usually just above the belly button.

9. Hip — Measure at the widest part of your lower hip.

10. Head — For an accurate head measure, place a tape measure across the forehead and measure around the full circumference of the head. Keep the tape snug for accurate results (Diagram 115).

11. Foot Measurements for Socks — The following measurements are for crew-style or dress socks, which usually come several inches above the ankle and below the calf (Diagram 116).

Foot Circumference: Measure around the widest part of your foot (11A).

Sock Height: Measure from where you start to turn for the heel shaping to the top of the sock (11B).

Total Foot Length: Place a ruler or tape measure on the floor. Position the back of your heel at the beginning of the tape and the measure to your longest toe (11C).

Another option is measuring a garment you know fits well and duplicating its size.

Sometimes you are unable to measure the person who will be wearing the sweater. As knitting does have a great deal of elasticity, you would usually be safe in making a small, medium or large, depending on the general size of the person.
It is also helpful to refer to the following sizing charts which are used extensively throughout the yarn industry. These charts show Chest, Center Back, Neck-to-Cuff, Back Waist Length, Cross Back, Sleeve Length, Upper Arm, Armhole Depth, Waist, and Hip. These are actual body measurements for babies, children, women, and men in both inches and centimeters.

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### Youth size

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Standard Body Measurements & Sizing

Woman’s (cont.)  
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<td>116.5–122</td>
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Man’s Size  
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<th>XX-Large</th>
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<td>19½</td>
<td>20</td>
<td>20½</td>
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<td>49.5</td>
<td>50.5</td>
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<td>40.5</td>
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<td>10–10½</td>
<td>10½–11</td>
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<tr>
<td>Armhole depth</td>
<td>21.5–23</td>
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<td>24–25.5</td>
<td>25.5–26</td>
<td>26.5–28</td>
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<td>Waist</td>
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<td>91.5–96.5</td>
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Head Circumference Chart

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<th>Adult</th>
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<tr>
<td>Premie</td>
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<td>Woman</td>
<td></td>
</tr>
<tr>
<td>Man</td>
<td></td>
</tr>
<tr>
<td>6.  Circumference</td>
<td></td>
</tr>
<tr>
<td>(in.)</td>
<td>12</td>
</tr>
<tr>
<td>(cm.)</td>
<td>30.5</td>
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</table>

For an accurate head measure, place a tape measure across the forehead and measure around the full circumference of the head. Keep the tape snug for accurate results.
Adapting a Commercial Pattern

For people who are not a perfect size, adapting commercial knitting patterns to individual requirements is possible with the help of a calculator or a pen and paper and a friend with a tape measure to take your measurements. Record your measurements on a sketch of the project for easy reference.

Before beginning, make a gauge swatch for the pattern to be altered, making a sample of the stitch the pattern calls for, using the actual yarn and needles suggested for the project. Now compare your measurements and gauge with those in the pattern of your choice.

If your gauge is the same as that given in the pattern, compare the measurements given in the pattern with your own. If there are any differences, you will be able to decide where changes should be made (sts added or subtracted) in the pattern so it will fit you perfectly. If your gauge is not the same as the gauge given in the pattern, change needle size until you can obtain the specified gauge, then you can compare your measurements with the pattern.

Creating Your Own Pattern

One of the many reasons why someone knits or crochets is to enjoy wearing a garment that they made themselves. Once they gain confidence they might consider designing their own sweater or other project. We encourage you to study the topic of designing in greater detail, however, following is a general outline of the design process.

Start with a design of simple shapes, working your way up to more complex designs. Creating a chart to follow, draw out your pattern pieces on a large sheet of paper. After carefully taking body measurements, write on the chart the different inch or centimeter measurements, both the width and length at various points. Remember to take into consideration ease-of-fit in all measurements (See Fit Chart page 58).

Make a gauge swatch out of the yarn you have selected for your project (Diagram 118A). After carefully measuring your gauge swatch, calculate the number of stitches to obtain the width at each point. Then calculate the number of rows needed to obtain the length at each point. You must then calculate the sequence of increases and decreases in order to achieve the shaping of your garment.
From Gauge Swatch to Pattern Writing

The following examples will show you how to work out the various pattern calculations.

Let’s plan this garment with a gauge of 4.5 stitches = 1 inch (2.5cm) and 6 rows = 1 inch (2.5cm). To find the number of stitches needed to give the width of 18 inches, you must multiply 18 inches (46cm) x 4.5 stitches per inch (2.5cm) = 81 stitches. Any required width can be worked out by using this same method. If the answer is a fraction, take the number either above or below according to whether the number of stitches needed is to be odd or even, depending upon the design of your garment.

To find the number of rows needed to achieve the correct length at various points, make a similar calculation. To find the number of rows needed to give the length of 8.5 inches (21.5cm), you must multiply 8.5 inches (21.5cm) x 6 rows per inch (2.5cm) = 51 rows. Any required length can be worked out in the same way.

Calculate the Sequence of Increases and Decreases

Take for example that you need to subtract 12 stitches from each side of a neckline and there are 51 rows in which to complete these decreases: divide 51 by 12 = 4 rows. Therefore, you decrease one stitch each side every 4 rows, 12 times. It is preferable to always work your increases or decreases on the same side of the work, whether the right or wrong side.
### Sample Measurements

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<th>FINISHED</th>
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<tr>
<td>Shoulder</td>
<td>14 1/2”</td>
<td>14 1/2”</td>
</tr>
<tr>
<td>Back of neck to bottom</td>
<td>24 1/2”</td>
<td>24 1/2”</td>
</tr>
<tr>
<td>Upper Arm</td>
<td>13”</td>
<td>15 1/2”</td>
</tr>
<tr>
<td>Wrist</td>
<td>5 1/2”</td>
<td>6 1/2”</td>
</tr>
<tr>
<td>Sleeve length</td>
<td>17”</td>
<td>17”</td>
</tr>
</tbody>
</table>

**NOTE:** These schematics should be read from the bottom up.

---

**Back**

- Start: Cast on 100 stitches
- K1, P1 rib on needles 2 sizes smaller for 2” (5cm)
- 16” (40.5cm) or desired length to underarm
- 20” (51cm) or desired length to underarm
- 24 1/2” (62.3cm)
- 14” (36.8cm)
- 8 1/2” (21.5cm)
- 7 sts on holder
- 30 sts
- 14 sts

**Finish**

- Start: 30 sts on holder
- 21 ÷ 3 = 7sts to be BO and dec at beg of next 6 rows
- 72 - 30 = 42 sts, 42 ÷ 2 = 21 sts on each shoulder
- Dec 1 st each side every other row 7 times
- BO 7 sts at beg of next 4 rows
- 28 ÷ 2 = 14 sts to be BO and dec at each armhole
- 100 - 72 = 28 sts
- Change to larger needles and knit to 16” (40.5cm) or desired length to underarm
- K1, P1 rib on needles 2 sizes smaller for 2” (5cm)
- Cast on 100 stitches

**Gauge:** 5 stitches = 1 inch (2.5cm)

**Diagram 119**
**Front**

1. **Start**
   - 16" (40.5 cm) or desired length to underarm
   - Work as for back until piece measures 3" (7.5 cm) less than back

2. **Pattern Writing**
   - Bind off 7 sts at each armhole edge 3 times
   - 21 sts each neck edge
   - Dec 1 st every other row twice (5 sts each side)
   - Dec 1 st at each neck edge every row 3 times,
   - Work 26 sts and place 20 sts on holder
   - Attach another ball of yarn and work remaining 26 sts
   - 52 divided 2 = 26
   - 72 - 20 = 52
   - 30 - 10 dec = 20 on holder at front neck
   - (30 sts at back of neck)
   - Work as for back until piece measures 3" (7.5 cm) less than back

3. **Finish**
   - BO 7 sts at beg of next 4 rows (to match armhole BOs)
   - 49 sts + 28 sts = 77 sts
   - Inc 1 st each end every 1" (2.5 cm) 14 times 14 x 2 = 28 sts
   - 151/2" x 5 sts per 1" (2.5 cm) = 77 sts
   - 34 sts + 15 sts = 49 sts
   - Inc 15 sts across last row of rib, change to larger needles
   - K1, P1 rib on needles 2 sizes smaller for 3 inches
   - 6 1/2" x 5 sts per 1" (2.5 cm) = 34 sts
   - (round up to the nearest even number)

**Sleeve**

1. **Start**
   - 17" (43.2 cm)

2. **Pattern Writing**
   - BO 15 sts.  3" (7.5 cm) x 5 sts per 1" (2.5 cm) = 15 sts
   - Approx 3" (7.5 cm) left at top of sleeve cap
   - Dec 1 st each end every other row until 15 sts remain
   - BO 7 sts at beg of next 4 rows (to match armhole BOs)
   - 49 sts + 28 sts = 77 sts
   - Inc 1 st each end every 1" (2.5 cm) 14 times 14 x 2 = 28 sts
   - 151/2" x 5 sts per 1" (2.5 cm) = 77 sts
   - 34 sts + 15 sts = 49 sts
   - Inc 15 sts across last row of rib, change to larger needles
   - K1, P1 rib on needles 2 sizes smaller for 3 inches
   - 6 1/2" x 5 sts per 1" (2.5 cm) = 34 sts
   - (round up to the nearest even number)

**Diagram 120**

**Diagram 121**

**Gauge:** 5 stitches = 1 inch (2.5 cm)
Designer Guidelines

If you are interested in designing crocheted or knitted projects for publication, there is a section in the Standards & Guidelines for Crochet and Knit [YarnStandards.com] with tips for submitting a project idea and common pitfalls to avoid. These guidelines were prepared by editors and yarn company designers and should always be followed when submitting design ideas as well as final projects.
Glossary of Common Knitting Terms

Aran Knitting: Also called fisherman-style knitting is a kind of pattern generally using one color and featuring heavily textured stitches such as cables and moss stitches.

At the Same Time: Two different pieces of a project are worked simultaneously, while retaining the same pattern stitch and shaping.

Binding Off: A method of fastening down the last row of loops on a knitted piece so the work will not unravel. Binding off is also used for shaping and for buttonholes.

Brackets [ ]: Used for clarity when a section of instructions already contains a set of parentheses. Instructions in brackets are worked in the same way as instructions in parentheses.

Cable Stitches: Groups of stitches that are twisted at regular intervals to give an appearance similar to a twisted cord.

Casting On: Placing stitches on a needle. There are many methods of casting on, each suitable for different purposes.

Changing Needles: Many patterns call for two different sizes of knitting needles to be used for different sections of a knitted piece. To change from one size to another, begin working with the new size in the right hand, working in the stitch pattern called for in the instructions. When the row is completed, the left hand needle will be empty, and should then be replaced with the second needle of the new size.

Decreasing: Shaping a knitted piece by reducing the number of stitches in a row. Two common methods of decreasing — working two stitches together (k2tog), or slip, slip, knit these two stitches together (ssk).

Dye Lot: Yarn is dyed in batches or “dye lots” and yarn labels will list a dye lot number. Every skein of yarn dyed in the same batch will be exactly the same color. Skeins from different dye lots will have slightly different colors. When purchasing yarn for a project, it is important to check the dye lot number on each skein of yarn to be sure they are the same.

Fair Isle Knitting: Describes a variety of patterns created by the use of two or more colors in a row. It’s also called “stranding.” The unused color is carried along the back of the work.

Finish Off: Pulling the cut end of the yarn through the last remaining stitch and tightening. Finishing off the last stitch prevents the work from unraveling.

Fisherman-style Knitting: See Aran Knitting

Garter Stitch: Knit every row.

Gauge: The number of stitches to the inch/centimeter, and/or number of rows to the inch/centimeter on a knitted piece. For a complete description of the importance of gauge, and instructions on how to measure it, see the section of the text entitled Making a Gauge Swatch (see page 28).

Marker: Used to indicate the beginning of a round, the beginning of a section of pattern stitches or the beginning of decreases or increases. There are a variety of markers sold, including small plastic rings with an opening on one side called a split marker, but many people use a contrasting color of yarn or thread tied in a circle can also be used.

Measure Your Work: Measure the length of a project by laying it on a flat surface. Start measuring from just below the needle to the bottom edge.
Multiple: The number of stitches required to complete one repeat of the pattern stitch.

Parentheses ( ): Work the instructions within the parentheses as many times as specified by the number following the parentheses. For example, “k4, (pl, k2tog) 3 times, k4” (10cm) means that you would k4, then pl, k2tog, pl, k2tog, p1, k2tog, ending with the k4. Repeat only what is in the parentheses.

Picking Up Stitches: A technique frequently used to work bands around neck openings and armholes. After the pieces of the garment are bound off and sewn together, additional stitches are picked up along the neck or armhole using new skein of yarn and a knitting needle. The stitches are then worked in ribbing or other stitch patterns to create a band, collar or other addition.

Ply: This is a term that refers to the number of thinner strands that are twisted together to make a yarn. For instance, a 4-ply, worsted weight yarn is made up of 4 thin strands.

Repeat Instructions From *: Repeat the instructions between the astericks either across the row, or for the number of times given. This would be in addition to the first time you work the instructions. For example, “p2 * k3, P3, repeat from * 2 times” means: p2, k3, p3, k3, p3, k3, p3. If instructions say “repeat from * 4 times,” you would work the instructions once, then 4 more times.

Reverse Stockinette Stitch: Created by knitting and purling alternate rows, then using the bumpy or purl side as the right or outer side.

Ribbing: An elastic stitching pattern frequently used on cuffs, bottoms of sweaters and neck bands. A repetitive pattern, such as “k1, p1,” or “k 3, p1,” is established, then maintained for several rows.

Right Side: The outer or visible side of a project piece.

Right and Left: When applied to parts of a garment, e.g., right front or left front, etc., this refers to the part of garment as if you were already wearing it.

Seam: The place where two pieces are stitched together.

Slip Marker: Transfer the marker from one needle to the other.

Slipping A Stitch: The needle is inserted into the next stitch, then the stitch is transferred to the right needle, without being worked. Unless otherwise instructed, insert the needle as if you were going to purl the stitch, then transfer it to the right needle.

Stockinette Stitch: A pattern created by knitting and purling alternate rows. The smooth side (knit) is the right side and is called the stockinette side.

Stranding: See Fair Isle Knitting

Swatch: Sample square to test gauge.

Weight: A term referring to the thickness of a yarn. Refer to www.YarnStandards.com for the basic yarn weight categories.

Work Across or Work in Established Pattern: Continue working in the same manner as you have in previous rows.

Work Even: Continue to work in the pattern as established, without working any increases or decreases.

Wrong Side: The inside (hidden) side of a project piece.

Yarn Over: Yarn is wrapped around the needle creating a new stitch.
There are many variables to consider when evaluating a student’s project or judging a competition. For instance, you might be asked to judge at a state fair where most entries might be made from commercial patterns and kits, or you might be asked to judge an original design contest at an art exhibit. Following are general skill guidelines to assist you in evaluating completed knit and crochet projects and are points to suggest any needed improvements.

It is important to note that an individual’s work should not be compared to others, but that each piece of work should be evaluated on its own merits. Also, a judge’s personal preferences should not influence her or his ability to evaluate an entry fairly.

**CRAFTSMANSHIP**

A uniform tension should be evident throughout the project. The individual should achieve gauge and be able to understand and control the technique used to make the project. An appropriate method of joining sections should be used and all yarn ends should be properly finished. The project should be clean. If used, the ribbing should be even, firm, and elastic.

**MATERIALS**

The weight and texture of yarn should be appropriate to project appearance and function. The fiber content should be appropriate for the type of project.

**DESIGN**

Color should enhance the stitch technique used and the type of project. Texture of the yarn or stitch should be appropriate and compliment the project.

**PROJECT COMPLEXITY**

In some instances the overall complexity of the project will figure into a judge’s evaluation, whether the project is made from a commercial pattern or an original design.