Compendium

The Essential Guide to the History, Art, and Use of Hiroshima Needles

tips & tricks

for beading, handstitching, knitting, crocheting, & needle felting

Curated by **Melinda Barta** and the Tulip Brand Company of Hiroshima, Japan

Produced by Starman, Inc. in collaboration with Tulip Company Ltd.





All photos, text, and other content are Copyright ©Starman, Inc. 2017 or Tulip Company Limited. All rights reserved.

Text by Melinda Barta and Tulip Company Limited.

Product photography by Lisa Jordan. Other photographs courtesy of Tulip Company Limited and TOHO Beads.

Other brand names are used with permission and are property of their respective owners.

Please do not republish in any way without obtaining prior permission.





HISTORY	6
Historical Timeline of Needles & Hook	6
Celebrating Handcrafting in Japan	8
Hiroshima's Needle Making History	
THE ART OF MANUFACTURING	11
Beading & Handstitching Needles	11
Bamboo Needles & Hooks	12
Steel & Aluminum Needles & Hooks	
BEADING NEEDLES	
The Anatomy of a Beading Needle	
Beadweaving Needle Basics	
Specialty Beading Needles	
Bead Crochet Hooks	
Bead Knitting Needles	
Awls for Beading & Crafting	
Beading Tips & Tricks	
HANDSTITCHING NEEDLES	
The Anatomy of a Handstitching Needle	
Handstitching Needle Basics Handstitching Needle Types	
Handstitching Tools	
Handstitching Tips & Tricks	
KNITTING NEEDLES	
The Anatomy of a Knitting Needle	
Knitting Needle Basics	
Knitting Accessories	
Knitting Tips & Tricks	
CROCHET HOOKS	
The Anatomy of a Crochet Hook	
Crochet Hook Basics	46
Crocheting Accessories	
Crocheting Tips & Tricks	50
NEEDLE FELTING	52
The Anatomy of a Felting Needle	53
Felting Needle Basics	54
Needle Felting Tips & Tricks	55
RESOURCES	
Handstitching Needle Quick Guide	
Hiroshima Needle (Tulip) 2017 Buyer's Guide	58
CONCLUSION & THANK YOU	
INDEX	76

WELCOME

This book was written for handcrafting enthusiasts who enjoy beading, embroidery, knitting, crocheting, and needle felting. Just as a carpenter would research the best saw blades and a chef would seek the most ergonomic knife, it's important for crafters to approach their tool selections with care. Each chapter of this book will educate you on the anatomy of

tools, provide basic information on how the tools are used, help you choose the correct sizes, discuss specialty tools, and finish up with helpful tips and tricks.

Though most handcrafting tools seem harmless, choosing the wrong tools can lead to major discomfort, arthritis, and hand fatigue. With this book, you'll learn how the best handstitching tools are made and the important key features that allow you to enjoy crafting for hours on end. Good tools are also a smart economic choice: By investing in long-lasting quality products, you'll avoid the need to continuously restock bent and broken tools.



If you're like me, you love to know how things are made. See page 11 for a behind-

the-scenes look at the production of Hiroshima handstitching needles, knitting needles, and crochet hooks. A bit of history on the origin of needles is included on pages 6 and 7.

If beading—be it beadweaving, bead embroidery or bead crochet—is your passion, start at page 14 for the ins and outs of what makes an ideal needle, how to use awls, and more. Turn to page 34 for knitting and page 44 for crochet. Needle felting is a fun way to create three-dimensional objects. Learn about this craft on page 52.

Last but not least, be sure to reference the handy Quick Guides starting on page 56. Here you'll find comprehensive sizing charts that you're sure to revisit again and again.

Have fun with all that you create and choose your tools wisely.

Melinda Barta

Starman Inc. Content Curator Produced in collaboration with the Tulip Brand Company of Hiroshima, Japan

HISTORY

Historical Timeline of Needles & Hook

Though seemingly simple in form, the sewing needle is one of the most important tools invented in history. With this tool, clothes can be sewn, shelter can be fabricated, and medical sutures are possible. While the first sewing needle dates back 50,000 years, knitting wasn't seen until the 11th century AD and crochet originated in the 19th century AD.

Knitting Needles & Crochet Hooks

1000s

The earliest known knitted artifacts are socks from 11th century AD Egypt. Because of the socks' complex and sophisticated construction, many archaeologist suspect knitting originated before this time ¹

1500s

Though the 11th century AD Egyptian knitted socks feature a purl stitch, the knowledge must have been lost because the technique wasn't common in Europe until the mid-16th century.¹

1800s

The first crocheted fabric made with the style of crochet hook that's common today dates back to 19th century Europe. (Not to be confused with Viking-era nålebinding.) Even instructions for crocheted items were printed in the 1800s, allowing the craft to be shared by all.⁴

1845–1849

Lace was crocheted in Ireland for income during the Great Irish Famine of the mid-1800s. Eleonore Riego de la Branchardiere published a book of patterns in 1846. The popularity of crocheted lace spread to America and Europe.⁴

Earliest Materials

Since metal-making technology was well in existence by the time knitting and crochet techniques were developed, the first knitting needles were made of metal.² The earliest crochet tools are fingers (loops can be made by hand) and hooks made of metal, bone, wood, and horn.³



Present Day

Today, knitting and crocheting have become a social crafts shared by all ages and genders. They inspire fun, and sometimes quirky, gatherings where people set Guinness World Records On April 24th, 2015, a record was set at American University of Nigeria in Yola, Nigeria, when 485 people crocheted simultaneously. The longest team-knitted scarf in the Guinness records measures 33.74 miles (54.29 km) and was knitted by volunteers, friends, and supporters of Ty Hafan, The Children's Hospice in Wales; the project began in 2002 and was measured for the record in 2005.5

6 | Crafting Needle Compendium

See page 74 for sources.

Sewing Needles

50,000 years ago

In 2016, a needle made of a bird's bone was discovered in Denisova Cave in the Altai Mountains of Siberia, Russia. It is known to be the most ancient needle in history, features an eye opposite the tip, and was made by Denisovans, a subspecies of human.⁶

1496

Though innovators from many cultures worked at developing technology to point needles, Leonardo da Vinci is one of the most notable inventors to try. He created a machine to finish needle points in 1496.¹

1948 to present day

Needle production had its beginnings in Japan more than 300 years ago and in 1948, following the aftermath of WW II, most Hiroshima needle artisans formally consolidated under the Tulip Brand Company. Their cutting, grinding, and polishing techniques are so advanced, they have been applied to the electronics industry. Today, Tulip leads the needle industry by continuing to supply the craft industry with top-quality products.

7,000 BC

With the Bronze Age came advancements in metalwork, including the production of metal needles. Copper was the first metal to be used for needle production. ⁷ Due to oxidization, even needles made as recently as the 19th century are rarely found intact.⁸

1600s

Well-made silver and gold needles were so rare and treasured that they were carefully stored inside of a special pouch and carried on the belt of a wealthy person's head of house.¹¹

In 1639, England began producing needles in the small town of Redditch. The factory is credited for being the first to use the drawnwire process that is used in manufacturing today.¹²

900

By the first century AD, China refined its steelproducing technology to the point where steel could be used for needles. Needles were among items that could be produced in higher volumes with reasonably good quality. ⁹

1800s

Around 1800, Balthasar Krems of Mayen, Germany created a needle with the eve close to the point, a revolutionary invention that accelerated the development of the mechanized sewing machine.13 By the mid-1800s, due to the technical advancements of the Industrial Revolution, 50 million needles could be made in a single week at the world-renown factories in Redditch, England. However, these advancements led to dangerous conditions for factory workers.14



"Kakesumiya Iron Mine," from the private collection of Masahiro Kake, detailing production methods used in traditional Japanese iron mines.

Celebrating Handcrafting in Japan

Handcrafting plays a significant role in many cultures around the world. In Japan, handstitching is part of everyday life. Techniques are formally taught to children in school and tools are honored in annual celebrations.



The Festival of Broken Needles

During *Hari* (needle)-*kuyo* (memorial), the annual festival of broken and dull needles, Japanese needleworkers give thanks to their handstitching needles and pins that have broken during service in the past year. During this celebration, they also pray for better handstitching skills. Depending on the region in Japan, this is held on either February 8th or December 8th. This festival originated over 400 years ago in Japan as a way for needleworkers to pay respect and give thanks for their tools.¹⁵

At the Tulip factory in Hiroshima, Hari-kuyo takes place in their offices and factory each year on December 8th. In most festivals, the useless needles are stuck to tofu or *Konnyaku*, jelly made from devil's-tongue starch. Needles are placed in soft tofu "in a spirit of tenderness."¹⁵ Because Tulip is a needle-manufacturing factory, participants always honor best-quality needles and pray they can make more.



The scene of the ceremony at Tulip is also very interesting because of the various kinds and sizes of needles stuck in the tofu, including the unique micron-size tungsten and bamboo needles produced by the factory.

Save your worn and broken needles and thank them for their hours of service on December 8th of each year.

8 | Crafting Needle Compendium



The iconic symbol of Hiroshima, the torii gate (shrine entrance) of Miyajima island.

Bellows Festival

At the same time as Hari-kuyo—or on November 8th depending on the lunar calendar—Tulip also holds a Bellows Festival at its factory. (A bellow is a device that provides air to fuel a furnace.) Because needle production requires a treatment of heat, festival-goers thank the god of fire and pray for the prosperity and safety of their factory. In some areas of Japan, this is called a *"Tatara* (furnace) Festival."

Traditionally, charcoal and bellows were used to create the heat needed for manufacturing. During festivals of the past, the craftsmen would clean and praise the bellows. Though electric furnaces are used instead of bellows and charcoal in the present day, honoring fire and praying for safety is still tradition.

How Beaders Celebrate

Beaders celebrate everyday occasions with handcrafted gifts, including these projects from TOHO Beads of Japan. They also enjoy making traditional objects for special occasions, such as the symbol animal of the current year. Each March, many beaders participate in the *Hinamatsuri* Festival, also known as "Doll's Day," when special dolls are displayed for a very short time of the year.



Hiroshima's Needle Making History

The early history of *Hiroshimabari* (Hiroshima needle) production dates back over 300 years, to when the ruling Asano Clan of Hiroshima Domain spread the practice as piecework for low-ranking samurai to support themselves. Since then, there have been numerous improvements in terms of both product quality and production efficiency and Hiroshimabari has become widely known as a distinctive local industry.

Tulip Brand Company's needle factory

is located in a region called Kake (in the present-day town of Akiota), about 31 miles (50 km) upstream from Hiroshima Bay along the Otagawa River. During the Edo Period (1603-1868), Kake was known as the region's "center for tatara (furnace) ironmaking." The Kake Region achieved great prosperity through the use of water transport on the Otagawa River to bring in necessary materials and supplies from around Japan, while also serving as a center for transporting iron produced through tatara ironmaking to Hiroshima. In the same way, Hiroshimabari production developed through shipping this tatara iron, which was made using iron sand (a sand-like substance containing ore) from Kake, on the Otagawa River to the present-day city of Hiroshima, where it was processed into needles. As Hiroshima Domain had a monopoly on this iron, the production of sewing needles quickly developed into a distinctive local industry.

Since 1979, Tulip has also been active in the electronics industry by applying their advanced technologies used in needle manufacturing to the production of test probes. Even today, Hiroshima remains the largest sewing needle production center in Japan, producing over 90% of the country's sewing needles and pins. In 1953, the company also began manufacturing crochet hooks and knitting needles; their crochet hooks have been exported to more than forty countries. Tulip's craftsmen are accustomed to carefully handling extremely fine needles and work hard every day to make new products that help promote and sustain traditional techniques that have been passed down.



Making steel crochet hooks at Tulip's Hiroshima factory.

THE ART OF MANUFACTURING

Behind the Scenes

The Making of Beading & Handstitching Needles



Points gradually sharpened by repeat grinding.

Behind the Scenes

Bamboo Knitting Needles & Crochet Hooks

Bamboo is a strong material that is ideal for knitting needles and crochet hooks because it gives objects a natural feeling of warmth. Plus, as one of the fastestgrowing plants in the world, bamboo is a sustainable material.

Harvest and preparation

Many may consider bamboo to be wood because of its versatility and strength, but it's actually in the grass family. In Japan, it is harvested in dry winter months, before the rainy season begins. Once harvested and dried, it's ready to be cut and split into smaller pieces in preparation for additional machine cutting.

At the Factory

Throughout the manufacturing process, bamboo undergoes further cutting and curing processes to prevent splitting and warping. Points must be added to knitting needles and notches are cut to create crochet hooks.

Below, a machine at the Tulip factory in Hiroshima, aids in the manufacturing of bamboo needles and hooks. Bamboo is cut by machine and then undergoes several finishing steps to produce a smooth and durable surface. Only expertly finished bamboo surfaces are suitable for knitting and crocheting tools because roughly finished surfaces cause yarn to snag.



Steel & Aluminum Needles & Hooks

Whether they're made of steel or aluminum, crochet hooks and knitting needles often begin their life as wire. Steel is used for small crochet hooks and knitting needles; lightweight aluminum is used for the larger varieties.

Processing

Sewing needles aren't the only craft tool that begin as wire. In fact, Hiroshima steel and aluminum tools both start as wire and are then pressed into shape by machine.

Steel

Hiroshima steel crochet hooks are made of carbon steel. After being pressed, they go through stages of hook grinding, hardening, and tempering to ensure the strongest product. Many are finished with goldplated tips to produce smooth, snagfree hooks. Because of their small size, steel hooks are used for crocheting lace (and other fine items) with thread and for bead crochet. Steel is also used for bead knitting needles.

Aluminum

This is a great material for larger crochet hooks because it is both lightweight and durable. You'll often fine aluminum tools coated with fun colors. Aluminum tools undergo several finishing stages to ensure a highly refined surface that makes it easy to create and transfer stitches. This material is also used for knitting needles: Some knitters enjoy the sound of clicking metal while they knit, while others avoid it by opting for bamboo or wood knitting needles instead.







BEADING NEEDLES

Beadweaving is a soothing, repetitive process and your needle should glide smoothly through each stitch. Here you will learn the ideal qualities of beading needles, how to choose the right needle for your project, and guidelines for selecting the best needle you can find for hours of pleasurable beading.

The Anatomy of a Beading Needle*



* These are characteristics of #10 (long), #11, and #12 beading needles. See the following pages for information on sharp (short) and specialty beading needles.





Beadweaving Needle Basics

Needles designed for beadweaving are available in just a few sizes so choosing one seems easy. However, since beading with the wrong needle can be frustrating, here you will learn what makes a good needle.



Quality

When beading, nothing is more disappointing than breaking a needle, and the bits can be dangerous if not disposed of properly. Choose the highest quality needles you can find, seeking out the characteristics below and on the previous page.

Eye Shape

Beading needles have oval eyes to accommodate different thread types. Make sure the thread end has a clean cut and flatten it with your fingers, pliers, or even your teeth so it can easily pass through the oval eye. Smooth eyes prevent frayed thread.



Flexibility

A beading needle can undergo a lot of stress when angling between tightly spaced beads, making it important to choose a needle that is flexible. Seek needles that are warp resistant because once a needle is bent, it can be hard to hold, difficult to aim when picking up beads, and prone to breakage. Hiroshima beading needles are known for their resilient flexibility.



Bent and damaged low-quality needles cause frustration and the broken pieces can cause injury. Hiroshima needles are resistant to breakage and warping, yet have just enough give to flex in tight spots.

Sizing

Beading needles come in two sizes: long and short (called "sharp"). If your needles aren't labeled, they are most likely the longer variety. Although short needles are called "sharps," their tips are the same sharpness as their longer counterparts; they are mostly used when working in tight spots, with short thread, and for bead embroidery.

Though some beaders prefer to use sharps for all beading projects, most find longer needles easier to hold (which means less hand fatigue) and quicker to work with. The larger the number, the thinner the needle. A size 10 or 11 beading needle works well with size 11° and 8° seed beads and shaped beads because shaped beads typically have larger holes and are heavy; choose a size 12 or 13 beading needle when working with size 15° seed beads and when stitching in tight spots.

#10 Lon	g 0.46mm X 51.0mm	_
#10 Sho	ort 0.46mm X 37.0mm	-
#11	0.41mm X 48.5mm	
#12	0.35mm X 47.5.mm	
#13	0.30mm X 35.0mm	



#IO Sharp

Use a size IO sharp (short) needle for bead embroidery; its sturdy body can pierce through beading foundation, yet it's thin enough to string seed beads.



#IO Long

Size IO beading needles are long and sturdy, making them perfect for stitching large shaped beads, such as these CzechMates, Size II° and larger seed beads also pair well.



#I2 Long

Use a size I2 beading needle anytime you have trouble fitting a size IO (long) beading needle through beads. If you force a thick needle, the bead will break. A size I2 needle also works well with size I5° seed beads.

Specialty Beading Needles





Loomwork Needles

The eye and tip of a loomwork needle is just like a beading needle, but its body is very long to accommodate the width of most beading looms. Hiroshima loomwork needles are 0.5mm thick and about 3 1/2" (90mm) long.



Twisted-Wire Needles

This long needle is made of wire that has been carefully folded and twisted. The folded section opposite the tip creates a very large eye that compresses as it passes through a bead. It can accommodate thick stringing material because of its very large eye, making it the ideal needle for threading beads on cord for bead crochet and kumihimo. Hiroshima twisted wire needles come in two lengths: about 2 ¾" (70mm) and 4 ¾" (120mm).

Bead Crochet Hooks

Mastering bead crochet is a skill that takes time to develop, but with the right teacher and the right tools, you can certainly become proficient.



Selecting a Hook

Look for a steel bead crochet hook with a smooth, deep notch under the head. This is because it's very important to find one with a notch that won't allow the thread to easily slip out. Smooth hook tips make it effortless to pass through previous stitches. Also, be mindful of the thread you're using—if you chose a thread that's not suited for bead crochet your first time out, your experience is sure to end in frustration.

Bead crochet hooks with a comfortable cushion grip will help prevent hand fatigue and allow you to enjoy crafting for hours on end. These versatile hooks can also be used for crochet lace. See page 44 for more information on crochet.

Bead Crochet Hook Sizes

No.	Width
0	1.75mm
2	1.50mm
4	1.25mm
6	1.00mm
8	0.90mm



Bead crochet necklace by Candice Sexton.

Bead Knitting Needles

Bead knitting is fine and delicate work. Beads are prestrung onto thread or yarn, so be sure to plan your patterns and colors before your start.



Durability

Bead knitting needles are made of metal to make them strong, thin, long, and sturdy. Hiroshima bead knitting needles are nickel-coated for smoothness, plus they are flexible yet resistant to bend. The point is slightly rounded to avoid splitting thread. Prestrung beads are slid into place as you knit.

Bead Knitting Needle Sizes

Short 1.30mm x 110.0mm Long 1.30mm x 200.0mm

Awls for Beading & Crafting

An awl is a handheld tool with a cushion-grip handle and a fine metal point. Awls are ideal for beaders, but they also have many other craft applications. Though the tip must be fine, make sure you choose one with a slightly rounded tip so it doesn't damage your thread and other craft materials.



Fine Beading Awl

The thin, slightly sharp tip of this awl is perfect for deburring the holes of pearls and the holes of other beads filled with excess glass or coating. The sharp tip is also handy for untangling threads, undoing and hiding knots, pushing beads into place, and helping position a knot close to the beadwork when pulling the knot tight. See page 23 for information on how to break a misplaced seed bead with an awl.

Sharp-Tip Craft Awl

This awl is optimal for making holes in fabric or thin leather and is also useful for deburring objects such as pearl beads.

Round-Tip Craft Awl

This style is very useful for various types of craft, including paper craft, leather craft, and sewing. It is great for placing stickers because it prevents your fingers from accidentally removing the adhesive.

Bent-Tip Craft Awl

The round tip of this awl is bent at a user-friendly angle for various types of crafting, including machine sewing and quilting.



Beading Tips & Tricks

Choose the Right Needle Size

Selecting the right needle size for beading is quite easy since the choices aren't very overwhelming. Use a size 10 or 11 needle with size 11° and 8° seed beads and a size 12 or 13 needle with size 15° seed beads. Use short "sharps" in tight spots and for bead embroidery, or if you prefer short needles.

Storing and Caring for Needles

Wipe off natural oils from your hands before storing your needles to protect their finish. To store, place them in their original packaging or a hard case so they can't be bent.

Needling a Thread

Needle a thread, don't thread a needle! What exactly does this helpful tip mean? Hold the thread so it barely peeks out between your thumb and index finger on your non-dominant hand, then lower the eye of the needle down the tip of the thread. This is much easier than holding the needle and thread in midair.

How to Double Your Thread

Doubled thread helps make projects sturdy, especially when attaching clasps, but beware it can tangle easily when tearing out incorrect stitches. To double a thread at the beginning



of a project, slide a needle to the center of long thread and fold the thread in half. To double a thread mid-project, pull on the tail so it extends beyond the beadwork and slide the needle down the thread so the thread can fold in half.

Pairing Needles and Thread

In beading, there are no set rules that say you must use a certain size needle with a certain brand of thread. Trust your instinct and a little trial and error: If you're using a thick thread and you find it hard to pass through the needle's eye, choose a larger needle.

How to Prevent Tangles and Knots

Avoid tangles and knots by pretreating your thread with beeswax, microcrystalline wax, or thread conditioner. If a thread keeps twisting, hold your work in the air so the needle can dangle, then allow the thread to unwind. To open up a knot and undo it, use the fine tip of a beading awl.

Ending a Short Tail

Running out of thread? Short beading needles, called sharps, are perfect for tying off short tail threads.

Think Ahead

Beads can vary from one lot to the next and specialty colors are often discontinued. Because of this, after making any special project or gift, put extra beads in a small labeled bag in case you need them for future repairs.

22 | Crafting Needle Compendium

What if My Needle Breaks

If a needle breaks it's time to reassess your materials (are your needles good enough?), your project (are you forcing a stitch where it doesn't belong?), and your needle size (is it too thick or thin for the task at hand?). Breaks can happen, so be sure to dispose of the needle bits properly by returning them to the package they came in or by wrapping them in tape.

Avoid Break Breakage

Switch to a smaller, thinner needle if you're breaking beads. Remember seed beads are made of glass, so strong forces can shatter them. Once a bead fills with thread, don't expect a large needle to glide through as it did at the beginning of a project.

How to Remove an Extra Bead

To break a misplaced seed bead with an awl, gently push the awl through the bead's hole until the bead breaks; this requires less pressure than you would think and works best with size 15° and 11° seed beads. Weave back through the area to firm up any loose tension. Wearing safety glasses while breaking beads is always a wise idea.

My Needle is Stuck! Now What?

What should you do if you hit a tight spot and it's hard pull your needle through a bead? The best bet is to remove the current needle and replace it with a thinner one. However, if you feel the needle simply needs a gentle tug and that you won't risk breaking a bead, you can use a pair of pliers or a rubber needle grip to hold the needle while you carefully wiggle it free.



Using Stop Beads

Instead of starting each project with a knotted circle of thread, hold a starting strand of beads in place with a temporary stop bead. To do so, string a contrasting-colored seed bead (size 11° or 8° works best), slide it down the thread leaving a 5" (12.7 cm) tail, then pass through it once or twice more. Avoid splitting the thread of previous passes to allow for easy removal. Once a project is done, or after your starting rows/ rounds are secure, carefully loosen the threads and remove the bead.





HANDSTITCHING NEEDLES

for Quilting, Embroidery, and Sewing

There are many needle styles suitable for handstitching. A perfect needle is one that features a moderately flexible body that is hard to break, a smooth needle eye for easy threading, and a needle point that passes through fabric smoothly.



The Anatomy of a Handstitching Needle

Handstitching Needle Basics

Tools should be frustration-free so you can fully enjoy your craft. Learn the basic qualities of needles so you can outfit your stash with the best tools for the job.



Quality

Sewing needles may be small tools, but a really good quality needle is never thrown away. High-quality Hiroshima needles are long-lasting because they're resistant to bending. Their smooth-stitching exterior reduces hand fatigue and speeds up project completion time, their smooth eyes are easy to thread, and their tips stay sharp project after project. The eye of each Hiroshima needle is inspected by skilled craftsmen before distribution. Lower-quality needles don't retain their shape or finish as well; replace bent needles before they break and

The eye of the left needle shows imperfections that can fray your thread while the rough outsides prevent a smooth sewing process. The needle to the right, manufactured in Hiroshima, is finished and tested with precision to achieve a highly polished finish that is pleasing to use.



dispose of them safely. Whether you're making heirlooms or simply stitching on a lost button, quality matters!

Thickness

Wipe off natural oils from your Your material type will help determine how thick of a needle you require. A thick, sturdy leather needle is needed for leather while a thin embroidery needle is well suited for delicate fabrics. See choices on the following pages and on pages 56–57.

Sharp vs. Round Point

Choose a needle with a sharp point when you need to pierce through the fabric, join multiple fabric layers, or sew through thick materials including leather. When your needle needs to slip between fibers, as when cross-stitching or working with knitted/crocheted surfaces, choose a round-tip needle.

General Sizing

Though there are some variations, follow this general rule for understanding handstitching needle sizes: The larger the number, the shorter and thinner the needle. For example, a size 12 embroidery needle is smaller than a size 8. Know that sizing isn't consistent from one style to the next; for example, a size 12 beading needle won't be the same thickness as a size 12 embroidery needle.

Length of Needle

Your project at hand will determine whether you need a short or long needle. For example, quilting/between needles are among the shortest and allow you to make tiny stitches through multiple layers, while quilt basting needles are long so you can take multiple stitches in one pass with a rocking motion. Start with a longer needle if you're new to handwork and then size your way down because short needles can be difficult to grip in tight spots and lead to hand fatigue.

Metal Finish

The first needles were made of bone, wood, and other natural materials. Thanks to modern technology, the best needles are now made of steel and are either polished or plated. Polished steel needles don't require plating. Those from Hiroshima are polished lengthwise in streaks to minimize the contact surface with the cloth, ensuring a smooth passage through fabric and producing a superior finish. Plated needles are finished with nickel and sometimes feature goldplated eyes. Choose the best plated needles available as plating on lowerquality needles can come undone, leaving a rough, unusable needle.

Length and Shape of Eye

Needles are available with two different eye shapes: round and oval. Note that on some needle styles, the "round" eye may actually be slightly oval; those with "oval" eyes feature a more pronounced, long oval. A round eye is ideal when using sewing thread because it matches the shape of the thread and, since the eye is small, thread is less prone to slip out. Use a needle with an oval eye with thick threads or multiple strands of thread. Tapestry and embroidery needles are the most common with oval eyes. Oval-eye needles with very long eves are often called "Big Eve." Flatten embroidery floss strands with your fingers (or even your teeth!) to ease the task of threading.



Handstitching Needle Types

Not all needles are alike and the thought of understanding over a dozen different types can be very overwhelming. Find the characteristics of the major needle types on the next three pages to learn their important differences; a handy chart is on pages 56–57.



Quilting. This needle is also called a "between." You'll find stitches are easy to control with a hand-quilting needle because its shortness and sturdy thickness allows you to easily pass through multiple layers of quilt fabrics and batting. This needle has a round eye.

Piecing. This needle's characteristics are very similar to a quilting needle, but it is longer and thicker, making it suitable for thicker fabrics.

Quilt Basting. Like a quilting and piecing needle, this needle is sturdy and has a round eye. The difference is that it is even longer than a piecing needle, which allows you to make more than one basting stitch in a single pass.

Appliqué. Also called a "sharp," this needle style is great for general sewing projects, including mending. Most sizes available have a round eye, though big eye versions are available, and all have a sharp tip. **Sewing.** Similar to an appliqué needle with a round eye and sharp tip, this needle is also well-suited for general sewing projects; however, it differs because it is available in larger sizes.

Embroidery. This needle is also known as a "crewel" needle because it can be used for crewel (wool work) embroidery. It is comparable to appliqué and sewing needles, but its long oval eye sets it apart. It is available in a wide range of sizes and is a preferred go-to for all handstitching that requires small- to medium-size multistrand embroidery floss.

Sashiko

Sashiko, a traditional Japanese sewing technique featuring patterns created with contrasting colored running stitches, is best worked with this long needle. It features a sharp tip and an oval eye and is also offered in shorter sizes.

Tapestry for Cross-Stitch. This needle has a rounded tip so it can easily slip between the openings in cross-stitch fabric (known as Aida) without catching. The eye is perfectly sized to accommodate multiple strands of cotton embroidery floss.

Tapestry for Yarn. This needle has a very long eye to fit large sewing threads and knitting and crochet yarns. The rounded tip allows the needle to pass between fibers instead of splitting them. It is perfect for needlepoint done with yarn and for finishing knitted and crocheted projects. Use this when teaching kids how to sew.

Chenille. This needle is thick and features a long eye, but don't be fooled into thinking it's a tapestry or sashiko needle—its unique point is its distinguishing characteristic. The tip is sharper than a tapestry needle, but not as sharp as a sashiko needle. Use it when embroidering with wool or other thick fibers that require a long eye.



When mending, hand-piecing quilt squares, or doing any other general sewing with sewing thread, choose a needle with a round eye because small thread has a tendency to slip out of large oval eyes when the thread tail gets short.



Use a size 24 tapestry needle for cross-stitching with 4 to 5 strands of cotton embroidery floss.



Use a size 7 embroidery needle for stitching on medium-weight fabric with 4 to 5 strands of cotton embroidery floss.



Sashiko needles are ideal for making several stitches in a single pass. Hold the needle relatively still while folding and gathering the fabric over the tip of the needle.

Leather. This needle is sturdy and thick with a round eye and a very sharp tip, giving it strength to pass through tough leather. Some varieties have shaped tips, including triangular profiles, to aid in piercing.

Easy-Threading. It's true, this needle threads itself! Pop your thread through the notch at the split end near the eye and you're ready to go. The needle body is similar to an embroidery needle. Try this if you have trouble threading a needle.

Milliner/Straw. As the name suggests, this needle was originally

made for hat makers. Today, it is widely used for various general handsewing applications. It's unique in that it is more flexible than other needles.

Cording. *Boutis* is a traditional French quilting technique that produces a raised effect. Dimension is achieved by quilting together two layers of fabric and by placing cotton stuffing within a design area. This needle is specifically designed for "cording", a process in boutis used to pull cotton threads between fine stitches for stuffing. The round needle tip avoids breaking the fabric and the long eye accommodates thick thread.

Beginner's Corner How to start shopping

A beginner's stash only needs a few needle types to get started. The following Hiroshima needle sets will offer you a good variety of thicknesses and lengths, including a nice selection of different eye hole sizes and both sharp and rounded tips.

> Quilting/Between: Sizes 8, 9, 10, 12 Tapestry for yarn: Sizes 17, 18, 20, 23 Tapestry for cross-stitch: Sizes 22, 23, 24, 25 Embroidery: Sizes 3 through 10 and 12 Chenille: Sizes 18, 20, 22, 24



Handstitching Tools

Handstitching is an accessible and portable craft because so few tools are needed. A small investment in good materials will last for generations to come.



Choosing Pins

Thick pins can leave too large of holes in thin fabric while thin, lowquality pins can bend in thick fabric. You won't risk having pinheads pop off if you choose a high-quality brand, and the decorative options are a plus! If you plan to iron around any pins, chose those with glass heads. Pins with slightly blunt ends are great for knitted and delicate fabrics as they will pass between the fibers instead of piercing them

Understanding Hoops

Here's a great place to save money: Purchase a low-cost wooden hoop and wrap it with a 1" (2.5 cm) wide piece of fabric. Not only is it decorative, but it protects your stitching surface from the wood and helps hold the surface's tension as you work. Have several sizes on hand. Hoops with stands (seen on page 33) and table clamps are also available and free up a second hand for faster stitching. Scroll frames are commonly used for cross-stitch and needlepoint.

Using the Right Cutting Tools

Invest in high-quality scissors for cutting thread because thread with a crisply cut end is the easiest to pass through a needle's eye. To achieve the quickest and most accurate straight fabric cuts, use a sharp rotary cutter, self-healing mat, and clear ruler. To keep the edges sharp, rotary blades and scissors dedicated to cutting fabric shouldn't ever be used to cut paper.



Handstitching Tips & Tricks



Before You Stitch

When creating an item that will be worn and washed, be sure to prewash your fabrics before you start to avoid any shrinkage or color bleeding surprises.

How to Use Individual Strands

Look closely at the most common skeins of cotton embroidery floss and you'll see the thread is actually made of six strands. These strands can be separated and used individually for fine work, combined to create a thread of any thickness, and even mixed with other colors to form beautiful custom blends. Follow these embroidery needle pairing guidelines: Use a size 10 needle for one strand, a size 8 for three strands, and a size 3 for six strands.

Pair Your Thread and Fabric

Try to use thread and fabric made of the same fiber content. This way your project will wear evenly and wash up the same.

Creating Lasting Projects

Look closely at the most common Considering the number of hours you lovingly spend on a project, choosing high-quality needles, fabric, and thread are worth the investment and ensure your heirloom will last for generations to come.

Do I Need a Thimble?

The use of a thimble often comes down to personal preference. Even if you don't wear one for every stitch you make, they are handy for anytime a needle needs a little help getting through a tough spot. To use: Wear the thimble at the tip of your stitching hand's middle finger and use it to push the needle's base. The divots in metal thimbles hold the needle. Thimbles are made of other materials as well, including fabric and plastic; see page 53 for leather thimbles.



Work Double Time

Free up a hand and work faster with a standing embroidery hoop. To use the style shown below, place the paddle under a leg.



Tips For Stitching Ribbon

To hold ribbon in place for embroidery as seen at right, stretch it across the top of a fabric-wrapped hoop and pin it on each side. This is especially great when using velvet ribbon since there's no hoop top that can crush the nap of the velvet.

Needle Threading Tips

Don't think of threading a needle, think of needling a thread! See page 22 for how-to information. Or, let a simple machine do the work: Suitto by Tulip will thread needles 0.46 to 0.76 thick. (See a chart with needle thicknesses on pages 56–57). The secret to success is to use the machine slowly.

How To Remove Pattern Marks

If you used a water-soluble pen to mark your pattern, rinse your finished

project in three or four changes of cold water to remove all marker lines. This process can also remove any excess dye that might remain in the thread; however, high-quality threads won't bleed color. Most light pencil marks can be removed with mild soap. Don't use this process if you stitched with silk thread because silk shouldn't get wet.

Ironing Tips

Iron your fabric well before embroidering using a steam setting or a damp press cloth. Finished projects can be ironed facedown on a fluffy terry cloth towel using a damp press cloth; the nap of the towel will protect the dimension of your stitches.





KNITTING NEEDLES

There's a reason why you see people knitting on trains and planes and in coffee shops with friends—it's an enjoyable craft that's highly addictive. With the proper tools and skills, you'll also soon be knitting hats, socks, dolls, and sweaters for you and your loved ones.

The Anatomy of a Straight Knitting Needle



The Anatomy of a Circular Knitting Needle

Swivel Connection

The best needle/cable joins swivel to prevent your work from twisting. The connection must be smooth and snag-free.

Points

Smooth, rounded points make for enjoyable stitches.

Cable Needles are joined with a center cable.

Knitting Needle Basics

Choosing the knitting tools that are perfect for you often comes down to personal preference, but knowing the ins and outs of these basic materials will help you make informed decisions when starting out.



Material

Metal knitting needles are most commonly made out of stainless steel or aluminum. They are strong, resistant to wear and tear, and some knitters enjoy the clicking sound they can make as you work. However, because metal needles can often feel cold to the touch, some knitters opt for needles made of natural materials like bamboo.

Wood and bamboo knitting needles have a warm tactile quality, a feeling that matches the softness and coziness of yarn. Because they aren't as slippery as metal needles, it's easier to keep stitches more evenly spaced when casting on, etc. Bamboo is strong, lightweight, and a renewable resource.

Plastic needles are also available. Store them carefully, as you would bamboo needles, to avoid breakage. They are

warmer to the touch than metal, but they aren't as slippery as metal. Beware that low-quality plastic needles have been known to snap and may have a seam that's uncomfortable to hold and that prevents the smooth transfer of stitches. Long plastic needles can bend as they aren't as rigid as metal or wood/bamboo needles.

Sizing

Always test your gauge with a swatch! Unfortunately, in knitting, there are no hard and fast rules when it comes to pairing needle size with yarn weight. Even if your project or yarn skein recommends a certain needle size, it's always wise to knit a swatch and measure the gauge before beginning a project. This is because each knitter uses different tension, yarns can have slight variations in weight, and needles sizes may vary from one brand/material to the next.
Length

Straight needles range from 10" to 15" (25.4 to 38.1 cm) long, circular needles are most commonly available 16" to 40" (40.6 to 101.6 cm) long including their center cables, and double-pointed needles are short, measuring 6" to 8" (15.2 to 20.3 cm) long.

Metric vs U.S.

Pay attention to both U.S. and metric sizes when purchasing needles and starting a project. Most patterns will list both units to ensure you're using the right size. Metric measurements refer to a needle's diameter.

Quality

If you're already passionate about knitting, you know that guality needles are important for hours of enjoyable knitting. The best needles have fine points, allowing you to pass effortlessly through previous stitches. Look for a completely smooth surface that helps the yarn slide down the shaft of the needle, yet isn't too slippery that it stretches stitches or lets stitches slip off. High-quality bamboo needles offer the best of both worlds: They offer the warmth of natural materials and their highly polished finish lets stitches move smoothly along the needles. Low-guality wood and bamboo needles that haven't been properly finished can stick to your yarn and eventually splinter.

Knitting Needle Size Chart

No.		Diameter
0	•	2.25mm
1	•	2.0mm
*	•	2.5mm
2	•	2.75mm
× 0		3.0mm
3		3.25mm
5		3.75mm
*		4.0mm
1* 2* 345* 67		4.25mm
7		4.5mm
8		5.0mm
9	Ŏ	5.5mm
10	Ŏ	6.0mm
10.5	Ŏ	6.5mm
*		7.0mm
44		0.0
11		8.0mm
13		9.0mm
15		10.0mm
17		12.0mm
40		45.0
19		15.0mm
35		20.0mm
k	Size number not as	sianed

* Size number not assigned.

Types

Single-point straight needles are used in projects that call for rows to be worked back and forth, including scarves, garment panels, and blankets. These needles have balls or flat stoppers on one end to prevent stitches from falling off.

Double-pointed straight needles, abbreviated as DPN, are used when

you need to work across one needle and, instead of turning around to work back across a row, you use the other end of the same needle to work stitches with another doublepointed needle. Projects requiring these needles include socks, hats, and mittens. It's common to start larger tubular projects, like hats, on circular needles and then switch to double-pointed needles as the work decreases and tapers. Be sure to buy a full set because you will need four identical needles to make socks and mittens: three to hold the work in a circle and another to do the knitting.

A **circular needle** contains two singlepoint needles that are joined in the center with a cable. Since there's no need to turn around, you can work round after round to create tubular objects. Use this for large projects because the needle's length must be smaller than the circumference of what you are making (use double-pointed needles for small projects like socks).

Interchangeable Sets

Instead of buying dozens of needles in order to stock up on every size a project might call for, invest in a handy set of interchangeable needles.

How do they work? Interchangeable sets feature almost a dozen differentsized pairs of knitting needles with ends that can be joined with a center cable. This CarryC Long set from Tulip includes screw-on stoppers that transform the pairs into singlepoint straight needles. Extension adapters join cables to create custom cord-length combinations.

Buying options. Look for high-end sets with seamless and reliable cableto-needle connections, smooth bamboo needles, a sturdy and handy carrying case, tapestry needles, and a gauge ruler with a built-in cutter. Sets with multiple cables in different sizes suit any project at hand.



Look for Knina Swivel circular needles by Tulip that rotate at the cable/needle connection to keep the cord from twisting as you knit. High-quality cableto-needle connections feature a smooth join that won't catch or snag your project.



Knitting Accessories

Now that you know all about what makes a great knitting needle and the different types, see the fun accessories that will help you round out your stash.



Stitch Markers

Stitch markers are closed, ringlike loops that are often made of plastic. Not all ringlike markers are round—have fun with shapes including hearts. You can place a stitch marker when casting on or picking up to aid in tracking/counting stitches and rows. Inserting a needle into the marker enables you to smoothly pass the marker from one needle to the other at the location to mark. When circularknitting, placing a marker next to the first stitch of a round makes it easier to count the number of rounds. See page 48 for locking stitch markers.

Stitch Holders

Use these safety pin–like notions to temporarily hold loose stitches together when working on collars, shoulders, socks, sleeves and other sections.





Top: Ringlike stitch markers that slip from needle to needle. Bottom: Here a stitch holder temporarily holds stitches in a knitting project. Open and close the holder just as you would a safety pin.

Knitting Accessories Continued

Point Protectors

Use these helpful little tools for preventing knitted stitches from falling off the ends of doublepointed needles and for keeping a work-in-progress on your needles when a project is not being worked on. Choose decorative ones to add a little fun to your project.



Knitting Pins

Rounded-tip knitting pins slip between yarns instead of splitting them. Those with large heads and long shafts are ideal so they won't slip through stitches. They are used temporarily when putting on a sleeve or pocket. Sharp-tip knitting pins are useful for fixing knitted stitches on an ironing board or blocking board.

Cable Stitch Needles

Use these short needles for adding beautiful, crisscrossing layered patterns to your knitting. The curved shape prevents the needle from slipping off while the smooth tips make them easy to use while creating cables. They are available in various sizes.

Yarn/Tapestry Needles

Tapestry needles made specifically for yarn feature a large oval eye that makes them easy to thread. The rounded tip keeps yarn from splitting. Use these when joining or closing stitches. Plastic tapestry needles are common amongst knitters, but metal varieties work as well.





Stich Row and Needle Gauges

Stitch/row gauges are helpful rulers; the inside edge is for counting stitches, the outside scale is useful in making drawn down versions to ¼ to ⅓ of actual size.

Needle gauges are plastic rulerlike gauges with holes that are used for measuring needle sizes.

Row and Stitch Counter

Avoid getting lost in a project by twisting the end of this handy plastic tool until the correct number appears after finishing each stitch or row of stitches. Some styles even attach to the ends of knitting needles.

Knitting String

Use this temporary string when starting a knitted cuff or the main section of another project. Its size and texture makes it easy to pull out and prevents it from getting intertwined and entangled with yarns. Choose a bright color that's easy to identify.

Scissors

It's difficult to thread a tapestry needle with a fuzzy yarn, so invest in high-quality scissors manufactured with a detailed precision finish that offers and extraordinary cut.

Crochet Hooks

Keep a crochet hook handy if the need for fixing errors and dropped stitches arrives. (See page 44 for more information on crochet hooks.)







Knitting Tips & Tricks

What is "Blocking"?

After you finish a knitted garment, wash or rinse it according to the yarn's care instructions. As it dries, you can control the finished project's overall shape by "blocking" it. To do so, stretch it out on a blocking board (a cloth-covered padded board), shape and stretch it as desired, then pin it in place as it air dries. Use sharp-tip pins to secure your project to the board, but try to pass between the knitted stitches.



Machine-Felt Your Knitted Wares

Have you ever accidentally washed (and ruined!) a wool sweater, only to find it matted down and shrunken? That's felting! Look for large-knit patterns that are meant to be washed to achieve a dense surface made of interlocked fibers. Most often, a residential washing machine (for agitation and shifts in hot/cold water rinses) and a zippered pillowcase (to keep the project contained) is all you need. Coin purses and bags are great projects to knit before machine-felting. See page 52 for information on needle felting, a great method for adding decorative embellishments to felted surfaces.



Choose pins with rounded tips that pass smoothly between stitches instead of piercing them.

Yes, Fuzzy Yarn Can Be Easy To Thread!

Even with a big-eye tapestry needle and a cleanly cut yarn end, it can be difficult to thread a needle. Instead of pushing the yarn end through the needle, fold the yarn $\frac{1}{2}$ " (0.6 to 1.3 cm) from the end and push the folded edge through the needle's eye.



Use a tapestry needle for hiding yarn tails.

Take Note!

Though you may be excited to dive right into a new project, keep good notes as the correct knitting needle and yarn size is very important to a project's success. Create a project notebook with your pattern and the valuable information found on the yarn wrapper.

Worth Every Penny

In the box below, you'll learn the importance



of gauge and the occasional need to switch needle sizes. Invest in a set of interchangeable needles (page 38) so you'll never be caught without the correct size when needing to adjust gauge.

What is gauge? Does it really matter?

Simply put, a project's gauge refers to the number of knit stitches per inch. The size of yarn and needle, your unique knitting tension, and the stitch of choice all determine the spacing and size of stitches. A gauge ruler measures stitches and rows to ensure that your knitted fabric will be properly sized according to the pattern's overall dimensions. Materials and tension can vary drastically from one product and one person to the next, so always be

sure to make a test gauge swatch and compare it to the project's guidelines before embarking on a project. This will also help you purchase the correct amount of yarn.

For a project to be successful, it's crucial to obtain the correct gauge. If needed, you may have to adjust the needle size or even switch yarns to achieve the correct gauge for the project at hand.





CROCHET HOOKS

Crocheting is a technique that uses a hook and yarn to create fabric from a series of interlocking loops. From granny-square blankets to fine lace, crocheted projects can take on various looks and levels of difficulty.

The Anatomy of a Crochet Hook

•	Head and throat	The hook is used to pull yarn through previous stitches to create looped fabric. The slanted portion under the hook is the throat.
	Shaft	The section between the throat and the grip slides through loops when working new stitches. The diameter at this section helps determine the size of the stitches.
G-6 TUTP	Grip	This is where you hold the hook and where the hook's size is most often printed. Some have a flat thumb-rest area and some feature a cushion grip, a nice trait that helps avoid fatigue.
U-	Handle	The long, straight section below the grip that rests in your hand is the handle.
	9 9 9	

Crochet Hook Basics

Though crochet hooks vary in size, material, and quality, they are very simple tools that produce beautiful projects. Get started here with the basics.



Types

Single-ended. The most common and simple crochet hook has just one hook. The basic maneuver for all stitches involves slipping the tip through a previous stitch and using the hook to pull the yarn through to create a new loop.

A **double-ended** hook (also called double-pointed and abbreviated DP) features a head at each end. If your double-ended hook has different-sized ends, it's like having two hooks for the price of one and you can use either end for a project.

A doubled-ended hook with samesized ends is handy when working a pattern back and forth across a row because it allows you to flip the work and crochet in the other direction. It is most commonly used when working with two yarns and produces a surface that is reversible. This double-sided technique isn't technically Tunisian crochet, but it's very similar. This interesting technique sometimes goes by the following names: cro-knit, cro-hook, crochet on the double, and crochetnit.

Tunisian hooks are a nice addition to your stash as they are used for a fun spin on traditional crochet. Tunisian crochet should be done on a very long crochet hook as the technique requires you to hold several stitches on the hook at once, just as in knitting. However, using a crochet hook with a cable is easier as it holds many more stitches. If working a wide project, such as an afghan, you'll definitely need a cable/hook combination.



Double-ended crochet hooks

Yarn Crochet Hooks

Aluminum is a durable, Lightweight material that's ideal for larger crochet hooks meant to be used with yarn. Plus, it often comes in fun colors.

Bamboo is a strong, renewable resource that can be highly polished to create smooth crochet hooks. The natural material feels warm to the touch. If opting for this material, be sure to choose high-quality hooks that are professionally polished, sturdy, and resistant to wear. Top-quality bamboo hooks can last a lifetime.

Other materials, including plastic, abalone, acrylic, and wood, can be used to make crochet hooks. Play around with hooks of all materials to find your preference.

Steel Crochet Hooks

Thin crochet hooks with a very small head are made of steel for strength. These small hooks are designed to be used with thread in bead crochet, lace, and other fine projects. Here they are classified separately from yarn hooks because they follow a different sizing chart.

Sizing

Length. Hooks with long handles can be easier to hold, especially if you plan to crochet for hours on end or if you suffer from arthritis or a similar condition.

Gauge. This indicates the number of stitches per inch. The following factors all determine your project's

gauge: hook size, yarn size, and your personal stitching tension.

Yarn vs. steel hook sizing. For hooks designed to be used with yarn, follow this rule: The smaller the hook number, the smaller the size. For steel crochet hooks used with thread: The larger the hook number, the smaller the size.

Note that many yarn crochet hooks are also sized with a letter and that their U.S. number is equivalent to U.S. knitting needle sizes. The metric sizes refer to the hook's diameter.

Overcome the Mystery of Crochet Hook Sizing

Unfortunately, inconsistency between crochet hook size charts is very common. Add U.S., Japanese, U.K./ Canadian, and metric sizes into the mix, plus conversion charts for each, and it's easy to get overwhelmed.

What's the best approach? A skilled crocheter will tell you that she/he can scan a pattern, quickly choose something from their yarn stash, and pick a hook that just looks right to them. But until you're comfortable enough to instinctively make these decisions, start by consulting your instructions. Cross-reference the yarn you've chosen and then look at your hook sizes. If the hook size needed is still confusing, consult the sizing charts from your hook's manufacturer, not just any chart quickly found online.

For Tulip Brand Hiroshima crochet hook sizes, see the Buyer's Guides starting on page 64.

Crocheting Accessories

Other than crochet hooks, only a few simple accessories are needed to be on your way to successfully creating crocheted crafts.



Locking Stitch Markers

These markers can be opened and closed like safety pins. They are used as guides for increasing/decreasing stitches by being placed right on the stitches. The round-nose locking stitch marker at right is specially designed to not split the yarn. The best quality locking markers are easy to put on and remove while resisting to fall off during use. (Closed, ringlike stitch markers used in knitting aren't generally used for crochet because those are made to transfer from one knitting needle to the next.)

Stoppers

To turn a double-ended Tunisian hook set into a single hook, attach only one hook to a cable. Then, add a stopper at the other end of the cable. The set shown here is Tulip's CarryT set, which functions similarly to the CarryC sets on page 38.



Open and close a locking stitch marker as you would a safety pin to label stitches and patterns as you crochet.



Adding stoppers to the cable in Tulip's interchangeable CarryT Long Tunisian hook set.

What Makes a Good Hook?

The best hooks are smooth (like the Hiroshima hook at left) and hold the yarn without allowing accidental slipping, yet they aren't too pointed or deep cut to prevent the yarn from releasing when you want it to.

Quality

Over time you will develop a personal preference for the size of hook, throat steepness and length, handle length, and grip type. However, regardless of these preferences, be sure to always choose a high-

quality hook with an expertly polished, abrasion-resistant finish in order to protect your yarn and to make crocheting a fun and fluid process.



Crocheting Tips & Tricks

Take Care of Yourself

Repetitive crafts can be hard on your hands and crocheting is no exception. Stop periodically to stretch your hands, and also be mindful of your posture, arms, and shoulders as you crochet. A soft, yet tactile cushiongrip hook will help reduce fatigue.

Sit Back and Relax

Your stitches should feel as relaxed as you while you crochet. Stitches that are too tight are hard to slip through in following rows/rounds, plus they can affect the overall size of your finished project.

Don't Skip Your Swatch

Just as in knitting, don't start a project until you've completed a swatch. It's best to discover any undesirable yarn or hook traits before getting deep into a project.

When Yarn Runs Low

Not enough of one yarn color to finish a project? Using a double-ended crochet hook technique allows you to work two colors at a time, so you can stretch the color you don't have enough of by mixing in a second yarn. (See cro-knit on page 46.)

Learn From Others

There's a huge network of dedicated, friendly crafters online. If you're ever stuck on a project or need a little inspiration, search for groups of like-minded crocheters on Facebook and in other online social networks.

Dye Lot Variation

When yarn is colored it's common for there to be some variation from one dye lot to the next. Because of this, be sure to buy enough yarn for your project before starting and keep the yarn wrapper's dye lot information should you ever need more.







Start Easy

If you're a beadweaver trying bead crochet for the first time, you're not alone if you find it difficult to get started. To help avoid the often tricky starting rounds, use ladder or square stitch to create a short beaded tube that's three to five rounds high. Then, chain into the exposed threads on one end of the beaded tube for your starting round of bead crochet. See page 19 for more information on bead crochet.

Count Your Stitches

Whether you're a seasoned pro or new to crochet, time spent counting stitches is always time well spent. Though it's most common for beginners to drop stitches and introduce errors, even minor interruptions can lead experienced crafters to make one stitch too few, or one stitch too many.



Choose hooks with cushion grips to ease wear and tear on your body.



NEEDLE FELTING

Needle felting is a handcraft that can be used to create textural dolls, adorable animals, ornaments, and a variety of other small items by punching wool with a special needle. Felting is fun and easy to start, even for beginners!

The Anatomy of a Felting Needle



Protect your fingers from sharp felting needles with thimbles. More than one can be worn at the same time. Leather thimbles are soft yet protective and you can often customize their shape by getting them wet and allowing them to dry on your fingers.



Felting Needle Basics

Find the right tools for quick, safe, and frustration-free needle felting. Begin with wool roving because it's the easiest fiber to felt, then choose a needle below to start creating projects of your own.



Types

Single-needle tools. For detailed work and small shapes, use a single needle (shown on page 53). Two different needle thicknesses are available to suit the project at hand; use the smaller needle when adding decorations to felted bases and the larger needle when making objects from loose wool. Use the needle alone or, to reduce fatigue, handles are available.

Replaceable needle kits. Look for Tulip's Feltomo set that features a needle that is easy to replace, a comfortable grip that won't slip, and a cap for safe storage.

Three-needle felting tools. Speed up your work and cover large areas more efficiently by using three needles at once. Opt for a warm wooden handle that is easy on your hands.







Needle Felting Tips & Tricks

Take Your Time

Needle felting is not a speed sport. Since the needles are so sharp, it's very important to go about your work slowly and carefully with precision.

Making Do

If you don't have a needle-felting mat for creating flat shapes, use a thick sponge instead. Move the work often to prevent sticking.

Don't Get Stuck in One Spot

Keep the needle moving around the work to avoid felting in the same spot. The goal is to fully interlock the fibers of the wool around the entire object.

Work Three Times Faster

When working large shapes, use tools that can hold multiple needles. If a needle breaks, interchangeable tools make them easy to replace.



Using a needle-felting kit is an easy way to start a new craft.



Place the wool on a needle-felting mat while working to protect your work surface and to be able to stab all of the way through the wool.

What is Roving?

Roving refers to fiber, most often pure wool, that has been thoroughly cleaned and carded into long fluffy ropes that are about 1" (2.5 cm) wide. Spinners stretch it out and turn it into yarn; needle-felters interlock the fibers into dense shapes by repeatedly stabbing it with a very sharp, barbed needle. Roving can be torn into small pieces to achieve the desired look. When creating round shapes, the roving is continuously wrapped and stabbed around a center point.

Prepare Your Roving

Before starting, pull the wool roving apart into small fluffy pieces, then layer them in crisscrossing directions before felting the shape. This helps position the fibers in many directions so they can easily interlock.

RESOURCES

Handstitching Needle Quick Guide

ТҮРЕ	Sizes	Length	Point	Eye Shape	Finish Type	Tulip No.
Quilting ("Between")	8, 9, 10, 12, 13	29mm to 22mm	Sharp	Round	Polished	THN-003e, THN-004e, THN-005e, THN-006e, THN-007e
Piecing	8, 9	37mm and 35mm	Sharp	Round	Polished	THN-001e, THN-002e
Quilt basting	Long and regular	48mm and 45mm	Sharp	Round	Polished	THN-011e
Appliqué ("Sharp")	10 (regular), 10 "Big Eye", 11 (regular)	33mm to 29mm	Sharp	Round; Size 10 available with oval "Big Eye"	Polished	THN-008e, THN-009e, THN-010e
Sewing	7, 8, 9	39.7mm to 33.3mm	Sharp	Round	Plated	THN-012e, THN-013e, THN-014e
Embroidery (crewel)	3, 4, 5, 6, 7, 8, 9, 10, 12	44.5mm to 29mm	Sharp	Oval	#3–10 plated; #12 polished	THN-015e, THN-016e, THN-017e, THN-018e, THN-019e, THN-020e, THN-021e, THN-021e, THN-091e

Handstitching Needle Quick Guide continued

ТҮРЕ	Sizes	Length	Point	Eye Shape	Finish Type	Tulip No.
Tapestry for cross-stitch	22, 23, 24, 25	42mm to 35mm	Round	Oval	Plated	THN-025e, THN-026e, THN-027e, THN-028e
Tapestry for yarn	17, 18, 20, 23	54.5mm to 39.5mm	Round	Oval	Plated	THN-063e
Sashiko	Long to short	66.7mm to 36.4mm	Sharp	Oval	Plated	THN-030e, THN-031e
Leather	Short, middle, long	39.4mm to 54.5mm	Sharp with triangular profile	Round	Polished	THN-048e, THN-049e, THN-050e
Easy-threading	Assorted	42.5mm to 36.5mm	Sharp	Split	Plated	THN-058e
Milliners (Straw)	3, 5, 7, 8, 9, 10 (regular), 10 "Big Eye"	55.6mm to 40.5mm	Sharp	Round; Size 10 available with oval "Big Eye"	Polished	THN-076e, THN-077e, THN-078e, THN-079e, THN-080e, THN-081e, THN-093e
Chenille	18, 20, 22, 24	48.5mm to 37mm	Sharp	Oval	Plated	THN-084e, THN-085e, THN-086e, THN-087e
Cording	Assorted	48.5mm and 94mm	Round	Oval	Plated	TBK-001e

Note: Needle thickness often varies as needle length changes.

2017 Buyer's Guide Handstitching Needles

Needle Type	Tulip No.
Tapestry Needles Size 13	AC-034e
Tapestry Needles Size 14	AC-035e
Tapestry Needles Size 15	AC-036e
Tapestry Needles Size 16	AC-037e
Tapestry Needles Size 17	AC-038e
Tapestry Needles Size 18	AC-039e
Tapestry Needles Size 20	AC-040e
Tapestry Needles Size 23	AC-041e
Tapestry Needles Assorted Thick	AC-042e
Tapestry Needles Assorted Thin	AC-043e
Cording Needles	TBK-001e
Tapestry Needles Crochet Assorted	TBN-008e
Piecing Needles #8	THN-001e
Piecing Needles #9	THN-002e
Quilting Needles Between #8	THN-003e
Quilting Needles Between #9	THN-004e
Quilting Needles Between #10	THN-005e
Quilting Needles Between #12	THN-006e
Quilting Needles Between #13	THN-007e
Appliqué Needles #10	THN-008e
Appliqué Needles Big Eye	THN-009e
Appliqué Needles #11	THN-010e
Quilt Basting Long/Regular	THN-011e
Sewing Needles (Sharp Tip) #7	THN-012e
Sewing Needles (Sharp Tip) #8	THN-013e
Sewing Needles (Sharp Tip) #9	THN-014e
Embroidery Needles (Sharp Tip) #3	THN-015e
Embroidery Needles (Sharp Tip) #4	THN-016e
Embroidery Needles (Sharp Tip) #5	THN-017e
Embroidery Needles (Sharp Tip) #6	THN-018e
Embroidery Needles (Sharp Tip) #7	THN-019e
Embroidery Needles (Sharp Tip) #8	THN-020e
Embroidery Needles (Sharp Tip) #9	THN-021e
Embroidery Needles (Sharp Tip) #10	THN-022e
Embroidery Needles Assorted (Sharp Tip) Thick	THN-023e
Embroidery Needles Assorted (Sharp Tip) Thin	THN-024e
Tapestry Needles Cross Stitch Round Tip #22	THN-025e
Tapestry Needles Cross Stitch Round Tip #23	THN-026e

Handstitching Needles Continued

Needle Type	Tulip No.
Tapestry Needles Cross Stitch Round Tip #24	THN-027e
Tapestry Needles Cross Stitch Round Tip #25	THN-028e
Tapestry Needles Cross Stitch Assorted	THN-029e
Sashiko Needles Assorted Long	THN-030e
Sashiko Needles Assorted Short	THN-031e
Leather Needles Short	THN-048e
Leather Needles Middle	THN-049e
Leather Needles Long	THN-050e
Easy-Threading Needles Assorted	THN-058e
Tapestry Yarn Yarn Assorted	THN-063e
Tapestry Yarn Yarn #13	THN-064e
Milliners Needles #3	THN-076e
Milliners Needles #5	THN-077e
Milliners Needles #7	THN-078e
Milliners Needles #8	THN-079e
Milliners Needles #9	THN-080e
Milliners Needles #10	THN-081e
Milliners Needles Assorted	THN-082e
Milliners Needles Assorted	THN-083e
Chenille #18	THN-084e
Chenille #20	THN-085e
Chenille #22	THN-086e
Chenille #24	THN-087e
Chenille Assorted	THN-088e
Quilting Assorted	THN-089e
Sewing (Sharp Tip) Assorted	THN-090e
Embroidery (Sharp Tip) #12	THN-091e
Appliqué (Multi-Colored)	THN-092e
Milliners Straw	THN-093e
Needle Set	THS-004e

2017 Buyer's Guide Bamboo Knitting Needles

10" (25cm) Bamboo Knitting Needles	Size No.	Diameter	Tulip No.
	0	2.00mm	TP1036
	1	2.25mm	TP1037
	2	2.75mm	TP1039
	3	3.25mm	TP1041
	4	3.50mm	TP1042
	5	3.75mm	TP1043
	6	4.25mm	TP1045
	7	4.50mm	TP1046
	8	5.00mm	TP1047
	9	5.50mm	TP1048
	10	6.00mm	TP1049
	10.5	6.50mm	TP1050
	11	8.00mm	TP1053
	13	9.00mm	TP1054
	15	10.00mm	TP1055
	17	12.00mm	TP1056
	15	10.00mm	TP1055
	17	12.00mm	TP1056
	17	12.00mm	TP1056
14" (35cm) Bamboo Knitting Needles	Size No.	Diameter	Tulip No.
14" (35cm) Bamboo Knitting Needles	Size No. 0	Diameter 2.00mm	Tulip No. TP1057
14" (35cm) Bamboo Knitting Needles			-
14" (35cm) Bamboo Knitting Needles	0	2.00mm	TP1057
14" (35cm) Bamboo Knitting Needles	0 1	2.00mm 2.25mm	TP1057 TP1058
14" (35cm) Bamboo Knitting Needles	0 1 2	2.00mm 2.25mm 2.75mm	TP1057 TP1058 TP1060
14" (35cm) Bamboo Knitting Needles	0 1 2 3	2.00mm 2.25mm 2.75mm 3.25mm	TP1057 TP1058 TP1060 TP1062
14" (35cm) Bamboo Knitting Needles	0 1 2 3 4	2.00mm 2.25mm 2.75mm 3.25mm 3.50mm	TP1057 TP1058 TP1060 TP1062 TP1063
14" (35cm) Bamboo Knitting Needles	0 1 2 3 4 5	2.00mm 2.25mm 2.75mm 3.25mm 3.50mm 3.75mm	TP1057 TP1058 TP1060 TP1062 TP1063 TP1064
14" (35cm) Bamboo Knitting Needles	0 1 2 3 4 5 6	2.00mm 2.25mm 2.75mm 3.25mm 3.50mm 3.75mm 4.25mm	TP1057 TP1058 TP1060 TP1062 TP1063 TP1064 TP1066
14" (35cm) Bamboo Knitting Needles	0 1 2 3 4 5 6 7	2.00mm 2.25mm 2.75mm 3.25mm 3.50mm 3.75mm 4.25mm 4.50mm	TP1057 TP1058 TP1060 TP1062 TP1063 TP1064 TP1066 TP1067
14" (35cm) Bamboo Knitting Needles	0 1 2 3 4 5 6 7 8	2.00mm 2.25mm 2.75mm 3.25mm 3.50mm 3.75mm 4.25mm 4.50mm 5.00mm	TP1057 TP1058 TP1060 TP1062 TP1063 TP1064 TP1066 TP1067 TP1068
14" (35cm) Bamboo Knitting Needles	0 1 2 3 4 5 6 7 8 9	2.00mm 2.25mm 2.75mm 3.25mm 3.50mm 3.75mm 4.25mm 4.50mm 5.00mm	TP1057 TP1058 TP1060 TP1062 TP1063 TP1064 TP1066 TP1067 TP1068 TP1069
14" (35cm) Bamboo Knitting Needles	0 1 2 3 4 5 6 7 8 9 10	2.00mm 2.25mm 2.75mm 3.25mm 3.50mm 4.25mm 4.50mm 5.00mm 5.50mm 6.00mm	TP1057 TP1058 TP1060 TP1062 TP1063 TP1064 TP1066 TP1067 TP1068 TP1069 TP1070
14" (35cm) Bamboo Knitting Needles	0 1 2 3 4 5 6 7 8 9 10 10.5	2.00mm 2.25mm 3.75mm 3.50mm 3.75mm 4.25mm 4.50mm 5.00mm 5.50mm 6.00mm	TP1057 TP1058 TP1060 TP1062 TP1063 TP1064 TP1066 TP1067 TP1068 TP1069 TP1070 TP1071
14" (35cm) Bamboo Knitting Needles	0 1 2 3 4 5 6 7 8 9 10 10.5 11	2.00mm 2.25mm 3.75mm 3.50mm 3.75mm 4.25mm 4.50mm 5.00mm 5.50mm 6.00mm 6.50mm 8.00mm	TP1057 TP1058 TP1060 TP1062 TP1063 TP1064 TP1066 TP1067 TP1068 TP1069 TP1070 TP1071 TP1074
14" (35cm) Bamboo Knitting Needles	0 1 2 3 4 5 6 7 8 9 10 10.5 11 13	2.00mm 2.25mm 3.75mm 3.50mm 3.75mm 4.25mm 4.25mm 5.00mm 5.50mm 6.00mm 6.50mm 8.00mm 9.00mm	TP1057 TP1058 TP1060 TP1062 TP1063 TP1064 TP1066 TP1067 TP1068 TP1069 TP1070 TP1071 TP1074 TP1075

6" (15cm) Bamboo Knitting Needles Straight Double Point (5pcs)	Size No.	Diameter	Tulip No.
	0	2.00mm	TP1001
	1	2.25mm	TP1002
	2	2.75mm	TP1004
	3	3.25mm	TP1006
	4	3.50mm	TP1007
	5	3.75mm	TP1008
	6	4.25mm	TP1010
	7	4.50mm	TP1011
	8	5.00mm	TP1012
	9	5.50mm	TP1013
	10	6.00mm	TP1014
	10.5	6.50mm	TP1015
8" (20cm) Bamboo Knitting Needles Straight Double Point (5pcs)	Size No.	Diameter	Tulip No.
	0	2.00mm	TP1016
	1	2.25mm	TP1017
	1 2	2.25mm 2.75mm	TP1017 TP1019
	2	2.75mm	TP1019
	2 3	2.75mm 3.25mm	TP1019 TP1021
	2 3 4	2.75mm 3.25mm 3.50mm	TP1019 TP1021 TP1022
	2 3 4 5	2.75mm 3.25mm 3.50mm 3.75mm	TP1019 TP1021 TP1022 TP1023
	2 3 4 5 6	2.75mm 3.25mm 3.50mm 3.75mm 4.25mm	TP1019 TP1021 TP1022 TP1023 TP1025
	2 3 4 5 6 7	2.75mm 3.25mm 3.50mm 3.75mm 4.25mm 4.50mm	TP1019 TP1021 TP1022 TP1023 TP1025 TP1026
	2 3 4 5 6 7 8	2.75mm 3.25mm 3.50mm 3.75mm 4.25mm 4.50mm 5.00mm	TP1019 TP1021 TP1022 TP1023 TP1025 TP1026 TP1027
	2 3 4 5 6 7 8 9	2.75mm 3.25mm 3.50mm 3.75mm 4.25mm 4.50mm 5.00mm 5.50mm	TP1019 TP1021 TP1022 TP1023 TP1025 TP1026 TP1027 TP1028
	2 3 4 5 6 7 8 9 10	2.75mm 3.25mm 3.50mm 3.75mm 4.25mm 4.50mm 5.00mm 6.00mm	TP1019 TP1021 TP1022 TP1023 TP1025 TP1026 TP1027 TP1028 TP1029
	2 3 4 5 6 7 8 9 10 10.5	2.75mm 3.25mm 3.50mm 3.75mm 4.25mm 4.50mm 5.00mm 5.50mm 6.00mm	TP1019 TP1021 TP1022 TP1023 TP1025 TP1026 TP1027 TP1028 TP1029 TP1030
	2 3 4 5 6 7 8 9 10 10.5 11	2.75mm 3.25mm 3.50mm 3.75mm 4.25mm 4.25mm 5.00mm 5.50mm 6.00mm 6.50mm 8.00mm	TP1019 TP1021 TP1022 TP1023 TP1025 TP1026 TP1027 TP1028 TP1029 TP1030 TP1032

Bamboo Knitting Needles (DPN)

2017 Buyer's Guide Knina Circular Knitting Needles (DPN)

Knina 16" (40cm) Circular Knitting Needles	Size No.	Diameter	Tulip No.
	*	3.00mm	KKMM-400300
	3	3.25mm	KKMM-400325
	4	3.50mm	KKMM-400350
	5	3.75mm	KKMM-400375
	*	4.00mm	KKMM-400400
	6	4.25mm	KKMM-400425
	7	4.50mm	KKMM-400450
	8	5.00mm	KKMM-400500
	9	5.50mm	KKMM-400550
	10	6.00mm	KKMM-400600
	10.5	6.50mm	KKMM-400650
	*	7.00mm	KKMM-400700
	11	8.00mm	KKMM-400800
	13	9.00mm	KKMM-400900
	15	10.00mm	KKMM-401000
	17	12.00mm	KKMM-401200
Knina 24" (60cm) Circular Knitting Needles	Size No.	Diameter	Tulip No.
	*	3.00mm	KKMM-600300
	3	3.25mm	KKMM-600325
	4	3.50mm	KKMM-600350
	5	3.75mm	KKMM-600375
	*	4.00mm	KKMM-600400
	6	4.25mm	KKMM-600425
	7	4.50mm	KKMM-600450
	8	5.00mm	KKMM-600500
	9	5.50mm	KKMM-600550
	10	6.00mm	KKMM-600600
	10.5	6.50mm	KKMM-600650
	*	7.00mm	KKMM-600700
	11	8.00mm	KKMM-600800
	13	9.00mm	KKMM-600900
	15	10.00mm	KKMM-601000
	17	12.00mm	KKMM-601200
		* Size num	ber not assigned.

Knina 32" (80cm) Circular Knitting Needles	Size No.	Diameter	Tulip No.
	*	3.00mm	KKMM-800300
	3	3.25mm	KKMM-800325
	4	3.50mm	KKMM-800350
	5	3.75mm	KKMM-800375
	*	4.00mm	KKMM-800400
	6	4.25mm	KKMM-800425
	7	4.50mm	KKMM-800450
	8	5.00mm	KKMM-800500
	9	5.50mm	KKMM-800550
	10	6.00mm	KKMM-800600
	10.5	6.50mm	KKMM-800650
	*	7.00mm	KKMM-800700
	11	8.00mm	KKMM-800800
	13	9.00mm	KKMM-800900
	15	10.00mm	KKMM-801000
	17	12.00mm	KKMM-801200
Knina 40" (100cm) Circular Knitting Needles	Size No.	Diameter	Tulip No.
	*	3.00mm	KKMM-1000300
	3	3.25mm	KKMM-1000325
	4	3.50mm	KKMM-1000350
		* Size num	ber not assigned.

Knina Circular Knitting Needles (DPN)

2017 Buyer's Guide CarryC & CarryT Circular Knitting and Crochet

Interchangeable Bamboo Knitting Needles	Size No.	Diameter	Tulip No.
	10	6.00mm	TP1204
	10.5	6.50mm	TP1205
	11	8.00mm	TP1206
	13	9.00mm	TP1207
	3	3.25mm	TP1197
	4	3.50mm	TP1198
	5	3.75mm	TP1199
	6	4.25mm	TP1200
	7	4.50mm	TP1201
	8	5.00mm	TP1202
	9	5.50mm	TP1203
Long Interchangeable Bamboo Knitting Needles	Size No.	Diameter	Tulip No.
	10	6.00mm	TP1252
	10.5	6.50mm	TP1253
	11	8.00mm	TP1254
	13	9.00mm	TP1255
	3	3.25mm	TP1245
	4	3.50mm	TP1246
	5	3.75mm	TP1247
	6	4.25mm	TP1248
	7	4.50mm	TP1249
	8	5.00mm	TP1250
	9	5.50mm	TP1251
Interchangeable Bamboo Tunisian Crochet Hook	Size No.	Diameter	Tulip No.
	n/a	7.00mm	TP1215
	7	4.50mm	TP1210
	E-4	3.50mm	TP1208
	G-6	4.00mm	TP1209
	H-8	5.00mm	TP1211
	I-9	5.50mm	TP1212
	J-10	6.00mm	TP1213
	K-10.5	6.50mm	TP1214
	L-11	8.00mm	TP1216
	M-13	9.00mm	TP1217

CarryC & CarryT Circular Knitting and Crochet

Cable for CarryC Long	Length (Inches)	Length (Centimeters)	Tulip No.
	32"	80cm	TP1258
	20"	50cm	TP1256
	24"	60cm	TP1257
	40"	100cm	TP1259
	47"	120cm	TP1262
	60"	150cm	TP1263
Cable for CarryC & CarryT	Length (Inches)	Length (Centimeters)	Tulip No.
	16"	40cm	TP1218
	24"	60cm	TP1219
	32"	80cm	TP1220
	40"	100cm	TP1221
CarryC & CarryT Accessories	Tulip No.		
Gauge w/Built-In Yarn Cutter	TP1222		
Stopper (4 pcs)	TP1224		
Stoppers	TP1260		
Adapter	TP1223		
CarryC & CarryT Sets	Tulip No.		
CarryC Interchangeable Bamboo Knitting Needle Set	TP1195		
CarryC Long Interchangeable Bamboo Knitting Needle Set	TP1244		
CarryT Interchangeable Bamboo Tunisian Crochet Hook Set	TP1196		

2017 Buyer's Guide Aluminum and Bamboo Crochet Hooks

G G G G 6" (15cm) Bamboo Crochet Hooks 1 L M N P E E C C C C C C C C C C C C C C C C C	2 2. 3 2. 4 2. 5 3. 6 3. 7 4. 7 4. 7 5 4. 8 5. 9 5. 10 6.	00mm T 20mm T 50mm T 50mm T 50mm T 50mm T 50mm T 50mm T	ulip No. A-0020e A-0021e A-0022e A-0023e A-0025e A-0025e A-0027e A-0027e A-0028e A-0029e
G G G G 6" (15cm) Bamboo Crochet Hooks Siz 1 L M N P E E C C C E E	3 2. 4 2. 5 3. 6 3. 7 4. 7 4. 8 5. 9 5. 10 6.	20mm T 50mm T 00mm T 50mm T 50mm T 00mm T 50mm T 50mm T	A-0021e A-0022e A-0023e A-0024e A-0025e A-0026e A-0027e A-0028e
G G G G 6" (15cm) Bamboo Crochet Hooks Siz 1 L M N P E E C C C E E	4 2. 5 3. 6 3. 7 4. 7 4. 7.5 4. 8 5. 9 5. 10 6.	50mm T 00mm T 50mm T 00mm T 50mm T 00mm T 50mm T 50mm T 50mm T	A-0022e A-0023e A-0024e A-0025e A-0026e A-0027e A-0028e
G G G G 6" (15cm) Bamboo Crochet Hooks Siz 1 L M N P E E C C C E E	5 3. 6 3. 7 4. 7.5 4. 8 5. 9 5. 10 6.	00mm T 50mm T 00mm T 50mm T 00mm T 50mm T	A-0023e A-0024e A-0025e A-0026e A-0027e A-0028e
G G G G 6" (15cm) Bamboo Crochet Hooks Siz 1 L M N P E E C C C E E	6 3. 7 4. 7.5 4. 8 5. 9 5. 10 6.	50mm T 00mm T 50mm T 00mm T 50mm T	A-0024e A-0025e A-0026e A-0027e A-0028e
G G G G 6" (15cm) Bamboo Crochet Hooks Siz 1 L M N P E E C C C E E	7 4. 7.5 4. 8 5. 9 5. 10 6.	.00mm T .50mm T .00mm T .50mm T	A-0025e A-0026e A-0027e A-0028e
G G G G 6" (15cm) Bamboo Crochet Hooks Siz 1 L M N P E E C C C E E	7.5 4. 8 5. 9 5. 10 6.	50mm T .00mm T .50mm T	A-0026e A-0027e A-0028e
G G G G 6" (15cm) Bamboo Crochet Hooks Siz 1 L M N P E E C C C E E	8 5. 9 5. 10 6.	00mm T 50mm T	A-0027e A-0028e
G G G G 6" (15cm) Bamboo Crochet Hooks Siz 1 L M N P E E C C C E E	9 5. 10 6.	.50mm T	A-0028e
G G G G 6" (15cm) Bamboo Crochet Hooks Siz 1 L M N P E C C C C C C C C C C C C C C C C C C	10 6.		
G G G G 6" (15cm) Bamboo Crochet Hooks 1 1 L M N P E C C C C C C C C C C C C C C C C C C		.00mm T	Δ_0029p
G G G 6" (15cm) Bamboo Crochet Hooks Siz 1 L M N P E C C C C C C C C C C C C C C C C C C			A-00230
G G G 6" (15cm) Bamboo Crochet Hooks 1 L M M N P E C C C C C C C C C C C C C C C C C C	iant 7.	.00mm T	A-0030e
G G 6" (15cm) Bamboo Crochet Hooks Siz 1 L M N P E E C C C E E E E	iant 8.	.00mm T	A-0031e
G 6" (15cm) Bamboo Crochet Hooks Siz 1 L M M P P E C C C C E E	iant 9.	.00mm T	A-1031e
6" (15cm) Bamboo Crochet Hooks Siz 1 M N P E C C E E E E E E E E E	iant 1	0.00mm T	A-0032e
1 L M P E C C E E	iant 12	2.00mm T	A-0033e
L M P E C C E E	e No. Di	ameter T	ulip No.
M N P E C C E	0.5 6	.50mm .	TP1160
N P C C E E	-11 8.	.00mm	TP1161
P E (E			
E ([[.00mm .	TP1162
C E	-13 9.		TP1162 TP1163
C E	-13 9. -15 10	.00mm [.]	
E	-13 9. -15 10 -17 12	.00mm [.] .00mm [.]	TP1163
	-13 9. -15 10 -17 12 3-1 2.	.00mm ⁻ .00mm ⁻ 25mm ⁻	TP1163 TP1164
F	-13 9. -15 10 -17 12 3-1 2. C-2 2.	0.00mm ⁻ 2.00mm ⁻ 25mm ⁻ 75mm ⁻	TP1163 TP1164 TP1225
	-13 9. -15 10 -17 12 3-1 2. 2-2 2. 0-3 3.	0.00mm *********************************	TP1163 TP1164 TP1225 TP1226
G	-13 9. -15 10 -17 12 3-1 2. 2-2 2. 2-3 3. 5-4 3.	0.00mm 2.00mm 2.	TP1163 TP1164 TP1225 TP1226 TP1227
	-13 9. -15 10 -17 12 3-1 2. 2-2 2. 2-3 3. 5-4 3.	0.00mm * 0.000mm * 0.00mm * 0.00mm* * 0.00mm* * 0.00m* *	TP1163 TP1164 TP1225 TP1226 TP1227 TP1228
F	-13 9. -15 10 -17 12 3-1 2. 2-2 2. 2-2 2. 3-3 3. 5-4 3. 5-5 3. 3-6-6 4.	0.00mm * 0.000mm * 0.0000mm * 0.0000mm * 0.0000m* * 0.0000**********	TP1163 TP1164 TP1225 TP1226 TP1227 TP1228 TP1229
1	-13 9. -15 10 -17 12 3-1 2. 3-2 2. 3-3 3. 5-4 3. 5-5 3. 6-6 4. 7 4.	0.00mm * 0.000mm * 0.00mm * 0.000mm * 0.000mm * 0.000m* * 0.000m* * 0.000m* * 0.0000**********	TP1163 TP1164 TP1225 TP1226 TP1227 TP1228 TP1229 TP1230
J	-13 9. -15 10 -17 12 3-1 2. 2-2 2. 2-3 3. 5-4 3. 5-5 3. 5-6 4. 7 4. 1-8 5.	0.00mm * 0.000mm * 0.00mm * 0.00m* * 0.00**********	TP1163 TP1164 TP1225 TP1226 TP1227 TP1228 TP1229 TP1220 TP1230 TP1231
	-13 9. -15 10 -17 12 3-1 2. 2-2 2. 2-2 2. 3-3 3. 5-4 3. 5-5 3. 3-6-6 4.	0.00mm * 0.000mm * 0.0000mm * 0.0000mm * 0.0000m* * 0.0000**********	TP1163 TP1164 TP1225 TP1226 TP1227 TP1228 TP1229 TP1230

Starman item codes for Tulip products have a prefix of U- before the Tulip number.

Steel Crochet Hooks

Steel Crochet Hooks	Size No.	Diameter	Tulip No.
	0	1.75mm	TA-0001e
	1	1.60mm	TA-1032e
	2	1.50mm	TA-0002e
	3	1.30mm	TA-1033e
	4	1.25mm	TA-0003e
	5	1.10mm	TA-1034e
	6	1.00mm	TA-0004e
	7	0.95mm	TA-1035e
	8	0.90mm	TA-0005e
	10	0.75mm	TA-0006e
	12	0.60mm	TA-0007e
Steel Crochet Hooks with Plastic Handle	Size No.	Diameter	Tulip No.
	9	0.85mm	TA-1036e
	11	0.70mm	TA-1037e
	13	0.55mm	TA-1038e
	14	0.50mm	TA-1039e
	23	0.45mm	TA-1040e
	24	0.40mm	TA-1041e

2017 Buyer's Guide Crochet Hooks Continued

Crochet Hook Type
15cm Bamboo Crochet Hook : 2.00mm
15cm Bamboo Crochet Hook : 2.25mm
15cm Bamboo Crochet Hook : 2.50mm
15cm Bamboo Crochet Hook : 2.75mm
15cm Bamboo Crochet Hook : 3.00mm
15cm Bamboo Crochet Hook : 3.25mm
15cm Bamboo Crochet Hook : 3.50mm
15cm Bamboo Crochet Hook : 3.75mm
15cm Bamboo Crochet Hook : 4.00mm
15cm Bamboo Crochet Hook : 4.25mm
15cm Bamboo Crochet Hook : 4.50mm
15cm Bamboo Crochet Hook : 5.00mm
15cm Bamboo Crochet Hook : 5.50mm
15cm Bamboo Crochet Hook : 6.00mm
15cm Bamboo Crochet Hook : 6.50mm
15cm Bamboo Crochet Hook : 7.00mm
15cm Bamboo Crochet Hook : 8.00mm
15cm Bamboo Crochet Hook : 9.00mm
15cm Bamboo Crochet Hook : 10.00mm
15cm Bamboo Crochet Hook : 12.00mm
Steel Crochet Hook w/Plastic Handle : Size 0 (1.75mm)
Steel Crochet Hook w/Plastic Handle : Size 2 (1.50mm)
Steel Crochet Hook w/Plastic Handle : Size 4 (1.25mm)
Steel Crochet Hook w/Plastic Handle : Size 6 (1.00mm)
Steel Crochet Hook w/Plastic Handle : Size 8 (0.90mm)
DP Crochet Hook : Size 2/0 and 3/0 (2.00 and 2.20mm)
DP Crochet Hook : Size 3/0 and 5/0 (2.20 and 3.002mm)
DP Crochet Hook : Size 4/0 and 6/0 (2.50 and 3.50mm)
DP Crochet Hook : Size 5/0 and 7/0 (3.00 and 4.00mm)
DP Crochet Hook : Size 7/0 and 8/0 (4.00 and 5.00mm)
DP Crochet Hook : Size 7.5/0 and 9/0 (4.50 and 5.50mm)
DP Crochet Hook : Size 8/0 and 10/0 (5.00 and 6.00mm)

Tulip No. KNH060200 KNH060225 KNH060250 KNH060275 KNH060300 KNH060325 KNH060350 KNH060375 KNH060400 KNH060425 KNH060450 KNH060500 KNH060550 KNH060600 KNH060650 KNH060700 KNH060800 KNH060900 KNH061000 KNH061200 TA-0008e TA-0009e TA-0010e TA-0011e TA-0012e TA-0013e TA-0014e TA-0015e TA-0016e TA-0017e TA-0018e TA-0019e

Crochet Hooks Continued

Crochet Hook Type	Tulip No.
Steel Crochet Hook w/Plastic Handle : Size 1 (1.60mm)	TA-1042e
Steel Crochet Hook w/Plastic Handle : Size 3 (1.30mm)	TA-1043e
Steel Crochet Hook w/Plastic Handle : Size 5 (1.10mm)	TA-1044e
Steel Crochet Hook w/Plastic Handle : Size 7 (0.95mm)	TA-1045e
Steel Crochet Hook w/Plastic Handle : Size 9 (0.85mm)	TA-1046e
Steel Crochet Hook w/Plastic Handle : Size 10 (0.75mm)	TA-1047e
Steel Crochet Hook w/Plastic Handle : Size 11 (0.70mm)	TA-1048e
Steel Crochet Hook w/Plastic Handle : Size 12 (0.60mm)	TA-1049e
Steel Crochet Hook w/Plastic Handle : Size 13 (0.55mm)	TA-1050e
Steel Crochet Hook w/Plastic Handle : Size 14 (0.50mm)	TA-1051e
Steel Crochet Hook w/Plastic Handle : Size 23 (0.45mm)	TA-1052e
Steel Crochet Hook w/Plastic Handle : Size 24 (0.40mm)	TA-1053e
Steel Crochet Hook w/Plastic Handle : Size 25 (0.35mm)	TA-1054e
DP Crochet Hook : Size 3/0 and 4/0 (2.20 and 2.50mm)	TA-1055e
DP Crochet Hook : Size 5/0 and 6/0 (3.00 and 3.50mm)	TA-1056e
Sucre Bead Crochet Hook w/Cushion Grip : Size 0 (1.75mm)	TB13-0e
Sucre Bead Crochet Hook w/Cushion Grip : Size 2 (1.50mm)	TB13-2e
Sucre Bead Crochet Hook w/Cushion Grip : Size 4 (1.25mm)	TB13-4e
Sucre Bead Crochet Hook w/Cushion Grip : Size 6 (1.00mm)	TB13-6e
Sucre Bead Crochet Hook w/Cushion Grip : Size 8 (0.90mm)	TB13-8e
Crochet Hook Case : Polka Dot	TB13-C
Sucre Bead Crochet Hook Set (6 pcs) : Polka Dot	TB13-Se
Crochet Hook Set (8 pcs) : Classic 1	TCK-001e
Crochet Hook Set (14 pcs) : Classic 2	TCK-002e
Crochet Hook Set (16 pcs) : Classic 3	TCK-003e
Crochet Hook Set (19 pcs) : Classic 4	TCK-004e
DP Crochet Hook Set (14 pcs) : Sorbet (Dot)	TCS-01e
DP Crochet Hook Set (14 pcs) : Sorbet (Solid)	TCS-02e
Crochet Hook Case : Gray Tweed	TEC-001
Crochet Hook Case : Blue Stripe	TEC-002
Etimo Crochet Hook Set (13 pcs) : Premium Gold	TEG-003
Etimo Crochet Hook Set w/ Cushion Grip (13 pcs) : Rose Lace	TEL-001e

2017 Buyer's Guide Crochet Hooks Continued

Crochet Hook Type	Tulip No.
Etimo Rose Steel Crochet Hook w/Cushion Grip : Size 0 (1.75mm) Etimo	TEL-00e
Rose Steel Crochet Hook w/Cushion Grip : Size 2 (1.50mm) Etimo Rose	TEL-02e
Steel Crochet Hook w/Cushion Grip : Size 4 (1.25mm) Etimo Rose Steel	TEL-04e
Crochet Hook w/Cushion Grip : Size 6 (1.00mm) Etimo Rose Steel	TEL-06e
Crochet Hook w/Cushion Grip : Size 8 (0.90mm) Etimo Rose Steel	TEL-08e
Crochet Hook w/Cushion Grip : Size 10 (0.75mm) Etimo Rose Steel	TEL-10e
Crochet Hook w/Cushion Grip : Size 12 (0.60mm) Etimo Rose Steel	TEL-12e
Crochet Hook w/Cushion Grip : Size 14 (0.50mm) Etimo Rose Steel	TEL-14e
Crochet Hook w/Cushion Grip : Size 15 (0.45mm) Etimo Rose Steel	TEL-15e
Crochet Hook w/Cushion Grip : Size 16 (0.40mm) Etimo Pink Candy	TEL-16e
Cushion Grip Crochet Hook Set (11 pcs) : Gingham Pink Etimo Pink	TEP-002e
Candy Cushion Grip Crochet Hook Set (11 pcs) : Wool Pink Etimo	TEP-003e
Cushion Grip Crochet Hook Set (14 pcs) : Rose	TER-001e
Etimo Rose Crochet Hook : Size 2/0 (2.00mm)	TER-03e
Etimo Rose Crochet Hook : Size 3/0 (2.20mm)	TER-04e
Etimo Rose Crochet Hook : Size 4/0 (2.50mm)	TER-05e
Etimo Rose Crochet Hook : Size 5/0 (3.00mm)	TER-06e
Etimo Rose Crochet Hook : Size 6/0 (3.50mm)	TER-07e
Etimo Rose Crochet Hook : Size 7/0 (4.00mm)	TER-08e
Etimo Rose Crochet Hook : Size 7.5/0 (4.50mm)	TER-09e
Etimo Rose Crochet Hook : Size 8/0 (5.00mm)	TER-10e
Etimo Rose Crochet Hook : Size 9/0 (5.50mm)	TER-11e
Etimo Rose Crochet Hook : Size 10/0 (6.00mm)	TER-12e
Etimo Rose : Crochet Hook Case	TER-13e
Etimo Rose Crochet Hook : Size 10.5/0 (6.50mm)	TER-14e
Etimo Steel Crochet Hook Set (13 pcs) : Premium Gold	TLG-002

Beading Needles and Awls

Needle Type	Tulip No.
Beading Needles - Size # 10 Long	TBN-001e
Bead Embroidery Needles - Sharp (4 pcs) : Size #10 Short	TBN-002e
Beading Needles - Size #11	TBN-003e
Beading Needles - Size #12	TBN-004e
Beading Needles - Size #13	TBN-005e
Beading Needles - Twisted	TBN-006e
Beading Needle Twisted Long	TBN-007e
Beading Needles - Loom Work	TBN-010e
Bead Knitting Needle Short	TBN-011e
Bead Knitting Needle Long	TBN-012e
Beading Needles - Assorted	TBN-013e
Beading Needles - Gift Set	TBN-100e
Awls for Beading and Crafting	Tulip No.
Fine Beading Awl w/Cushion Grip : Pink	TM-01e
Fine Beading Awl w/Cushion Grip : Mint	TM-02e
Craft Awl w/Cushion Grip	TM-03e
Round Tip Awl w/Cushion Grip	TM-04e
Bent Tip Craft Tool w/Grip	TM-05e
Fine Beading Awl	TP-007e

Starman item codes for Tulip products have a prefix of U- before the Tulip number.

Needle Felting Tools

Product Type	Tulip No.
Feltomo : Felting Needle	TF001e
Felting Needles (Replacement)	TF002e
Wooden Grip : For 3 Needles	TF004e
Wooden Grip : For 1 Needle	TF005e
Thimbles (2 pcs) : Pink Leather	TF006e
Felting Needles (2 pcs) : Fine	TF007e
Feltomo Needle : Felting Needle (Replaceable)	TF008e
Felting All-In-One Kit (6 pcs)	TF009e

2017 Buyer's Guide Notions

Notion Type	Tulip No.
Stitch Markers - Heart - Yellow Small	AC-001e
Stitch Markers - Heart - Yellow Medium	AC-002e
Stitch Markers - Heart - Yellow Large	AC-003e
Stitch Markers - Heart - Yellow X-Large	AC-004e
Stitch Markers - Heart - Red Small	AC-005e
Stitch Markers - Heart - Red Medium	AC-006e
Stitch Markers - Heart - Red Large	AC-007e
Stitch Markers - Heart - Red X-Large	AC-008e
Stitch Markers - Heart - Brown Small	AC-009e
Stitch Markers - Heart - Brown Medium	AC-010e
Stitch Markers - Heart - Brown Large	AC-011e
Stitch Markers - Heart - Brown X-Large	AC-012e
Stitch Markers - Heart - White Small	AC-013e
Stitch Markers - Heart - White Medium	AC-014e
Stitch Markers - Heart - White Large	AC-015e
Stitch Marker Set Heart	AC-016e
Stitch Marker Set Heart	AC-017e
Stitch Marker Set Heart	AC-018e
Stitch Markers Navy (Pin)	AC-026e
Stitch Markers White (Pin)	AC-027e
Stitch Markers Orange (Pin)	AC-028e
Stitch Markers - Heart - Pink (Pin)	AC-029e
Stitch Markers - Heart - Blue (Pin)	AC-030e
Stitch Markers - Heart - Green (Pin)	AC-031e
Stitch Marker Set Tulip (Pin)	AC-032e
Stitch Marker Set Heart (Pin)	AC-033e
Point Protectors Pink Small	AC-044e
Point Protectors Blue Small	AC-045e
Point Protectors Green Small	AC-046e
Point Protectors Navy Large	AC-047e
Point Protectors White Large	AC-048e
Point Protectors Orange Large	AC-049e
Stitch Holders	TA-0044e
Knitting Accessories Set	TA-0045e
Quick Gauge	TA-0046e
Knitting Gauge	TA-0047e
Knitting Pins : Multi-Colored Sharp	TA-0048e
Knitting Needle Tip Cover : Pink Large	TA-0049e

Notions Continued

Notion Type	Tulip No.
Knitting Needle Tip Cover : Yellow Small	TA-0050e
Row and Stitch Counter	TA-0051e
Knitting Pins : Rounded Tip Multi-Colored Tulips	TA-0055e
Knitting String	TA-0056e
Knitting String : Thick	TA-0057e
Plastic Cable Stitch Needles	TA-0058e
Plastic Yarn Needles	TA-0061e
Cellulose-Head Pins : Momiji Multi-Color	THN-072e
Cellulose-Head Pins Tulip Pink (Thin)	THN-073e
Cellulose-Head Pins Tulip Yellow	THN-074e
Glass-Head Patchwork Pins	THN-075e
Glass-Head Pins : Shizuku	THN-095e
Glass-Head Pins : Sakura	THN-096e
Glass-Head Pins : Aosora	THN-097e
Glass-Head Pins : Akari	THN-098e
High-Quality Scissors w/Curved Blades : Elegantly Pink	TIC-001e
High-Quality Scissors : Premium Gold	TIG-001
High-Quality Scissors : Royal Silver	TIS-001
Suitto Needle Threader : Red	TYS-001e

CONCLUSION & THANK YOU

Thank You

Thank you for reading our book. The high-quality handcrafting tools featured in this book are manufactured by Tulip Company Limited, a Hiroshima-based producer of sewing needles, crochet hooks, knitting needles, and other tools for handcrafts.

Tulip recognizes that needle making is an art form that requires precision, skilled craftsmanship, and advanced technologies to ensure consistency, safety, and excellence. Needle makers in Hiroshima take great pride in their ability to create the highest quality of crafting tools.

The tradition of needle making in Hiroshima dates back more than 300 years. Atsushi Harada, the founder of Tulip, hoped to create a popular brand that would be a favorite among all users, by developing a high-quality product that is both reliable and easy to use.

I have included the following letter from Kotaro Harada, the current and second president of Tulip, because it clearly exhibits the Hiroshima region's dedication to quality and the company's love of handcrafting traditions. Mr. Harada wishes to continue Tulip's legacy so that his customers "use Tulip products to enjoy their life every day." The entire Tulip staff strives to promote the idea of "leading a fulfilling life that starts from using needles."

Melinda Barta Starman Inc. Content Curator

SOURCES for historical information on pages 6–8

https://en.wikipedia.org/wiki/History_of_knitting

² http://www.sewsteamboat.com/blogs/the-history-of-knitting-knitting-needles

³ http://www.crochet.org/?page=CrochetHistory

⁴ https://en.wikipedia.org/wiki/Crochet

⁵ http://www.guinnessworldrecords.com/

⁶ https://en.wikipedia.org/wiki/Denisova_Cave#cite_note-I

^{7,10, and 13} http://apparelscience.com/index.php/apparel-science/technical/85-apparel-science/technical/148a-brief-history-of-the-sewing-needle

⁸http://www.schmetzneedles.com/needle-history/

^{9 and 12} https://en.wikipedia.org/wiki/Sewing_needle

^{II and I4} https://www.ngv.vic.gov.au/the-sewing-needle-a-history-through-I6-I9th-centuries/

¹⁵ https://en.wikipedia.org/wiki/Hari-Kuyo

Weaving the World Together With Love and a Single Needle

Since ancient times, the needle has been an essential tool for people to make various items, such as clothing, bedding, embroidery, lace, quilts, and patchwork. It is a commercial product that has undoubtedly played an extremely important role in preserving culture and enriching our lives. While one may use a needle without giving much thought to its origins, we are passionate about delivering a needle that is safe and reliable. To achieve this, we use a strict quality control system that is fundamental in manufacturing and embrace the principle that "quality is produced in the manufacturing process."

Technology continues to undergo innovation at a faster pace in the electronics industry, as we find ourselves thrust into the age of global competition. The advancement of IT in society cannot be realized without technological innovation. Operating in one area of that advancement and innovation, we shall continue to strive toward developing premium quality products for our customers by integrating cutting-edge technology with traditional needle-making techniques.

In order to strengthen the "bonds" that link people together, our goal is to make innovative products that offer premium quality and contribute to society through our commitment to service and by conducting business with integrity. This commitment engages us to be active and expand our market by adopting a global perspective and always looking ahead.

We would like to extend our appreciation to the loyal customers and all of our partners who have supported our business and helped us endure, despite the frequent volatile shifts in the economic climate and the severe environmental changes.

Kotaro Harada, President Tulip Company Limited

INDEX

A

aluminum 13, 36, 47, 66 awl 21, 23, 71

B

bamboo 12, 36, 37, 47, 60–68 bead crochet 19, 51 beading anatomy of needle 15 awls for beading and crafting 21 basics 16 bead crochet 19, 50 bead embroidery 17 bead knitting 20 sizing 17, 71 specialty needles 18, 71 stop beads 23 Bellows Festival 9 blocking 40, 42

C

CarryC Long 38 CarryT Long 48, 49 crochet accessories 48 anatomy of hook 45 ancient tools 6 basics 46 history 6 hook types 46, 64-70 interchangeable hook sets 48, 49 lace 6 manufacturing 12, 13 sizing 47, 64-70 steel hooks 13, 19, 47, 67-70 Tunisian 46, 48, 49 yarn hooks 47 cro-knit 46, 50 CzechMates 17 da Vinci, Leonardo 7

D

Denisova Cave 7 Doll's Day 9

F

felting anatomy of needle 53 Feltomo 54 machine felting 42 needle felting basics 54

G

gauge 43, 47 Guinness Book of World Records 6 Great Irish Famine 6

Н

handstitching anatomy of needles 25 basics 26 manufacturing 11 needle types 28-30, 56-59 sizing 27, 56–57 tools 31 Harada, Atsushi 74 Harada, Kotaro 74, 75 Hari-kuyo needle festival 8 history crochet hooks 6 Hiroshima 10 knitting needles 6 sewing needles 7 Tulip 74, 75

I

Industrial Revolution 7

K

Kake Kake region 10 Masahiro Kake 7 Knina swivel 38, 62–63

knitting

accessories 39 anatomy of needle 35 ancient tools 6 basics 36 history 6 interchangeable needle sets 38, 43,64–65 manufacturing 12, 13 needle types 36,60–65 sizing 37,60–65 Krems, Balthasar 7 kumihimo 18

Ν

nålebinding 6

Ρ

purl stitch 6

Q

quilting 28, 56, 58

R

Redditch, England 7 Riego de la Branchardiere, Eleonore 6 roving 55

S

Sexton, Candice 19 steel 7, 11, 13, 19, 27, 36, 47, 67–70 Suitto 33 swatch 43, 50

Т

tatara (furnace) 9, 10 thimble 32, 53 TOHO beads 9



