Cubic Right Angle Weave
By Valorie Clifton

CRAW (Cubic Right Angle Weave) is an easy stitch to create if you imagine that you are creating a box (or cube). Once you learn CRAW, the possibilities are endless! CRAW can be shaped and bent; corners can be added to form an assortment of shapes: Rectangles, squares, hexagons, ovals, hearts, circles, you name it! It is a versatile stitch that can be used to create geometric shapes or elegant ropes.

CRAW can be stitched with a wide variety of bead sizes, and multiple bead sizes can be combined in one rope. Practically any shape of bead will work with CRAW: Rounds, faceted rounds, bicones, roundels and fire polished beads. For more information about the different shapes of beads, you can check out my Bead Encyclopedia, Part 2 on the Wubbers University website!

CRAW can also be created using sizes 15, 13, 11, 8 and 6 round seed beads. For more information about seed beads, you can check out my Bead Encyclopedia, Part 1 on the Wubbers University website!

Materials List
- Any beads! CRAW can be created with any size bead from 2mm to 6mm or even 8mm. For the purpose of this tutorial, I used size 4mm Fire Polished beads.
- Regardless of the type of beads chosen, the first unit requires 12 beads. Each successive unit requires 8 beads.
- It is best to use only one type/size of bead while learning this stitch. Expect to use a large quantity of whichever bead you’ve chosen. It’s easier to learn this stitch with larger beads. I’d recommend size 3mm or 4mm to start or size 8/0 seed beads.

Tool List

<table>
<thead>
<tr>
<th>Size 10 or 12 Beading needles</th>
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<td>6 lbs to 8 lbs test beading thread. Fireline is highly recommended.</td>
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| Sharp scissors |
| A bead mat and a bead tray |
| A thread burner is helpful but not required. |

Tutorial Tips
- A blue star indicates the beginning of each round.
- It’s best to maintain proper thread tension with this or any bead project. Aim for a medium to tight tension, with no loose gaps. This project requires a semi-firm tension but not so firm as to snap the thread or chip the beads.
- To better help you understand the concept of CRAW, I’m providing additional cube illustrations.
Creating CRAW units

Step 1:

*Think of the first segment of CRAW as the bottom of a box. The 4 walls of the box are built from the bottom up (like a house). The final segment acts as the “roof” or the “lid”.*

Form a circle with 4As. Tie an overhand knot or a surgeon’s knot and weave the tail thread through the circle before snipping or burning the tail thread. To step up, exit any of the 4As. For tutorial purposes, I’ve exited the top A.

*The progression of added beads for each step after the base is: 3,2,2,1. Some people like to use the mantra, “3,2,2,1. Through the top, repeat” to help remember the steps. Each side consists of 4 As; thus, a unit of CRAW will look the same from any side.*

Step 2:

*The second segment will act as the first wall. We will borrow one of the base beads, as shown.*

Exiting a base A, pick up 3As to form a 4-bead circle. To step up, sew through the adjacent base A, as shown.

Step 3:

*The third segment acts as the second wall. This wall shares both a base bead and a bead from the first wall to create a 4-bead unit. With this segment, a box will begin to form as the sides begin to cup upward.*

Exiting the base A from Step 2, pick up 2As. Sew through the side A from Step 2 and the base A to form a 4-bead circle. To step up, sew through the adjacent base A, as shown.
Step 4:
The next segment acts as the third wall. Again, 2As are added and 2As are borrowed from the adjacent side and base to create another 4-A side.

Pick up 2As. Sew down through the adjacent side A from Step 3 and through the base bead to form a 4-bead unit. To step up, sew through the adjacent base A, as shown.

Step 5:
This segment creates the final wall. As shown in the diagram, only 1A needs to be added because 1 A is borrowed from each of Steps 1, 2 and 4.

Exiting the base A from Step 4, sew up through the adjacent side A from Step 2. Add 1A and sew down through the adjacent side A from Step 4. Sew through the base A again to form a 4-A unit. To step up, sew back up through the adjacent side A, as shown (far left). The thread should exit the top of the cube.

Step 6:
This view is from the top. To finish the CRAW unit, the top 4 beads of each wall must be unified to form the “roof” or “lid” of the unit.

Exiting the A from Step 5, sew into the adjacent, top A. Sew through the 3 remaining As to form a 4-bead unit on top, as shown in the diagrams to the left. To step up, exit any A.

Congratulations! You have completed 1 unit of CRAW. It is a 6-sided cube with 4 beads forming each of the 6 sides. Here is what you should have.
Future units will be built on top of each other. The “roof” of the first unit becomes the “base” of the second unit. The “roof” of the second unit becomes the “base” of the third unit, and so forth. Repeat steps 2 - 6, creating units on top of prior units. They will be stacked and will form a rope.

Here we are repeating Step 2.

Here we are repeating Step 3.

Here we are repeating Step 4.

Here we are repeating Step 5.

Here we are repeating Step 6.

Again, this is the top view.
Creating Corners

Imagine that, after a few units of CRAW, you’d like to add a corner in order to change direction or to create a shape. For illustration purposes, we are going to add a corner after three units are created. It’s a very simple process. *A corner is simply created on one side of a CRAW unit, rather than on the top.*

**Step 1:**

After completing 3 units, exit any A on the “roof” of unit 3. *The diagrams show a side view.* Whichever A the thread is exiting will be the base for the rear wall. As you can see, there is still a base unit of 4As since each side of a CRAW unit has 4As.

The first wall of the corner is completed as normal, performing Step 2 of the CRAW process, as shown. Exit the adjacent A on the SIDE of the unit, as shown.

**Step 2:**

Here we repeat Step 3 of the CRAW process.

**Step 3:**

Here we repeat Step 4 of the CRAW process.

**Step 4:**

Here we repeat Step 5 of the CRAW process.

**Step 5:**

Here we repeat Step 6 of the CRAW process, joining the 4 top beads.
Here is the completed 4th unit, which forms a corner. Shown are the top view, where unit 4 is stacked on top of unit 3, and the side view, which shows an “L” formation. Congratulations, you've created a corner! It wasn’t hard at all, was it?

Now, units can be stitched in this direction, just as before, for the desired length until you decide to create another corner.

As before, repeat Steps 2-6 of the CRAW process for each unit of CRAW.

When you create a corner, repeat Steps 1 through 5 of the corner process.

Next, we will discuss the process for joining two ends of CRAW.
Joining Two Ends of CRAW

Inevitably, there will come a time for joining the ends of CRAW to form a shape, whether it’s a box, circle, oval or hexagon. The process is deceptively simple.

Remember that each unit of CRAW has 4 beads on each side. Either end of CRAW to be connected will supply 1 bead. Bring the two ends together and we have 2 beads for the unit. It’s helpful to think of them as the top bead and the bottom bead.

*It’s also important to note that, if creating a geometric shape such as a square, rectangle or hexagon, or any shape which requires a specific number of units per side, that the last unit will be the connecting one; thus, you need to create 1 fewer unit prior to joining. For instance, if you require 6 units, you would complete 5 units and the 6th unit would be created during the joining process.*

While ends can be joined in a corner, it is more difficult than joining two ends in the middle of a side. Until you are proficient with CRAW, I’d recommend joining any ends in a straight plane versus in a corner.

**Step 1**

*I prefer to begin a join on the inner face of a shape— for instance, if joining a circle, I prefer to begin the join on the inner edge of the circle.*

Exiting the top A on the inner face of your shape, add 1A. Sew through the “top” A of the corresponding end of CRAW, as shown. Add 1A and sew through the original A, as marked by the star. To step up, sew through the first A added, as shown.

**Step 2**

Turn the beadwork to expose the next side to be joined. Here you see there are 3 beads in place already. Sew through the bottom A to reach the open space and add 1A. Sew through the adjacent 3As and the A just added. Turn the piece to expose the next side to be joined.
Step 3

This side is easy: Repeat Step 2, as shown.

Step 4

This side needs no additional beads. Simply join all 4 beads and the join is complete! I would recommend reinforcing all 4 sides of this join for security.

The piece is now ready for embellishment, if desired. If the piece is completed, weave in the tail thread very well by sewing through beads, observing proper thread paths (don’t cross over open spaces) and tying half hitch knots along the way. After the tail thread is properly buried, snip or burn the thread.

I hope you’ve enjoyed this stitch workshop! Following the steps outlined in this tutorial should provide a good foundation for CRAW projects. Your creativity adds the rest! Here are a few examples of things that can be created using CRAW: