

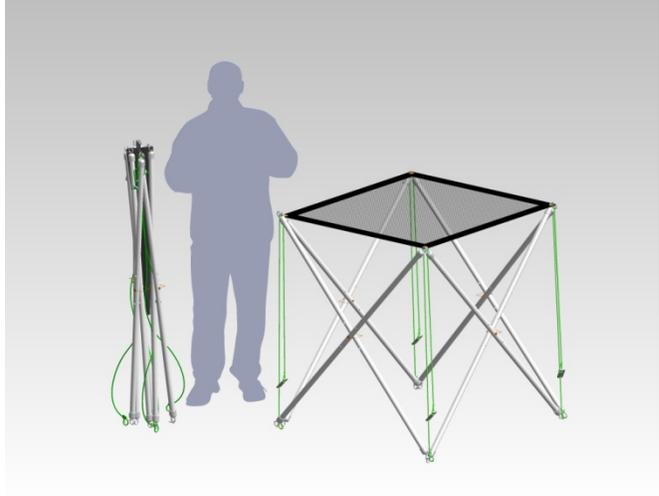
# Foldable Kick Net Table

## for Stream Team Macroinvertebrate Monitoring

### DIY ASSEMBLY INSTRUCTIONS

The Foldable Kick Net Table is a lightweight portable platform for use by Stream Team volunteers as a workbench to support the macroinvertebrate kick net during monitoring.

- No assembly is required at the stream site.
- The table legs and top net surface simply unfold and “pop-up” from their compact collapsed position to provide a sturdy one-meter square work surface.
- Four tensioning cords are tightened at each corner using simple rope clamps to make the table rigid and stable.
- Based on the design of the commonly available pop-up camping chairs, the table folds into a compact and easily carried package.



#### SUPPLIES

<u>Quantity</u>	<u>Item</u>
4	PVC pipes -- ¾ inch -- 10 feet long
16	PVC end caps -- ¾ inch
1	Can PVC Pipe Cement – similar to Lowes Item 23464
16	Eye bolts with nuts -- 3/16 in x 1 ½ inch (minimum length)
8	Flat washers -- 3/16 inch
8 links	Hanging Light Lamp chain -- similar to Lowes Item 39675
4	PTO (power take-off) Pins -- ¼ inch x 2 ½ inch -- similar to Harbor Freight Item 67534
1	Screen mesh tarp -- similar to Harbor Freight Item 60577
1 roll	Black Duct Tape – 2 inches wide – heavy duty
1 spool	Heavy duty nylon or polypropylene sewing thread
1	Tarp Grommet kit -- similar to Harbor Freight Item 30037
24 feet	¼ inch nylon cord
8 inches	Aluminum bar stock -- ¾ inch wide -- similar to Lowes Item 216079
2 yards	Rip-stop nylon fabric similar to Jo-Ann's Item xprd56096
24 inches	Nylon cord - ¼ inch
1	Cord cinch clamp

#### ASSEMBLY INSTRUCTIONS

##### 1. Black screen mesh fabric table top – 39 inches square

Make a one meter square screen mesh tarp with doubled 1.5 inch wide sewn hems and corner grommets. Cut a square section of the black screen mesh tarp 45 inches square. Tape the cut edges with the Black Duct Tape by folding the tape onto itself capturing the cut edge. Form a doubled 1.5 inch wide hem by folding the taped edge toward the center of square twice. Sew the hem with strong nylon thread suitable for outdoors. Repeat this process for all four sides of the net. Punch holes in the corners using the hole punch provided with the kit and install the grommets using the grommet tool and a hammer. The finished net must be 39 inches by 39 inches in order for the resulting table height to be as listed below.

##### 2. Table legs

Cut 8 tubes from the four 10 foot long PVC tubes to a length that is selected from the chart below to suit your desired finished work surface height for comfortable use :

<u>Desired Work Surface Height (inches)</u>	<u>30</u>	<u>36</u>	<u>42</u>	<u>48</u>	<u>PVC Pipe Length Required (inches)</u>
Standard Table-top Height	30	36	42	48	48
Standard Counter-top Height	30	36	42	48	52
Standard Bar-top Height	30	36	42	48	56
Tallest Height	30	36	42	48	60

Drill ¼ inch hole in the CENTER of each tube length. For an adjustable table height, drill TWO more holes 3 inches FROM EACH SIDE OF THE CENTER HOLE. These holes will allow for the table height to be adjusted approximately +/- 2 inches from the nominal height.

**3. End caps with eye bolts**

Drill 16 PVC end caps with a 1/8 inch hole. Thread 3/16 inch eye bolts into each end cap and secure with 1-2 washers and the retaining nut. Glue each of the end cap assemblies to the open ends of the 8 pipes using PVC plumbing cement.

**4. Leg assembly**

Insert the PTO pins in the center of holes of two of the pipes so they make an X with the wire bail of the PTO pin to either the LEFT or RIGHT side of the X (and not facing UP or DOWN). Lay out the legs in an X-pattern on the floor with the 4 X's end-to-end. Arrange the legs so 4 pipes lay completely on the floor in the shape of an "M" and the remaining 4 pipes are crossed on top of these in the shape of a "W" and do not touch the floor. This is important so the legs collapse and close in a compact bundle. Temporarily tie the adjoining eye-bolts together with cords. Lift one end of the crossed legs and roll the assembly on top of the other half. The unattached end caps should now be adjacent to each other. Secure these with cords. You should now be able to upend the assembly into a square table shape.

**5. Assemble the table top**

Use the links from a hanging lamp chain to secure the eye-bolts to the top net grommets. When all four of the top links are pinched closed, remove the temporary retaining cords on the top. Invert the table in the trash barrel so the bottom end caps are facing up. Thread the remaining open chain links through the grommets of the remaining paired eye bolts. Close and tighten as before and remove the cords. Invert the table and it should stand when each of the assembled legs are opened. Check the table height. Collapse the table legs so all legs are vertical. The table should fold to a compact bundle of parallel tubes.

**6. Tie down tensioning clamps**

Make 4 simple tensioning clamps for the tie-down cords using the ¾ inch wide aluminum flat stock. Cut 4 pieces, 2 ½ inches long each using a metal hack saw. Drill two 3/8 inch holes near each end. Sand and debur all edges and chamfer all holes.

**7. Tie down cords**

Cut four 3/8 inch diameter cords 10 inches longer than the length of the chosen leg pipe length. Melt each end of the cut cord using a flame (i.e. propane torch). Thread one end of each cord through the bottom eye bolts and tie securely (i.e. using a bow knot). Insert the other end of the cord through a one of the holes in a tensioning clamp and then insert that end through the top eye bolts. Insert the end of the cord through the remaining hole in the tensioning clamp and tie securely (i.e. bow knot) in such a way that the extended cord nearly matches the length of the leg. Repeat steps for the remaining cords. When assembled correctly, the lengthened cord allows the table to be collapsed and bundled without restriction and then allows the cord to be tightened when the table is fully opened.

**8. Table height adjustment**

To INCREASE table height approximately 2 inches, insert all PTO pins into the LOWER leg holes.  
To DECREASE table height approximately 2 inches, insert all PTO pins into the UPPER leg holes.

**9. Carrying bag**

Sew a carrying bag using rip stop nylon or polypropylene fabric. Hem all edges. Add a top closing cord with a cord cinch clamp.

**DETAILED ILLUSTRATED ASSEMBLY INSTRUCTIONS WITH TIPS AND ADVICE CAN BE FOUND ONLINE AT:**

[http://www.mostreamteam.org/documents/how\\_to/FoldableKickNetTable.pdf](http://www.mostreamteam.org/documents/how_to/FoldableKickNetTable.pdf)

*Designed and developed by Bob Virag – Stream Team 5080 – for free and unrestricted use by the public.*