

# Urchin Ornament pixSea Urchin Christmas Ornament Instructions and Materials

By  
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The use of sea urchin shells to make the bulb of Christmas ornaments came about because of the use of a Turritella seashell as a finial for a hollow form by Al Caton. The day after the meeting where Al placed his hollow form in the instant gallery myself and Randy Leach went on a road trip to the nearest shell store which was in Otter Creek, Fl. It was a good step from Lecanto to Otter Creek but we made it. Once in the store we asked about the cone shells. Fresh out! Seems as if Al had bought all that they had! Not wanting to waste a trip I decided to look around and see what I could find. They had everything from dried puffer fish to dried star fish and lots more, nothing that even remotely that looked like a finial. They did have sea urchin shells so I bought a few of them. On the way back Randy remarked that a sea urchin shell wouldn't make a very good finial! He asked me what I was going to make with them. I told him to wait and see.



At the next sawdust session, I turned a finial and made it to fit one of the urchin shells and even managed to put a top finial on it. As near as I can tell that was the first sea urchin Christmas ornament by a woodturner. That was more than 30 years ago! Since then, I have made many design changes to make it easier to produce an urchin ornament.

I now make the sea urchin ornament from 4 or 5 parts; the urchin shell, top and bottom finial, a transition piece between the bottom finial and the shell (if needed) and a short piece of 1/16" (0.0625") brass rod or #14 house wiring with the insulation removed (0.0641" diameter) to connect the top and bottom finial.

Other tools etc. necessary:

1. Drill chuck to go into tailstock
2. Pen jaws to hold #41 drill bit (<https://www.rockler.com/micro-drill-chuck> \$15.99)
3. Cone type live center
4. #41 drill (in this set <https://www.rockler.com/20-piece-wire-gauge-drill-set> \$9.99)
5. 1/16" drill
6. 1/2" Forstner bit (for 5 part ornament)
7. Stainless steel spring wire to make bail or other suitable wire  
(<https://www.michaels.com/product/beadalon-remembrance-stainless-steel-memory-wire-bracelets-10332380?michaelsStore=9941&inv=4> \$9.99 at Michael's)
8. Intermediate section holder (for 5 part ornament)
  - a. This is a piece of hardwood that fits into the pen jaws that has a 1/2" diameter area turned down on the end and is split on the bandsaw
9. 60-degree sander (you won't need this as the shells are already done.)
  - a. This is a 60-degree wooden cone with sandpaper glued to it

- b. The sandpaper should be about 120 grit
- c. The paper is a half circle with a radius to match the diameter of the cone
- 10. Spindle roughing gouge
- 11. Spindle gouge
- 12. Parting tool
- 13. Sandpaper 120 – 320 grit
- 14. HUT wax finishing compound
- 15. The wood can be pen blank size or slightly larger (longer) and some that is 1 ¼" square with ½" hold drilled in the center (for the 5 part ornament.)

Look at the urchin shell and guess at a bottom finial length that will look good, I think that the bottom finial should be a little longer than the shell is wide and the top finial shouldn't be very big at all 1/2" to 1" max.



You won't need to do this step as the shells are already done. Prepare the shell by using the 60-degree sander to make the edges of the bottom hole circular at 60-degrees and do the same to the top of the shell. Some shells will not have a hole in the top and you may have to make one, carefully, before you sand. You will not be able to apply much pressure on the shell to avoid breaking the shell.

Find the center of the blank and put one end into the pen jaws leaving a little more hanging out than the bottom finial will be long. Rough turn to round with the tailstock in place then turn a cylinder ½" in diameter and ½" long in the end next to the tailstock. Drill a 1/16" hole about ½" deep in the center of the cylinder just formed. At this point you can either leave the drill in the hole acting as a center or replace the live center into the hole. The shoulder formed should be slightly curved to make a good fit with the transition piece (for the 5-part ornament.) For the 4-



minimize any damage to

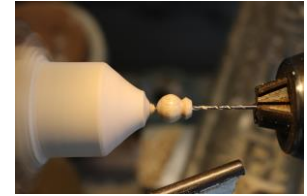


piece ornament you will need to make a 60-degree cone on the tailstock end and test fit it to the urchin shell. Working from the tailstock end turn the bottom finial. I usually start with a rounded section that is whatever the blank will allow down to about 3/8", then the onion and taper toward the headstock and end in a ball shape. I prefer a ball on the end of the finial to small feet if the ornament falls off of the tree by "accident!" Before cutting off the bottom of the ball you should sand and finish the finial. I use HUT wax but a lacquer finish is also good. The problem with HUT is if the finial is delicate, you will not be able to apply enough pressure to melt the HUT without twisting the finial in two.





You should have enough wood left in the chuck to make the top finial; you may have to slide the wood out a little to have enough. Start by drilling a 1/16" hole about 1/4" deep then cutting a 60-degree cone on the tailstock end of the blank. Use the shell to determine when the cone is the



right size. Then finish turning the top finial. I usually make a half bead then a ball. Drill crosswise through the ball at its widest point to accept the bail.

This paragraph is for the 5-part ornament. Put the intermediate section holder in the pen jaws, then put the intermediate blank on the 1/2" section and use the live center to expand the wood to lock the transition piece in place. Turn a 60-degree cone and use the urchin shell to gage the size. Remove the intermediate piece from the holder and reverse it back on to the holder and turn the other side down to a flattened 1/2 bead. You can check to make sure that you have good contact between the bottom finial and the transition piece.

Cut a piece of wire a little longer than the shell is high and place it in the center hole, place the urchin shell on the finial or transition piece to make sure the wire is long enough. Using a little medium CA glue, glue the wire into the hole of the bottom finial. Use just a little CA and remember not to touch anything you cannot lift after using the CA glue. Place the urchin shell on the finial or transition piece (for the 5-part ornament) and mark the wire 1/8" above the shell. Test fit the top finial, trim the wire as necessary, and glue in place by putting a small drop of CA into the hole then putting the top finial in place.



Form a bail out of the wire by bending it around something that is round and about the same size as the top ball. Cut the legs even and put a 90-degree bend of equal size on the end of the legs. It is important that the legs are even and pointing at each other. Snap the bail in place in the hole drilled for it.



You are done!

