**SPUTNIK SEA URCHIN PROJECTS**

Section 1.) Preparing the Sputnik Urchin for Projects in Sections 2 & 3

**Required Accessories:**
- Conical grinding stone #PKURCHGS
- 3 Jaw drilling chuck #TM32
- Mod Podge or other wood glue & brush

**Preparing the Urchin**

**NOTE:** Urchin holes will vary, measure each hole before turning your project.
- To reinforce the urchin wall to avoid cracking, use Mod Podge® or other glue on the inside surface, let dry.
- Affix the grinding stone into a 3 Jaw drill chuck or a portable hand power drill. Dia. B
- Slowly engage the wheel stone with the urchin hole and grind to reshape and round the holes A & B to be perfectly round or to a desired diameter.
- Use a disk sander or a course abrasive to flatten the surfaces around the holes. Do not over sand or it will weaken the shell. Dia. A
- The urchin is ready to use for your projects.

Section 2.) Bottle Stopper Project

**Required Accessories:**
- Blank Required 1-1/2 x 4" L
- Project starter set #PKURCHSS

**Includes:**
- 4 ea Sea Urchins #PKURCH4
- 4 ea Bottle Stoppers #BS1
- 1 ea Grinding Stone #PKURCHGS
- Bottle stopper chuck system #PKBSYST

**Diagram C / Turning the Stopper Blank**

**NOTE:** Urchin shown for size. DO NOT mount in lathe

---

**PSI Woodworking Products**
Preparing the Blank:
• Mark the center on both ends of the blank.
• Drill a 5/16" x 1" deep hole at one end of the blank.
• Tap the hole with 3/8" x 16" Tap (From #PKBSYST Set).
• Mount the stopper chuck onto the head stock of the lathe.
• Slide the tailstock in to support the other end.
• Prepare your top design/drawing idea.
• Measure the hole sizes of the urchin you prepared (Sizes A & B from Diagram “A”), apply size to your drawing. Measure the height of the urchin (Size C from Diagram “C”) and allow plenty of space for the ends to butt after parting for gluing.
• Mount your blank onto the bottle stopper chuck using the instructions provided with #BS1
• Turn the blank down to the measurements you applied to your individual urchin from diagram “B”. Turn diameters D & E to fit ends of urchin.
• Sand and polish the project. Avoid finishing the concealed section of wood.
• Use a thin parting tool to part the wood where indicated in diagram “C”.

Assembly:
• Test that each tenon fits in the hole. Do not force into the fragile shell.
• Use drops of glue to secure the urchin between the wooden ends.
• Attach the tapered stopper section into the wood, screw in place.

Section 3.) Hanging Ornament Project
Required Accessories:
• 1-1/2" x 6" L Blank
• ¼" Drill Bit
• CA or Epoxy Glue
• Hanger Stud (Set of 4) #PKURSUD4

Diagram D / Turning the Ornament Blank

NOTE: Urchin shown for size. DO NOT mount in lathe

Preparing the Blank
• Mark the center on both ends of blank
• Drill a ¼" hole x 3/8" deep in one end (To Mount Stud)
• Measure the opening of the urchin enter the hole size into your Diameter

Turning the Blank
• Mount the blank between centers (Follow Diagram “C”)
• Turn the blank to the profile of your choice. Match the center to the holes A & B in the urchin - Turn diameters D & E to exceed the holes A & B
• At the drive end leave extra wood for support until polished
• Use a narrow parting tool or saw off in the center to part the blanks See Diagram C

Assembly
• Test that each tenon fits in the whole. Do not force into fragile shell
• Squeeze glue over the parted stem and around the urchin opening to stay connected
• Finish the lower end by hand
• Squeeze a glue drop into the stud hole. Insert the stud in place
• Attach a string through the stud hole to hang