

Planetarium Construction Box

Here are instructions for the construction of the “Planetarium Box” as an alternative to the Star Master projector that is used in the Night Sky activity.

1) See the next page for 6 star templates. Tape one star template on the underside of the lid of the white 4-inch x 4-inch x 4-inch box called a Planetarium Box. Wearing a sewing thimble, take a sewing needle and poke holes through the lid where the smaller stars are. Using a tack, poke holes through the lid where the bigger stars are. Take the template off.

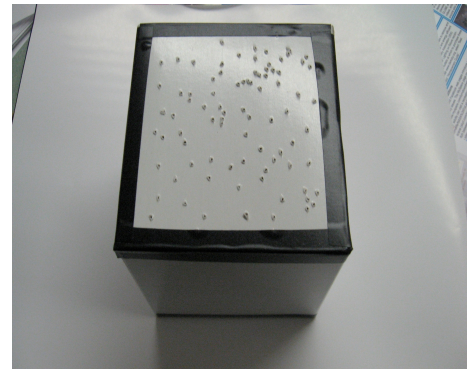
2) On the bottom part of the box, on the edge in the middle of each flap, cut a semi-circle that is between $\frac{3}{8}$ th and a half an inch in radius. When the flaps are closed, there should be a hole about $\frac{3}{4}$ ” to an inch big. This will be for the light source (the Maglite).

3) Construct the Planetarium Box into a cube by folding the flaps in. To do this, tuck in the flaps on the lid. The lid (top side of the box) now has punched out holes representing stars in Orion and surrounding constellations. On the bottom of the box (the other end of the box), tuck the flaps into the slots, making sure they lie flat.

4) Using the electrical tape, seal all three sides on the top of the cube (the side with the star holes punched out). Seal as tightly as possible to avoid any light leaks at the edges of the cube. Avoid covering the stars on the lid with tape, if possible.

5) Seal up the bottom of the box wherever there are seams in the folding. Make sure to put enough electrical tape not to allow any light to escape. Avoid covering the big hole on the bottom of the box with tape.

6) Test the planetarium box. In a very dark room, take the reflector off of the mini-flashlight, place bulb just inside the hole on the bottom of the box. Turn on the flashlight. Make sure no excess light escapes other than through the punched out holes at the top of the box. You are done!



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