FoamWerks™

P R O J E C T   I D E A

FREE *Take One!*

Glowing Solar System

Light up your next science fair with this glow-in the dark solar system model, with built-in carrying case!

Time — 3 hrs.

Difficulty — Intermediate

You will need:

- 2 full sheets of 3/16" white foamboard
- FoamWerks V-Groove Cutter (WC-2001)
- FoamWerks Straight Cutter (WC-6001)
- FoamWerks Circle Cutter (WA-8001)
- FoamWerks Tape (W-5003)
- 2 FoamWerks T-Clips (W-5002)
- Art Deckle 4-Way Stylus (A1303)
- Fishing line or clear beading string
- Styrofoam Solar System kit (white)
- 22 gauge wire
- 1" sturdy ribbon - 12" length
- Blue spray paint
- Glow in the dark acrylic paint
- 4 adjustable fasteners
- 20" elastic string

For even more exciting foamboard projects, read Foamboard Magic by Eileen L. Hull.

* This project is an excerpt from Foamboard Magic by Eileen L. Hull.
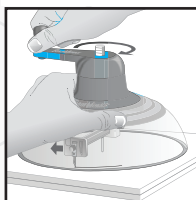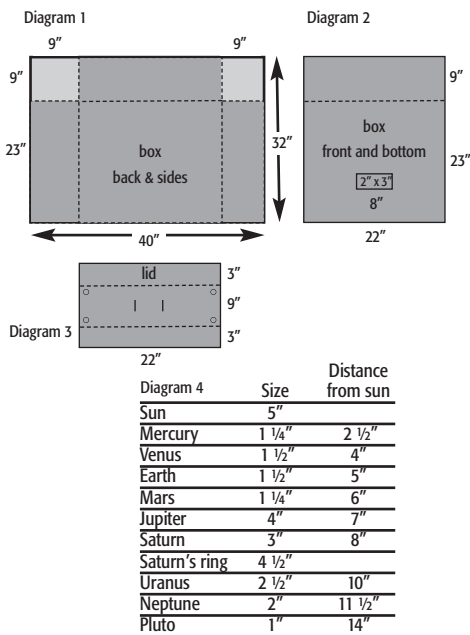Copyright 2009 Logan Graphic Products, Inc.

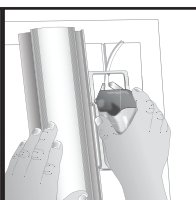Printed on recycled paper with vegetable inks.

INSTRUCTIONS:

1. Cut 3 pieces: 32" x 40" (full sheet), 22" x 32"and 22" x 15".
2. Cut a circle 3 1/2" in diameter. Leave the circle in place. Adjust Circle Cutter to 4 1/2" and cut a circle with the 3 1/2" circle inside it as a ring for Saturn.
3. Referring to Diagrams 1, 2 and 3 make cuts and v-grooves as indicated. Solar System box (32" x 40"), front panel (32" x 22") and box lid (15" x 22").
4. Spray box and front panel lightly on the inside dimensions with medium blue paint. Think "atmosphere" and make interesting patterns and splotches randomly.
5. Cut unneeded corners off the box (Diagram 1) and fold up (bottom is separate). Tape top two corners together along edges.
6. Referring to Distance Chart (Diagram 4), measure and mark on top of box where solar system pieces should hang, making sure to alternate one toward the front of the box and the next closer to the back so that the spheres do not touch each other. The length of the string will vary also, giving a little more leeway for the larger "bodies." Punch holes where marked in top of box with stylus, using piercing tip.
7. Paint all spheres from Styrofoam Solar System kit with glow-in-the-dark paint. Let dry.
8. Cut ten 1 1/2" pieces of wire. Bend in half to form a u-shaped wire hanger for each styrofoam ball.
9. Stick hanger into top of ball, leaving about ¼" loop sticking up. Tie end of fishing line to wire hanger, cutting varying length from 10"- 14". Take hanger out, drop some glue down into the holes to secure and push wire all the way down into center of ball.
10. Thread fishing line with hanging sphere up through the box and knot on top, then secure with a piece of white tape. Alternate length of fishing line, some shorter, some longer as needed to space out spheres.
11. On outside of front panel, mark viewing opening about 8" down from top and centered in middle of foamboard. Score top of flap to act as a hinge and cut all the way through remaining sides. Flap should push in and up so you can look down into the box.
12. Tape front panel to box on bottom.
13. On box lid, make slits for carrying handles. Slit should measure width of ribbon. Cut 12" of ribbon and thread through slits. Tape ribbon ends to lid bottom.
14. Place lid on top of box to cover tape and other markings. With stylus, punch holes in each corner of the box lid and mark holes on top of box. Take off lid and punch all the way through top of box. Reposition lid and thread adjustable fastener through each set of holes. Secure lid to top of box by screwing on bolts inside of box. Tape back flaps of lid to sides of box. Tie end of elastic thread to one end of a T-pin. Press pin into side of box top about 3" down. Stretch elastic cord across front of lid and attach T-pin to other side of box.
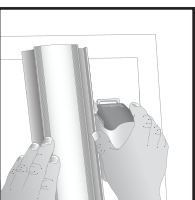15. Tuck lid into cord to close box and carry to school!

Finished size: 22" x 23" x 9"

Diagram 1

| 9" | | 9" |

9"

23"

box
back & sides

40"

32"

Diagram 2

9"

box
front and bottom

2" x 3"

8"

22"

23"

Diagram 3

lid

3"

9"

3"

22"

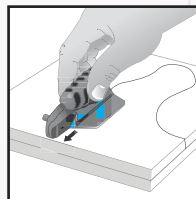| Diagram 4	Size	Distance from sun
Sun	5"	
Mercury	1 ¼"	2 ½"
Venus	1 ½"	4"
Earth	1 ½"	5"
Mars	1 ¼"	6"
Jupiter	4"	7"
Saturn	3"	8"
Saturn's ring	4 ½"	
Uranus	2 ½"	10"
Neptune	2"	11 ½"
Pluto	1"	14"

WA-8001 FoamWerks
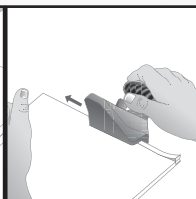Circle Cutter

WC-6001 FoamWerks
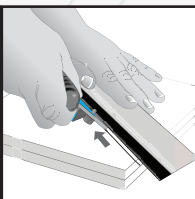Straight Cutter

WC-2001 FoamWerks
V-Groove Cutter
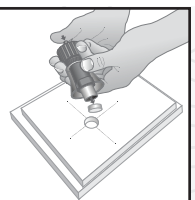
WD-8010 FoamWerks
Hole Drill

WB-6020 FoamWerks
Freestyle Cutter

WC-4010 FoamWerks
Rabbet Cutter

WC-6010 FoamWerks
Straight/Bevel Cutter

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