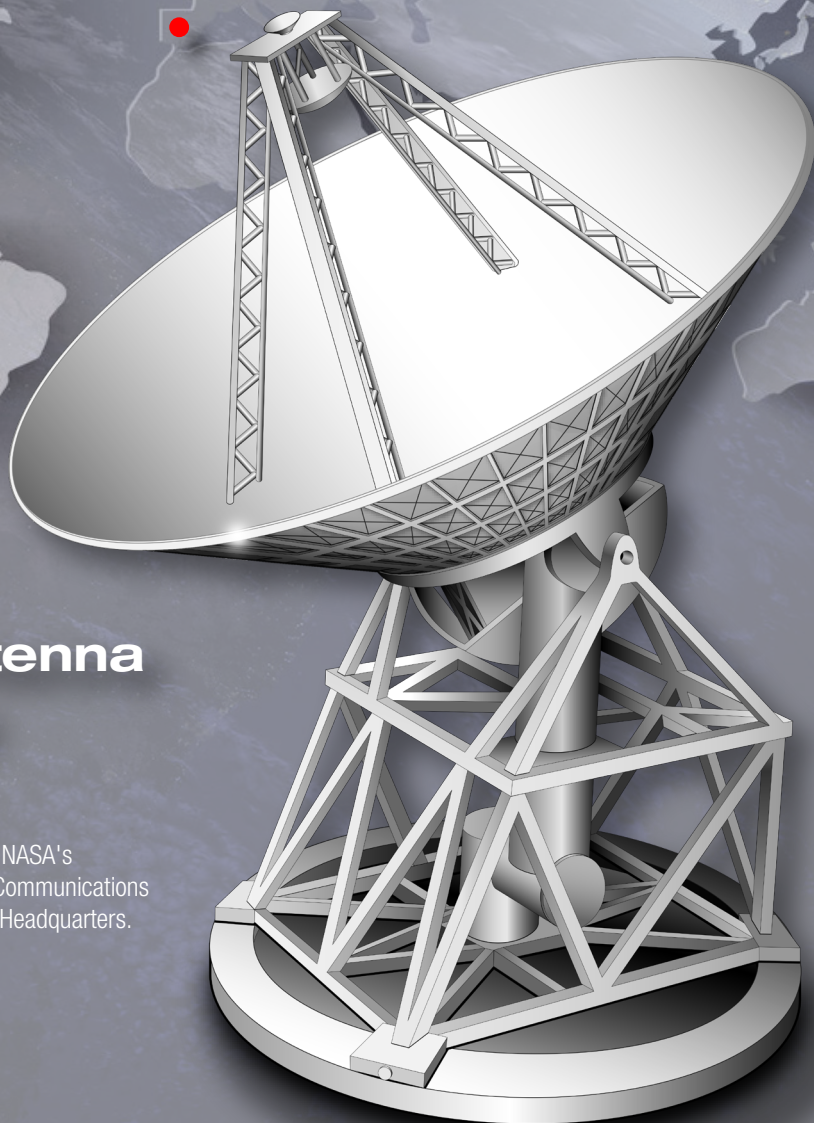


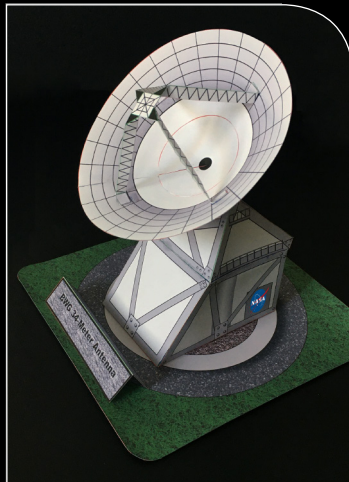
NASA's Deep Space Network

34-meter Antenna Paper Model

The Deep Space Network is managed by NASA's Jet Propulsion Laboratory for the Space Communications and Navigation (SCaN) program at NASA Headquarters.



NASA 34-meter Deep Space Network antenna



Example of tools that can be used to score card stock.

The model is best if printed on card stock, but it will work on 20# copier paper.

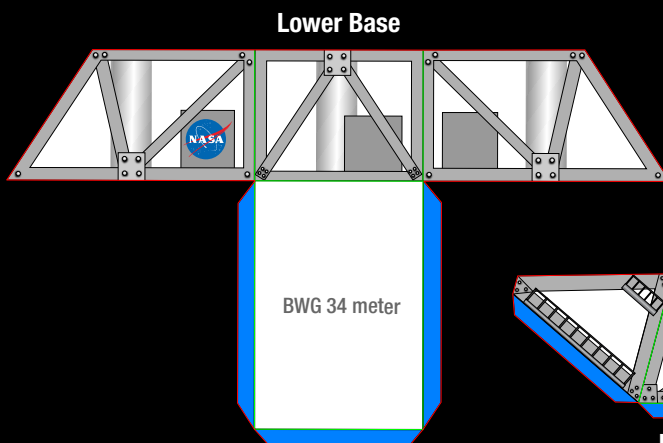
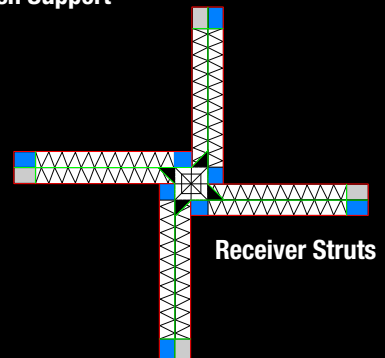
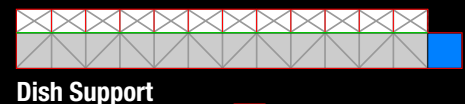
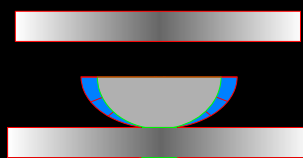
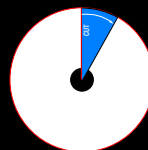
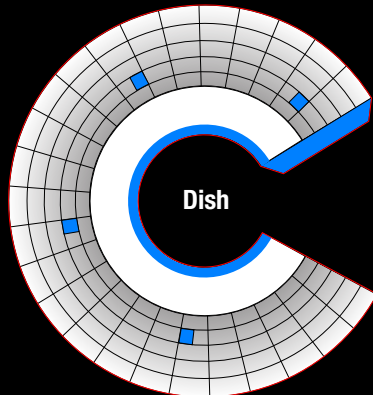
Cut out all pieces following the cutting guide on the next page.

If using card stock, score all folds according to the green lines on the guide sheet. Pre-crease for easier assembly. Tools for scoring can be a dull knife, an empty ball point pen, a glass cutter. There are also scoring tools made that you can buy.

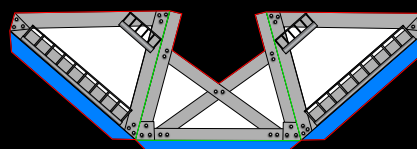
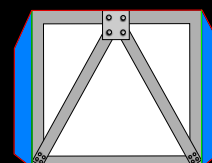
A fast drying tacky glue reduces the holding time when gluing.

The blue areas on the model are glue areas. Let each section of the assembly dry before moving to the next. Drying time depends on the glue being used.

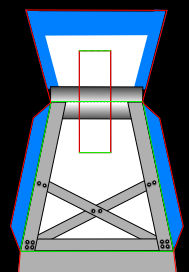
All Parts as They Appear Cutout



Lower Base Front



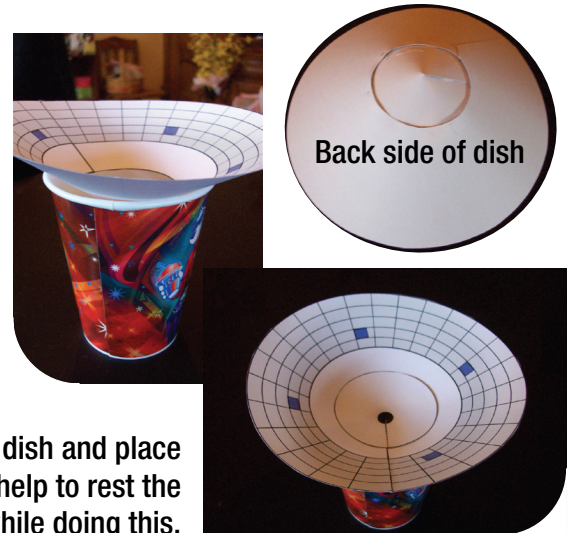
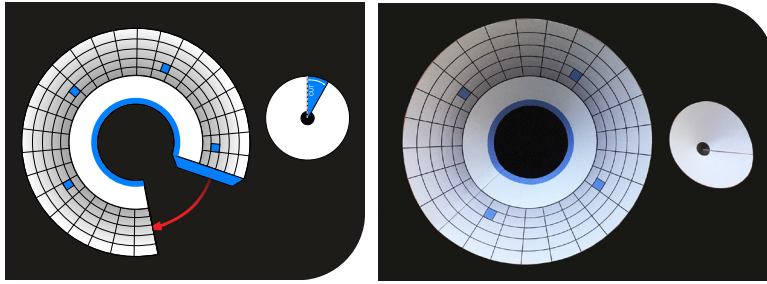
Upper Base



Upper Base Insert

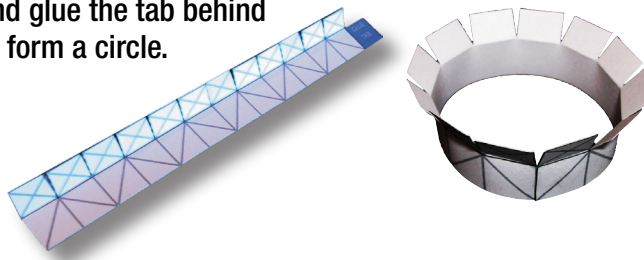
Building of the Dish and the Dish Support

Glue the main dish tab to the underside of the dish.
Glue the inner dish circle as indicated to make a cone.



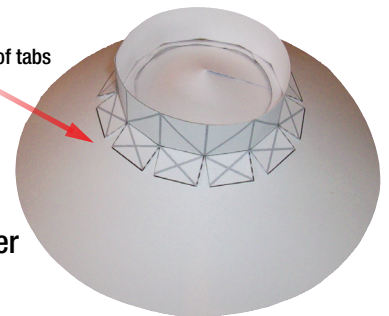
Apply glue to the inner ring of the dish and place the inner cone in place. It may help to rest the main dish in a paper cup while doing this.

Bend the tabs of the dish support forward and glue the tab behind to form a circle.

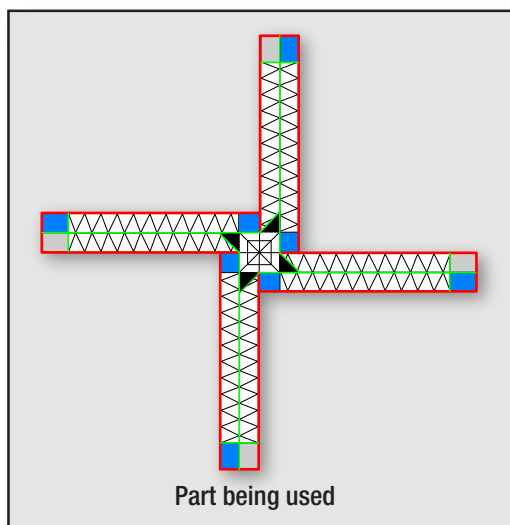


Glue on underside of tabs

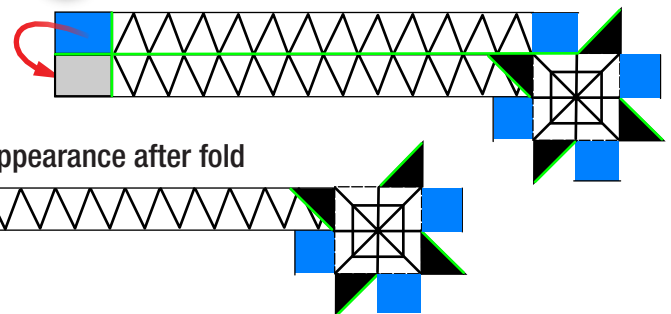
Apply glue to the ring tabs and place on the back of the dish. Center as well as possible.



Building of the Support Struts



1 Fold in half of strut under



Flip over

Glue on back side of blue areas

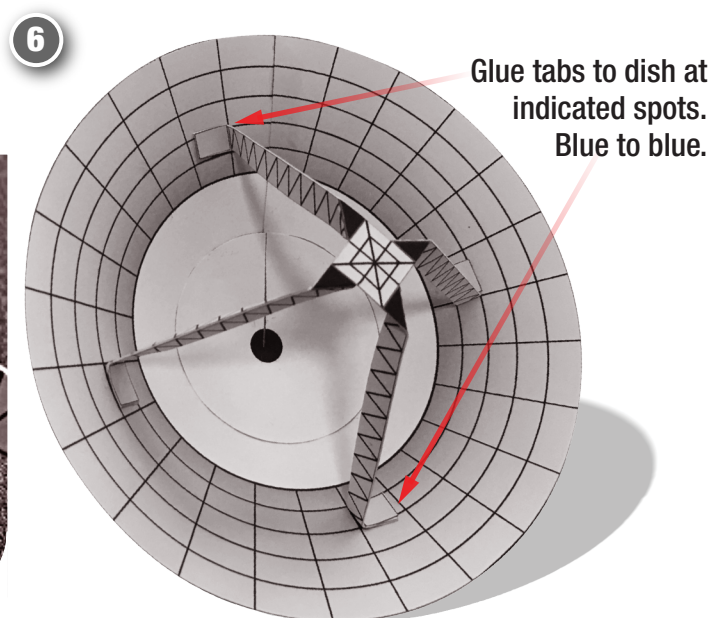
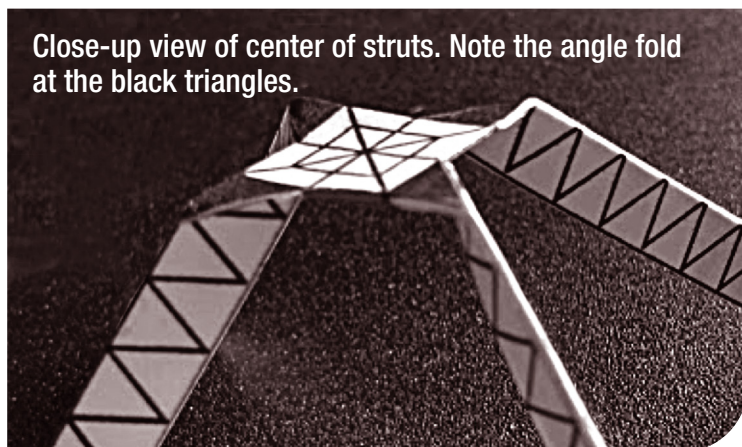
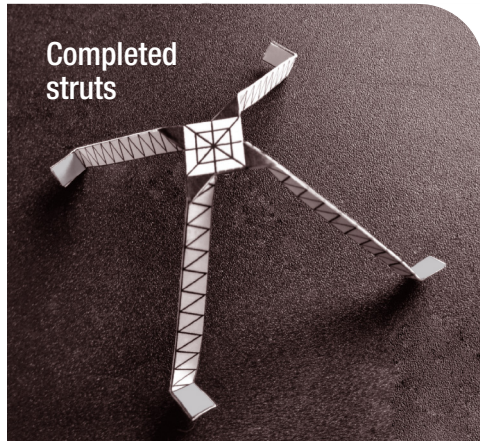
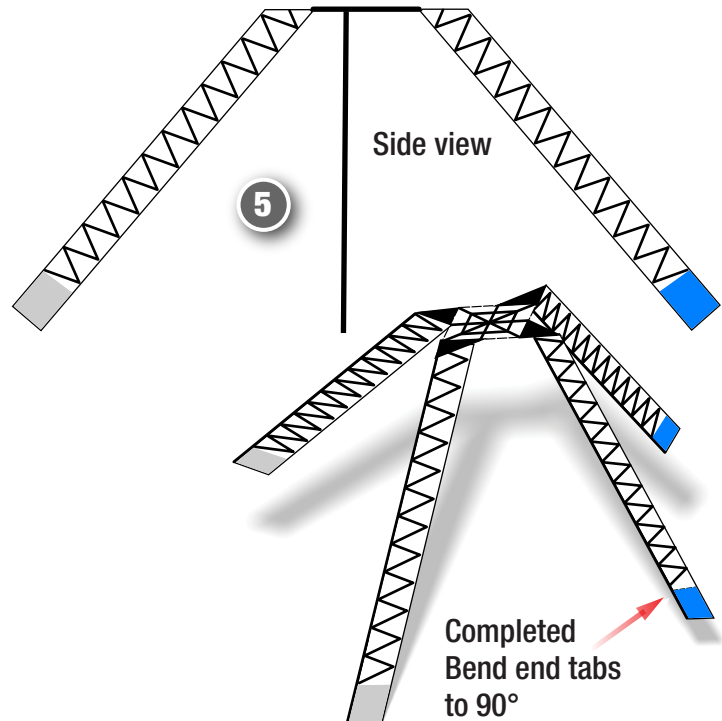
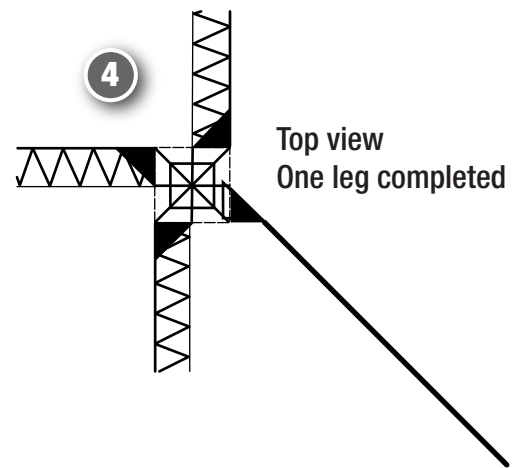
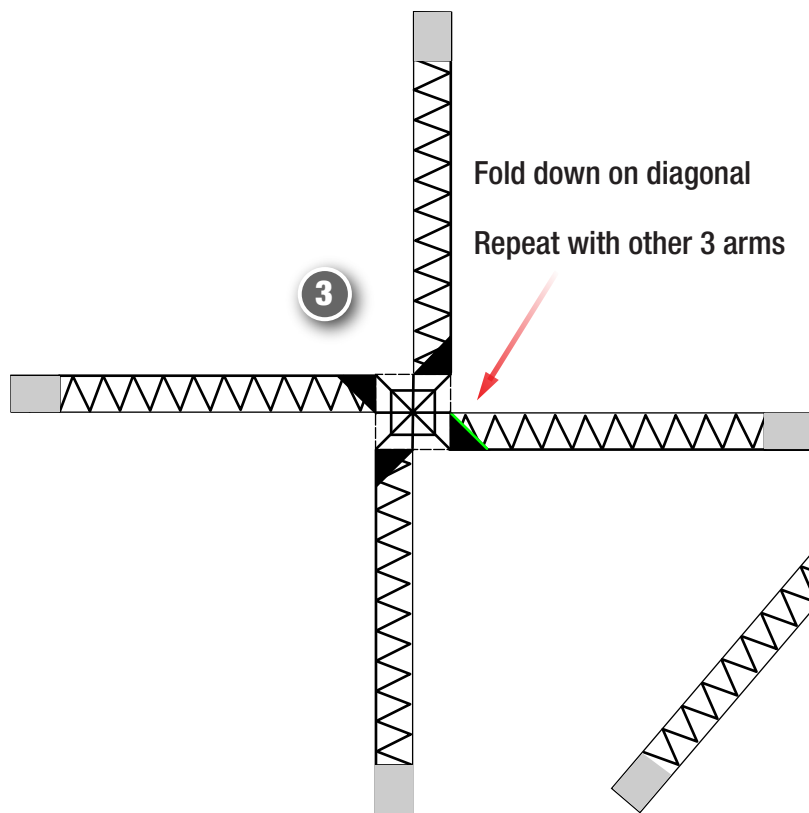
Gluing entire length is optional

2

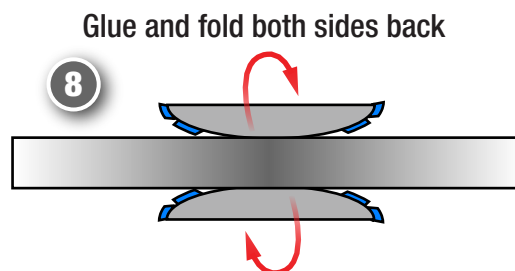
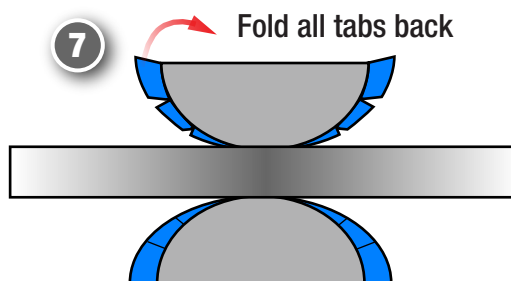
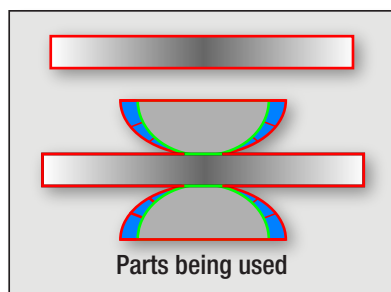
(Bottom side)

Repeat with other three legs

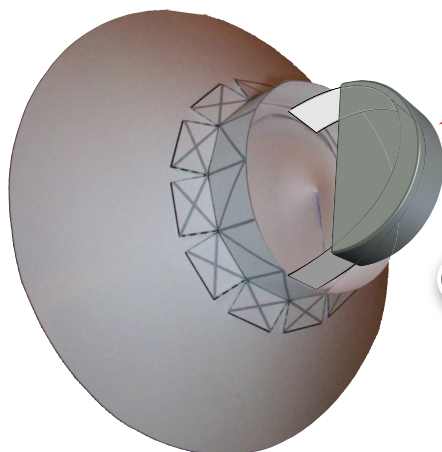
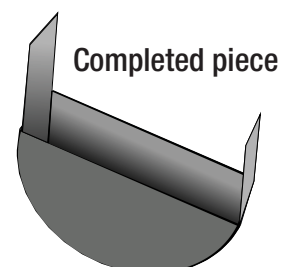
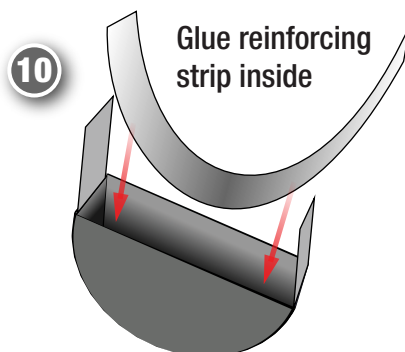
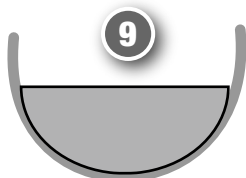
Red lines are cuts. Green is fold. Blue indicates glue area.



Constructing the Counter Balance

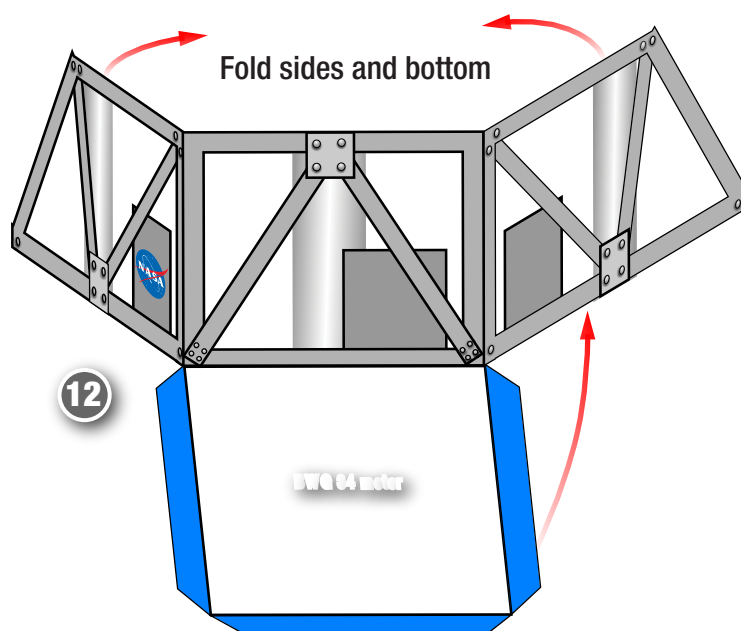
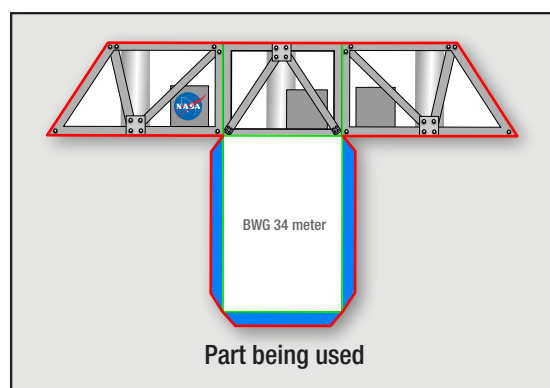


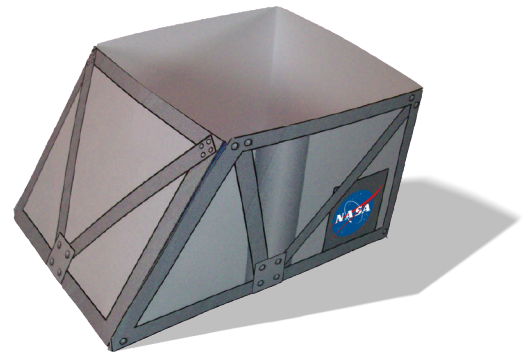
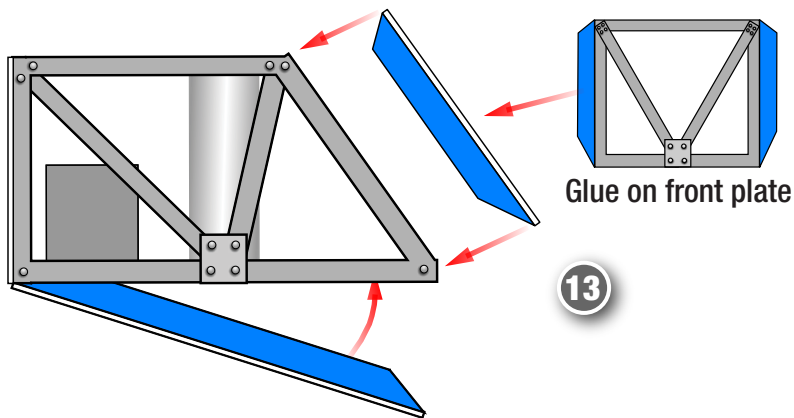
Wrap the strip to conform with the side pieces



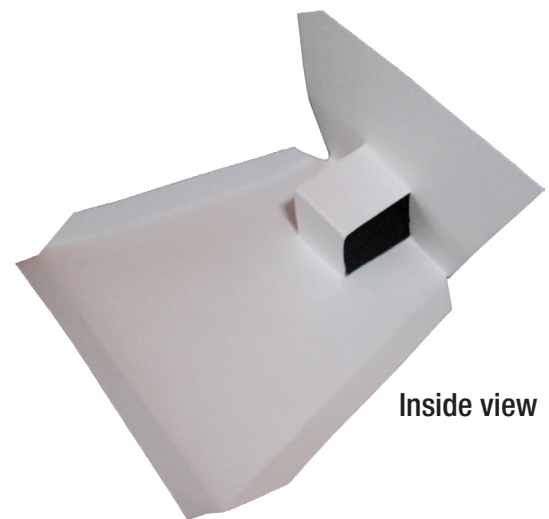
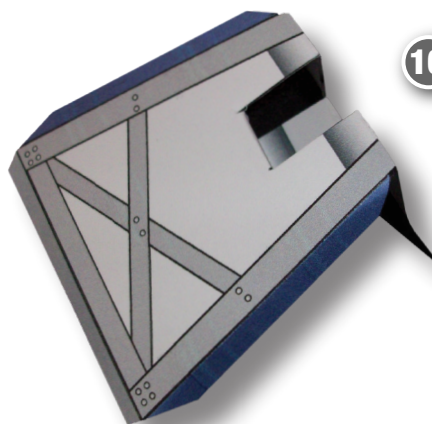
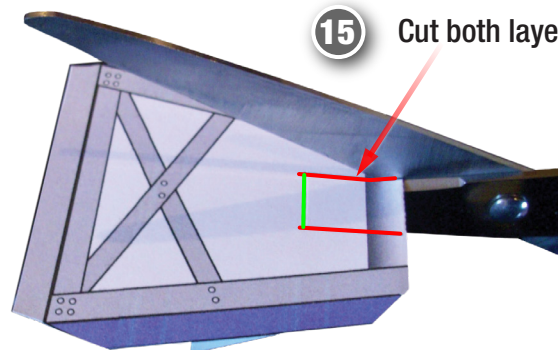
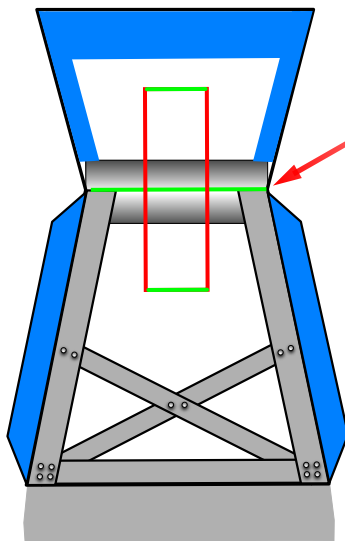
11 Glue the support strip ends inside of the support ring

Assemble the Lower Base

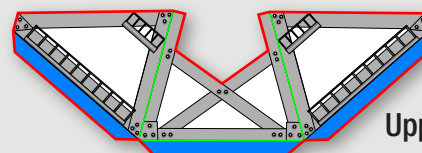
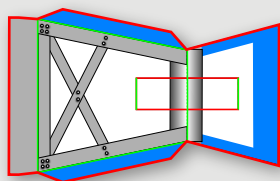




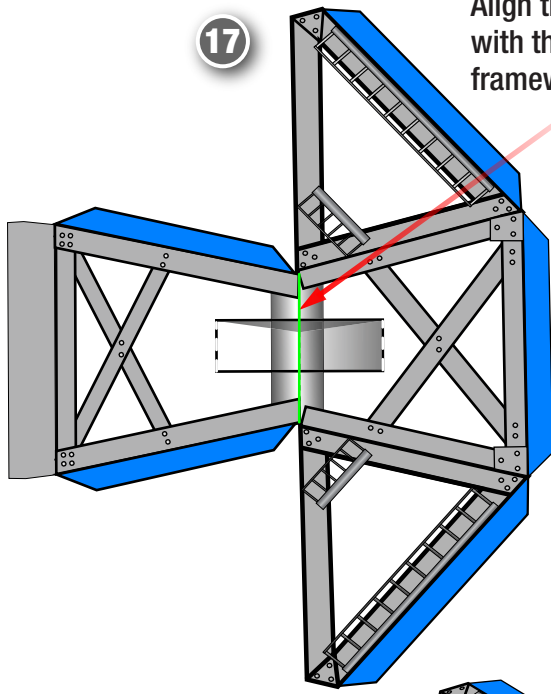
Assemble the upper base insert. This is the support for the counter balance.



Assemble the upper base insert to the upper base unit.

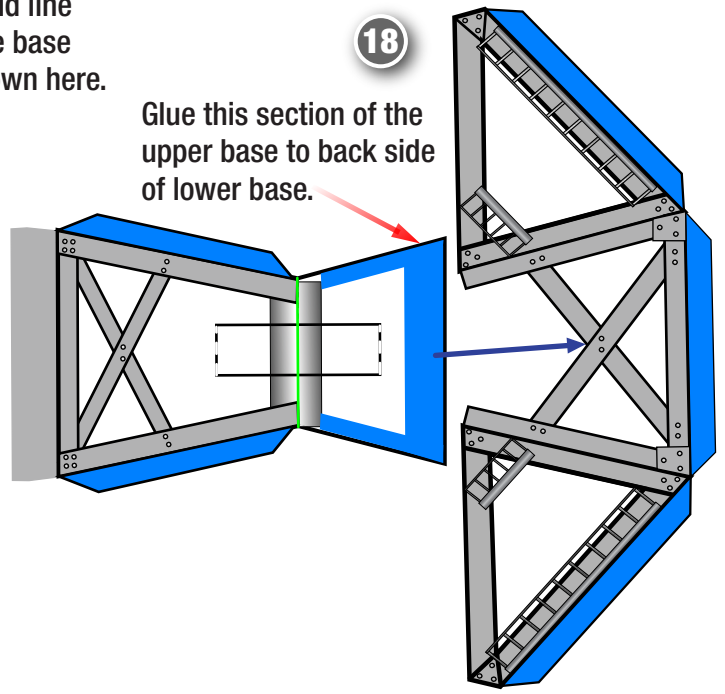


Parts being used



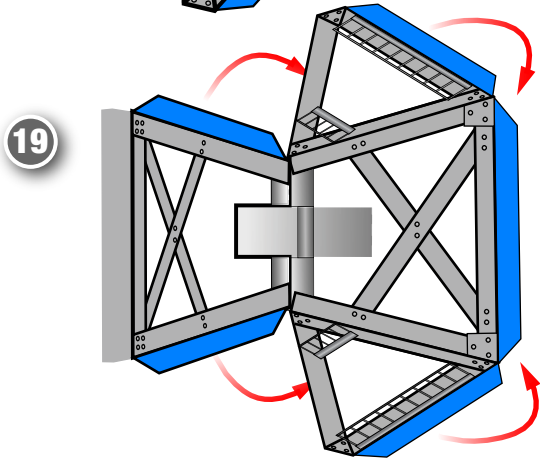
17

Align the green fold line with the top of the base framework as shown here.



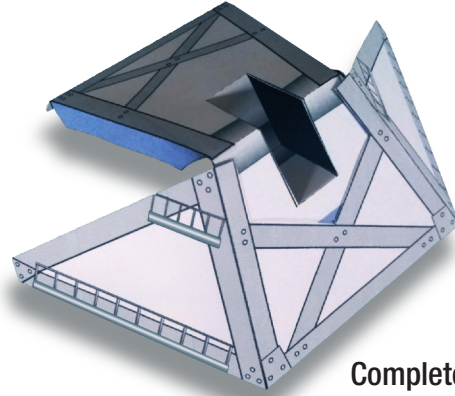
18

Glue this section of the upper base to back side of lower base.

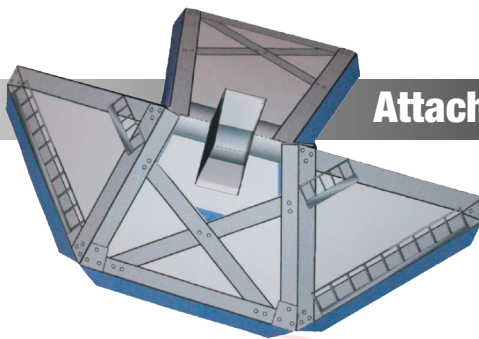


19

Fold all creases in preparation for gluing.



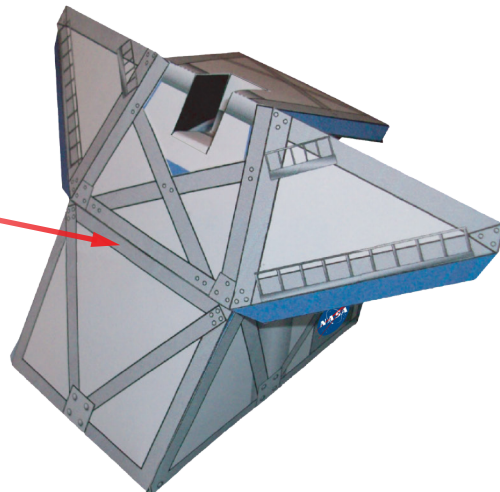
Completed upper base unit ready for assembly to lower base.



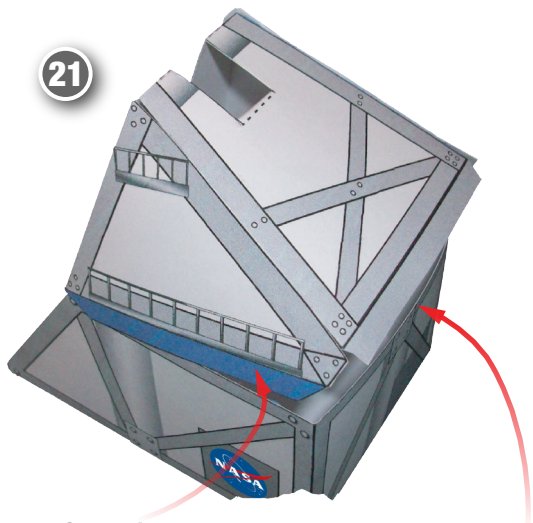
Attach the upper base to the lower base.

20

Glue front tab to inside of lower base first then glue sides

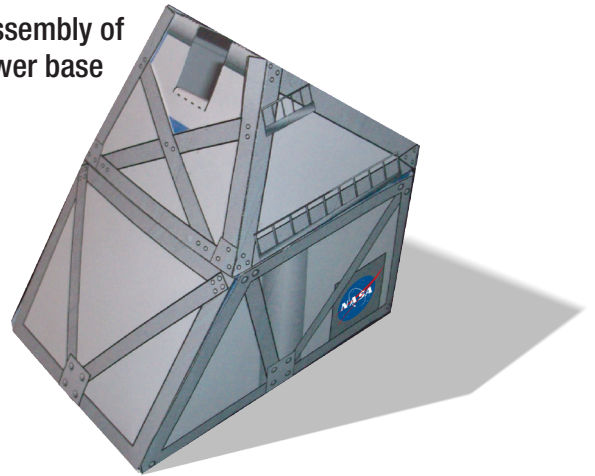


21

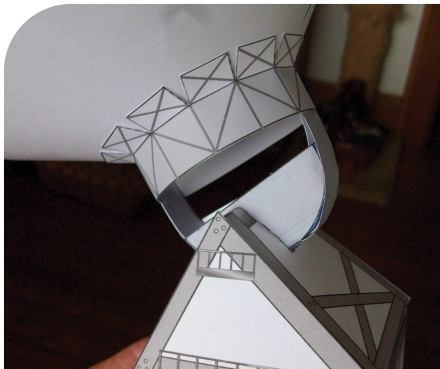


Glue side tabs to base and tuck the gray, back tab, inside.

Completed assembly of upper and lower base

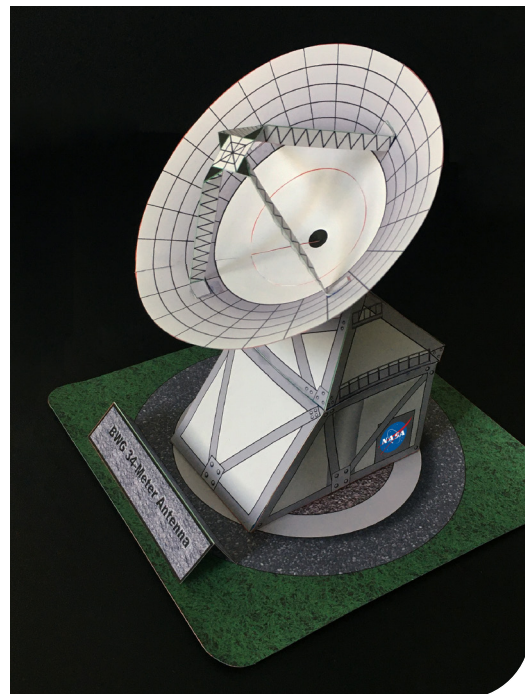


Attach dish counter balance to slot in base.



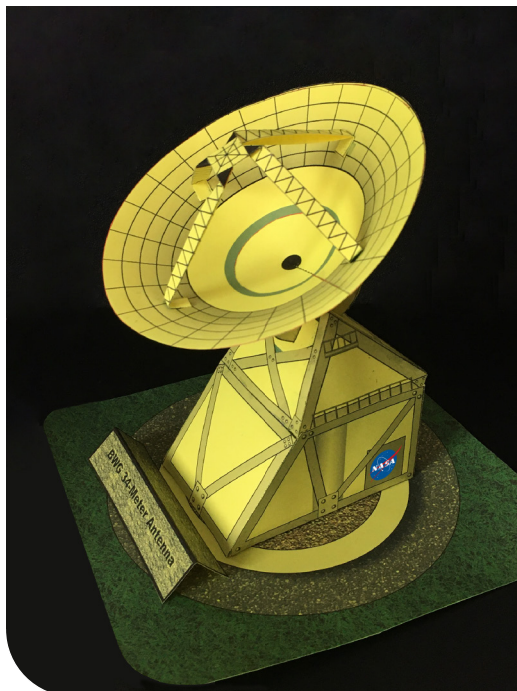
Slide curved counter weight at back of dish into the opening in the base. Gluing is optional.

22



23

Set on ground base and add stone sign if desired.



You may use color paper to make it fun and exciting.