

## Assembly

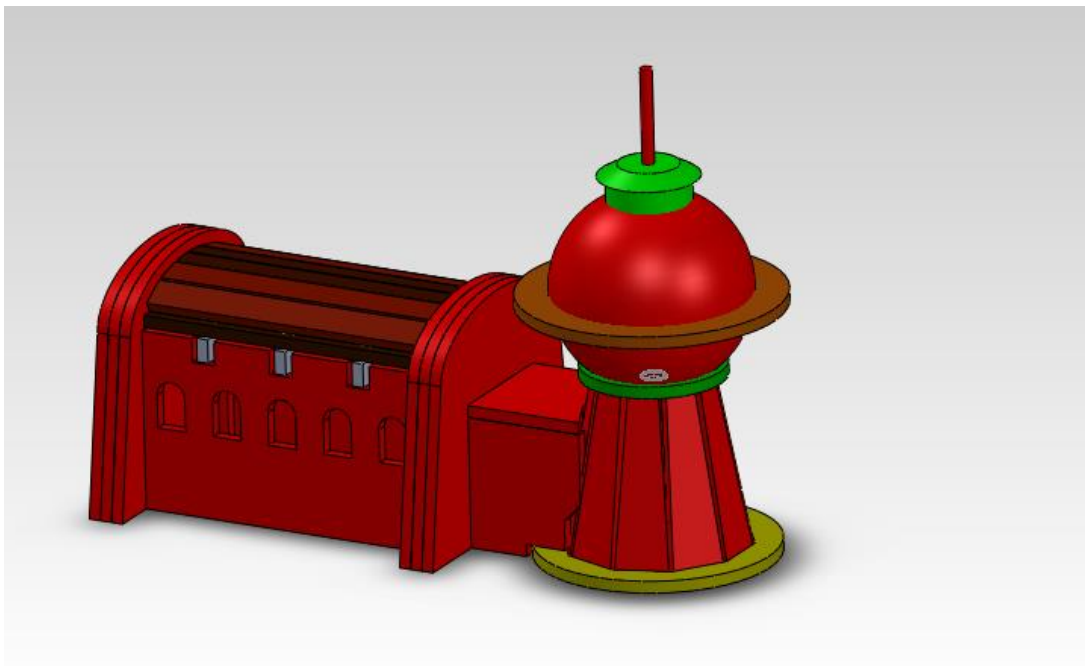
Assemblies will have your creations come to life. It is very interesting to see how all of the pieces fit together so you can visualize a final product

### Objective:

To create a gingerbread house assembly in solidworks. The objective is the Planet Express Building from Futurama:



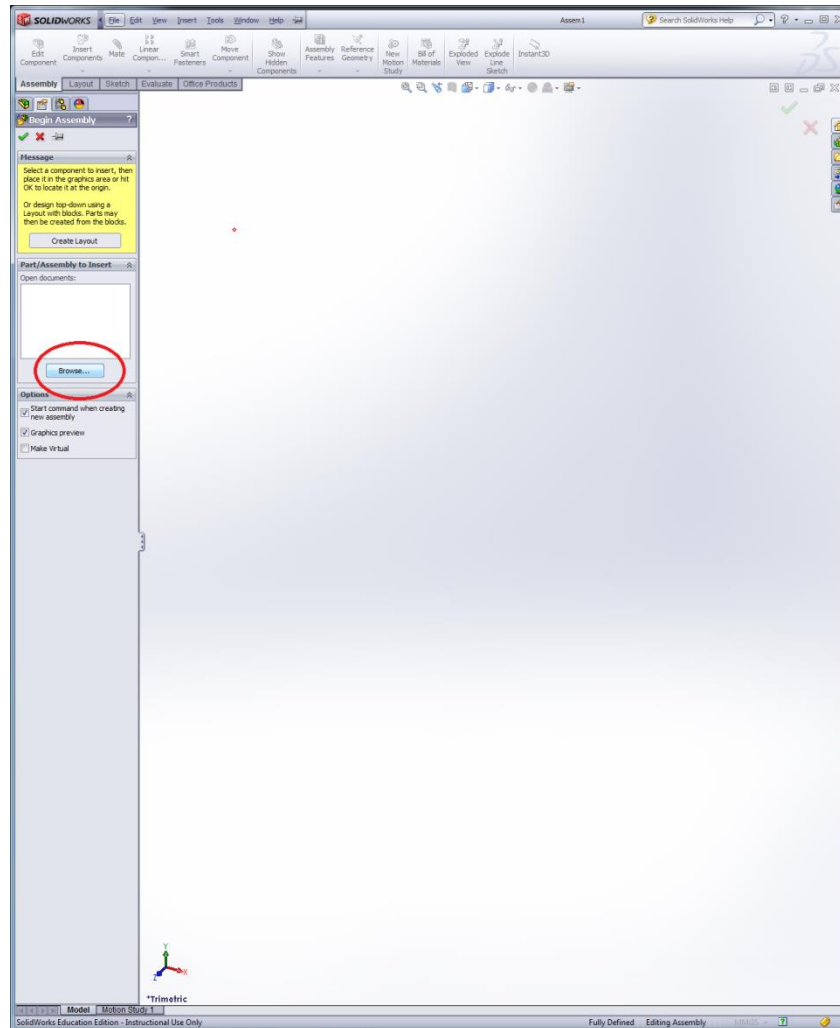
It has been simplified into gingerbread form as the following assembly:



## Start Assembly:

Click File->New->Assembly

The Open Documents will most likely be empty if this is the first thing opened for the day. If you had been working on other parts, they a list of them should appear there. Click browse to find the first part to begin the assembly: Select Planet Express->Main Building->**Side Ark Support**



Click to place your item on the screen.

Insert another component: Click Assembly->Insert Components

Click Browse->Planet Express->Main Building->**Side Ark Support – smaller**

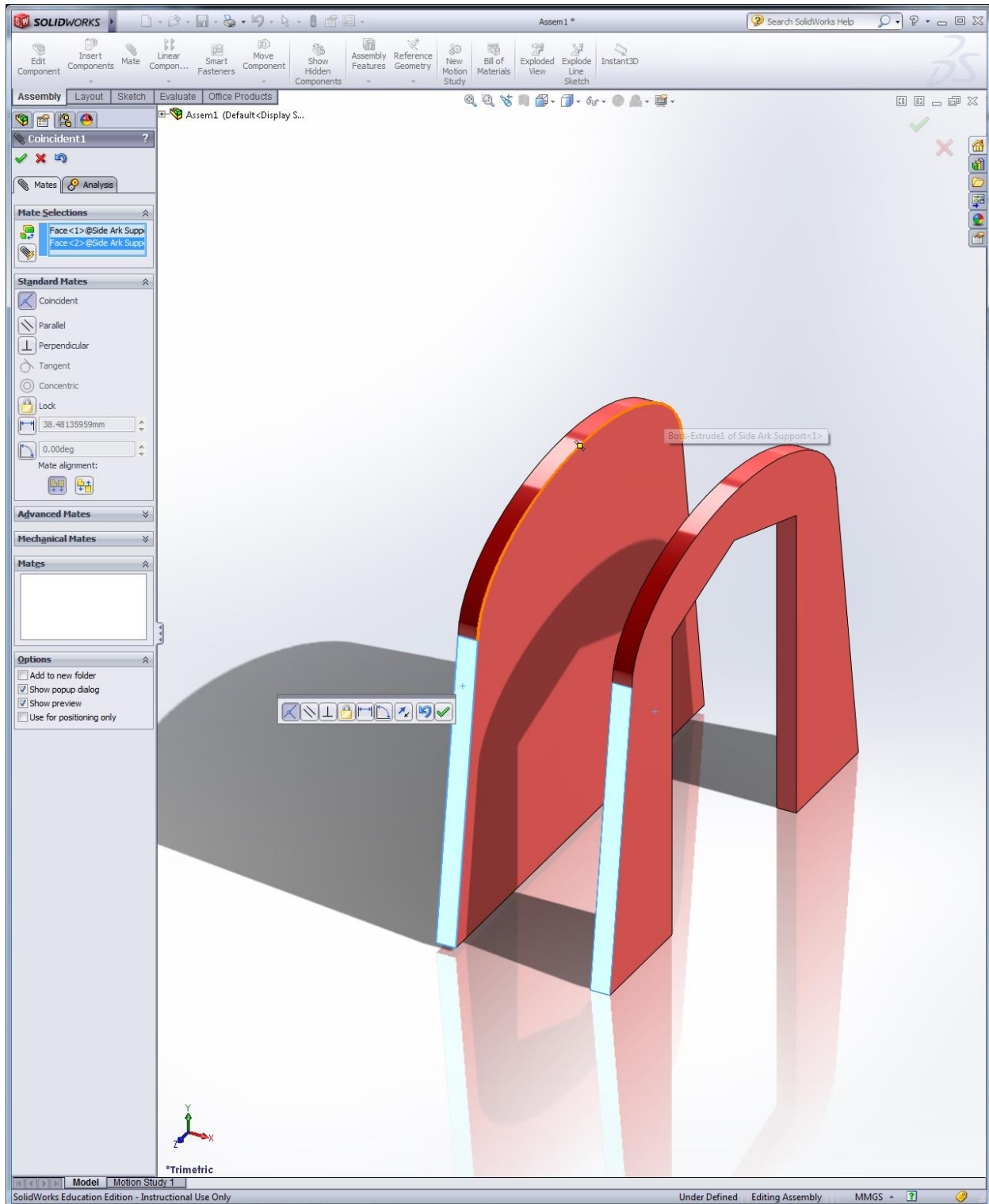
Click to place your item on the screen.

## Mating:

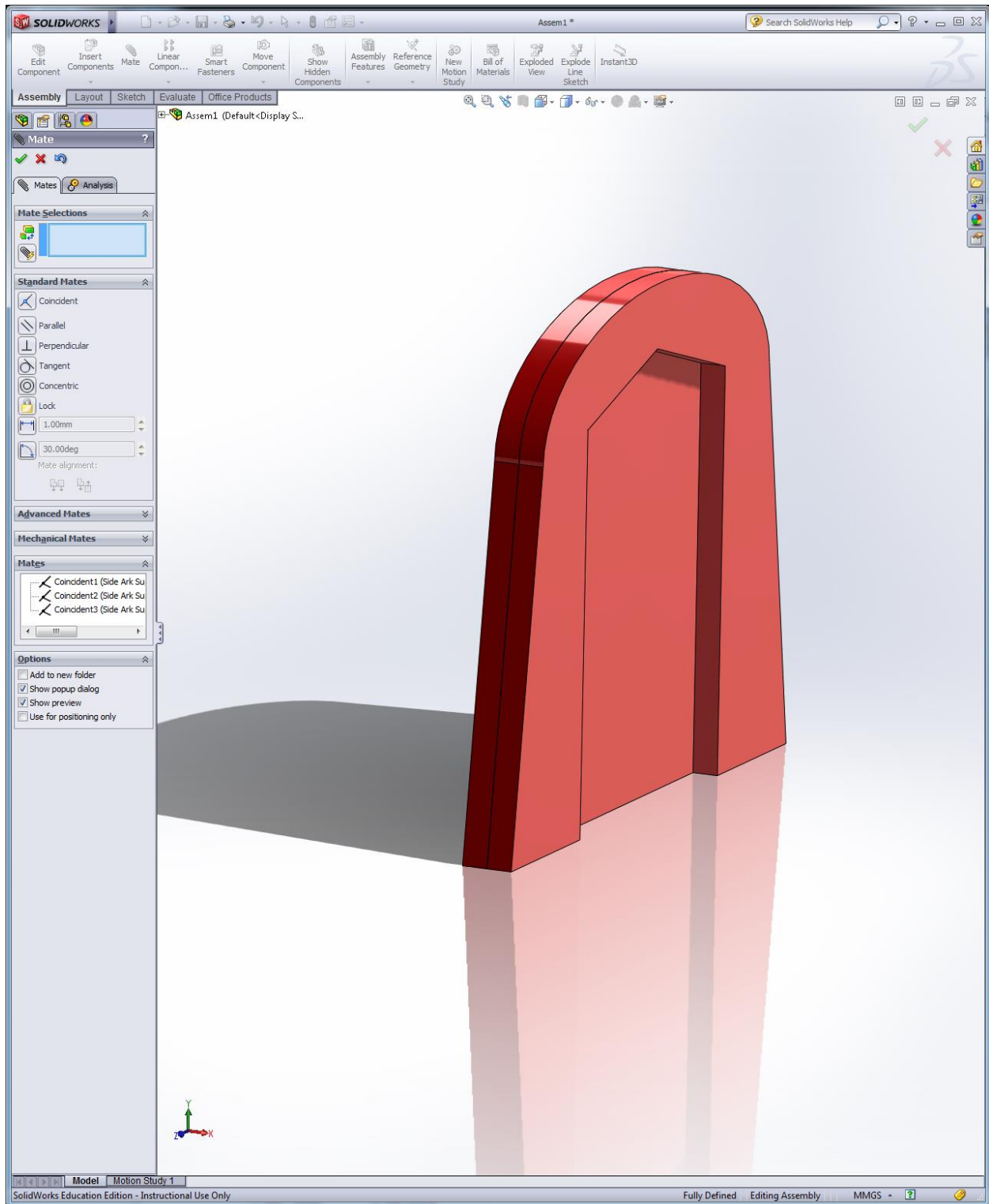
To put two pieces together, you need to mate them.

Click Assembly->Mate

Select Coincident and then choose the two faces you would like to line up. Most pieces mated by coincident will require three mates to hold it in place.



Mate the bottom of each plane together, as well as the faces that are 'looking' at each other to result in this:



Add a second side ark support –small to the first one.

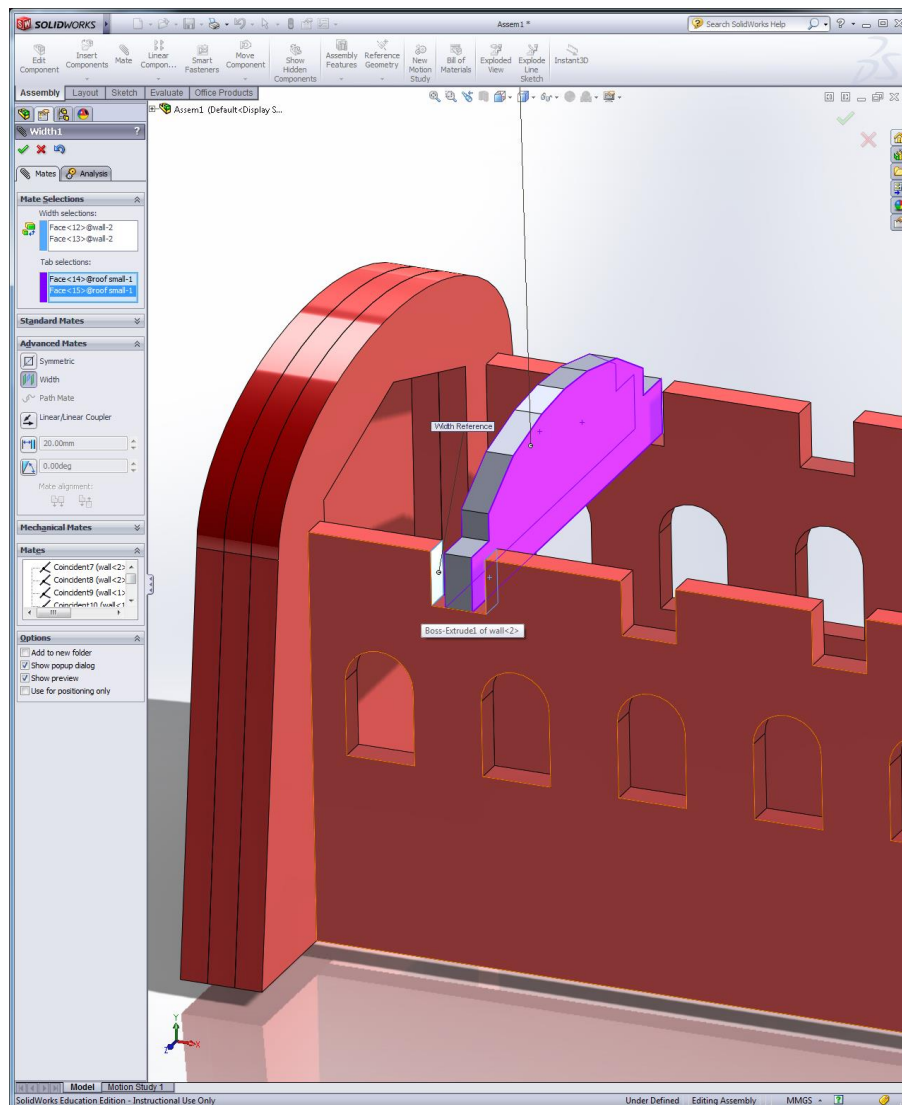
Next insert 3 more components: 2 walls, and the 'roof small'.

Mate the outside edges of the silver small roof with the outside edges of the wall.

**Center the Silver small roof in the slot on top of the wall: Select Mate->Advanced Mates->Width**

In the blue box at the top (Width selections) choose the two faces you want something centered between (select the wall edges):

In the purple box (tab selections) choose the object walls you want to be centered. Select both faces of the silver small roof.

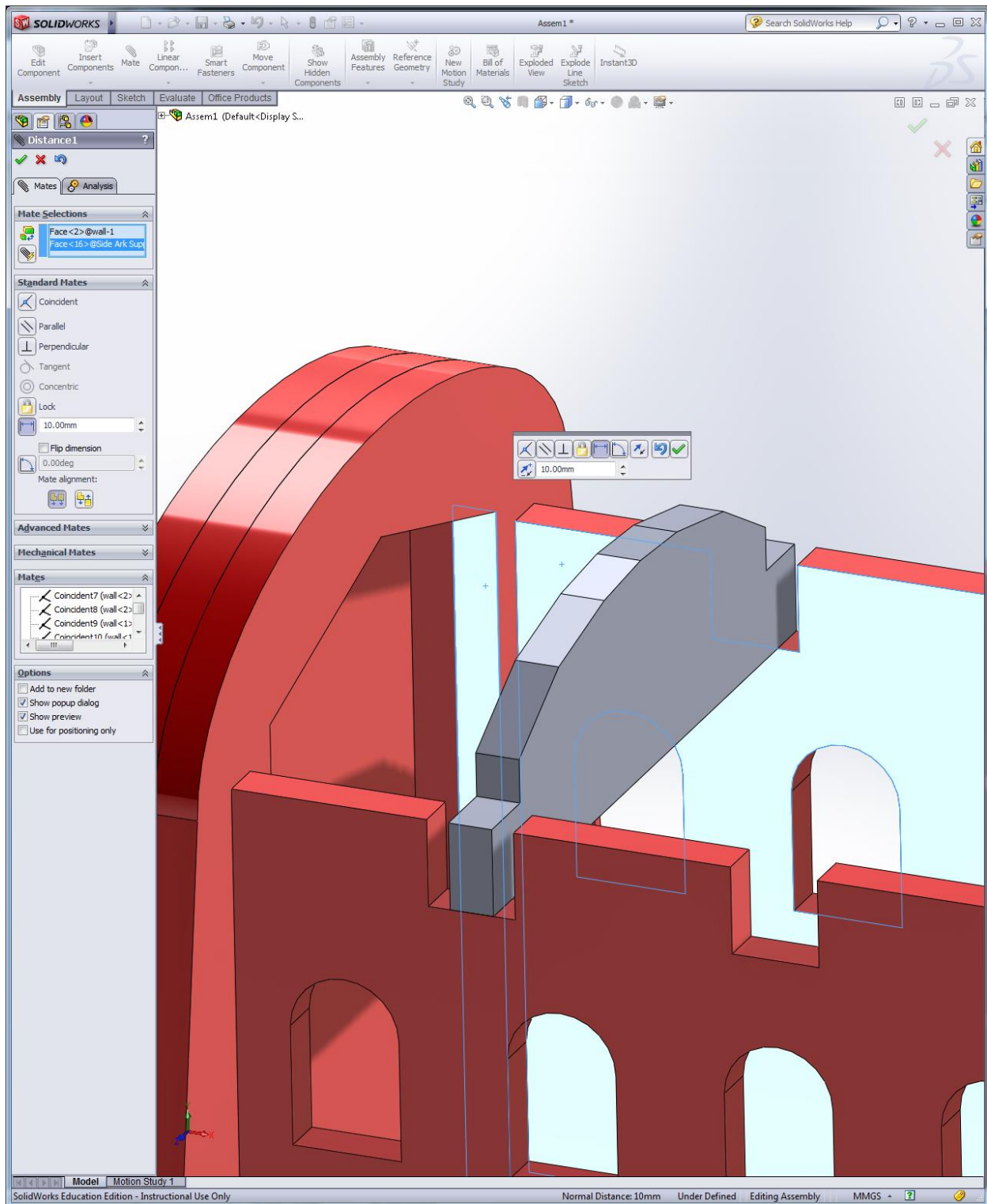


**Offset a mate:**

To try to make the wall centered between the ark you can use a distance mate to off set the location of the mate:

Select Mate->Distance

Let face 1 be the inside of the wall, and face 2 be the inside of the small ark. Set the distance offset to 10





## Finishing

Use the reference photos in the Planet Express-Photos Folder to help you understand how the whole thing is put together. If confused how something was achieved, then you can open up the planetexpress assembly file included in the root folder. Use that history tree to understand how it was made. There are many other types of mates which can be very useful.

This assembly was actually made into a gingerbread house. All of the part files were printed as 2-d drawings so gingerbread could be molded to the correct shape.

Here is the final product



## Tips and Tricks

Hold down right click to rotate an object in free space.

You can right click on an object and view its mates. You can then modify or delete any mates that are causing issues.

You can expand the history tree of the mates to edit or delete mates. Highlighting a mate will highlight it on the screen.

