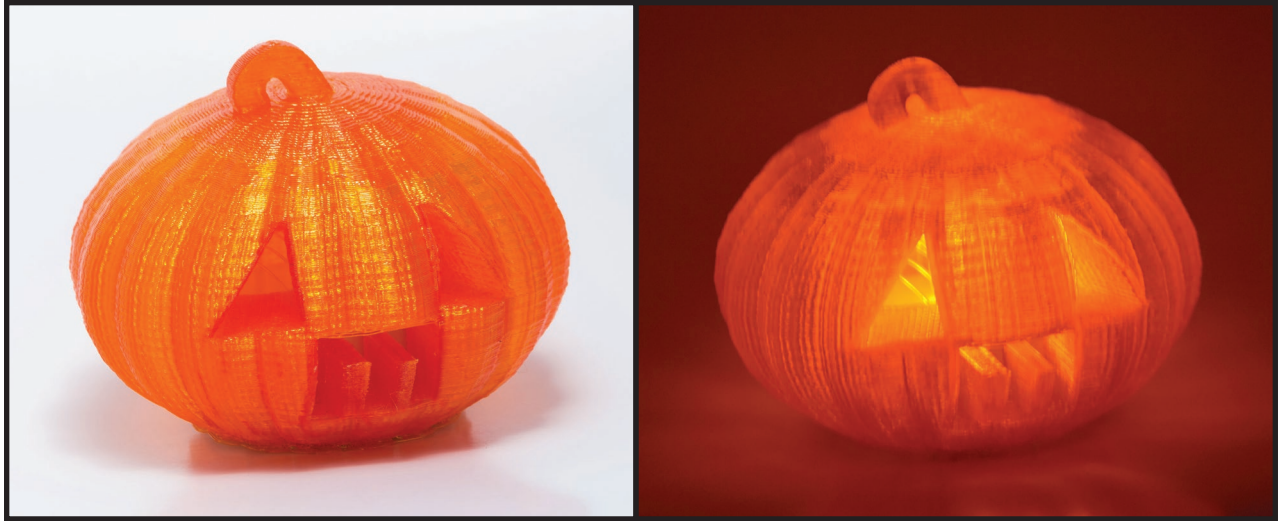


JACK-O-TEA-LANTERN IN TINKERCAD

(TinkerCAD Tutorial - Beginner Level - Written by Maz a.k.a. Rose M.)



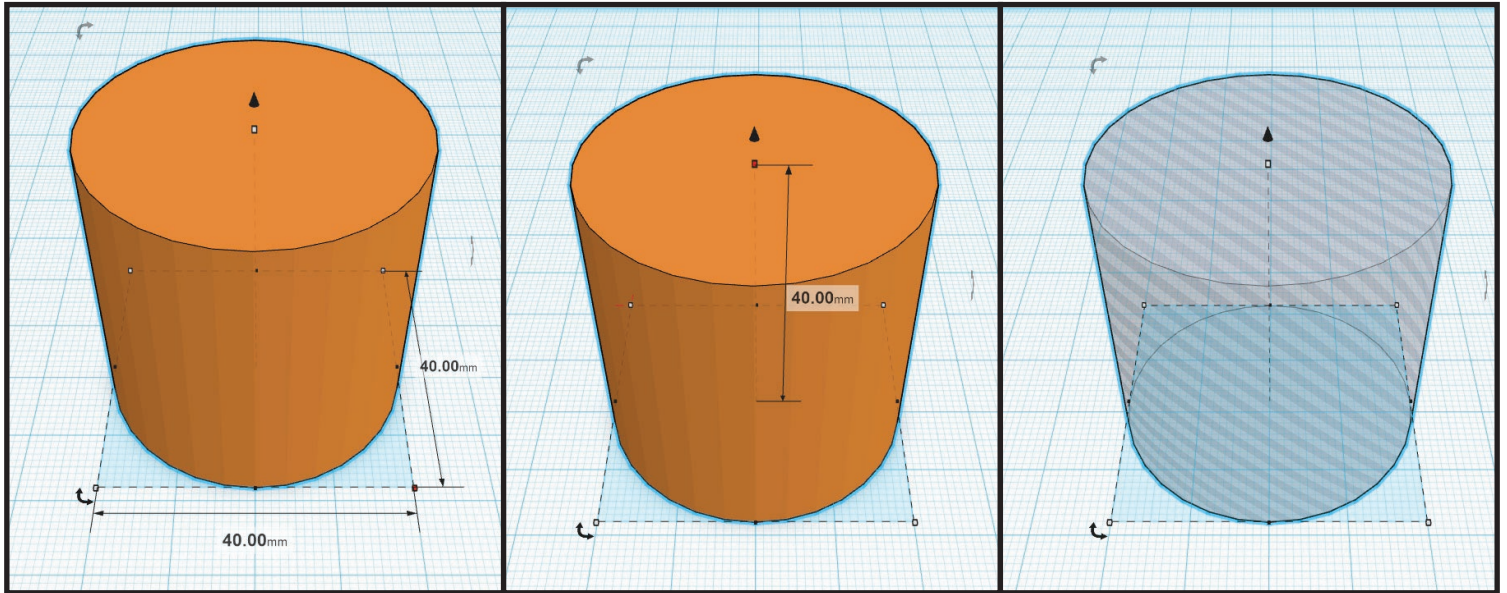
STEP 1: CREATE REFERENCE OBJECT OF TEA LIGHT (ELECTRIC)

- Measure the tea light and note dimensions. Use digital calipers to measure the width of tea light and add "2.00mm". The tea light reference we are using is "40.00mm x 40.00mm x 40.00mm".



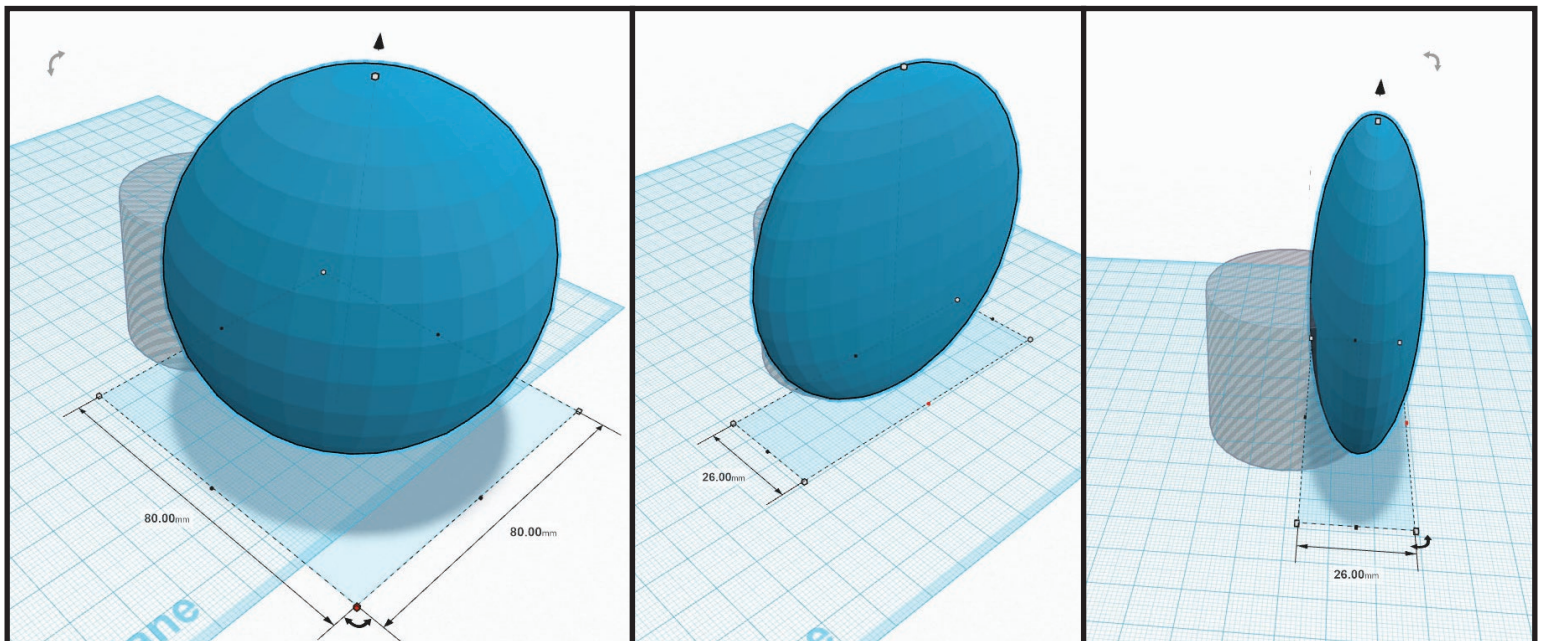
- In the right side menu, in the Geometric section, click to select "Cylinder".
- Hover over the workspace and click to place the Cylinder.
- Using the tiny white box at the corner, click + hold shift + drag diameter of cylinder to "40.00mm" (width measurement of tea light).
- Using the tiny white box at the top middle, click + hold shift + drag to "40.00mm" (total height measurement of tea light, including faux flame).

- Click on cylinder to select, in the inspector window at the top right, change the cylinder to "Hole".

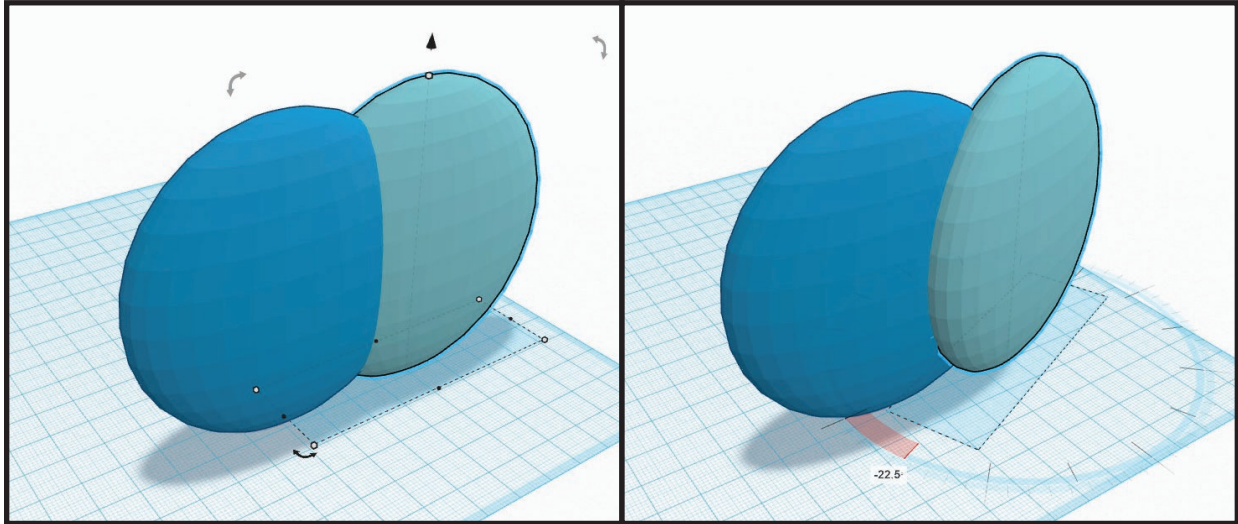


STEP 2: CREATE PUMPKIN BASE

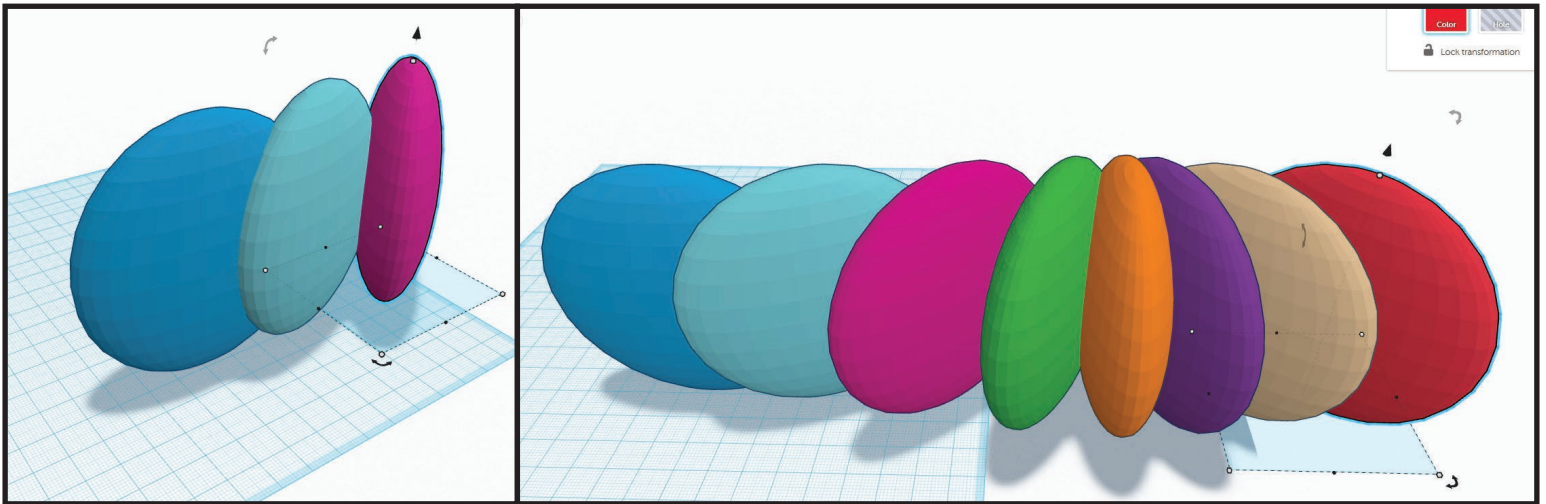
- In the right side menu, in the Geometric section, click to select "Sphere".
- Hover over the workspace and click to place the Sphere.
- Using the tiny white box at the corner, click + hold shift + drag sphere to "80.00mm".
- Using the tiny white box at the front middle of the sphere, click + drag sphere to squish. About the thickness of 3 pancakes.



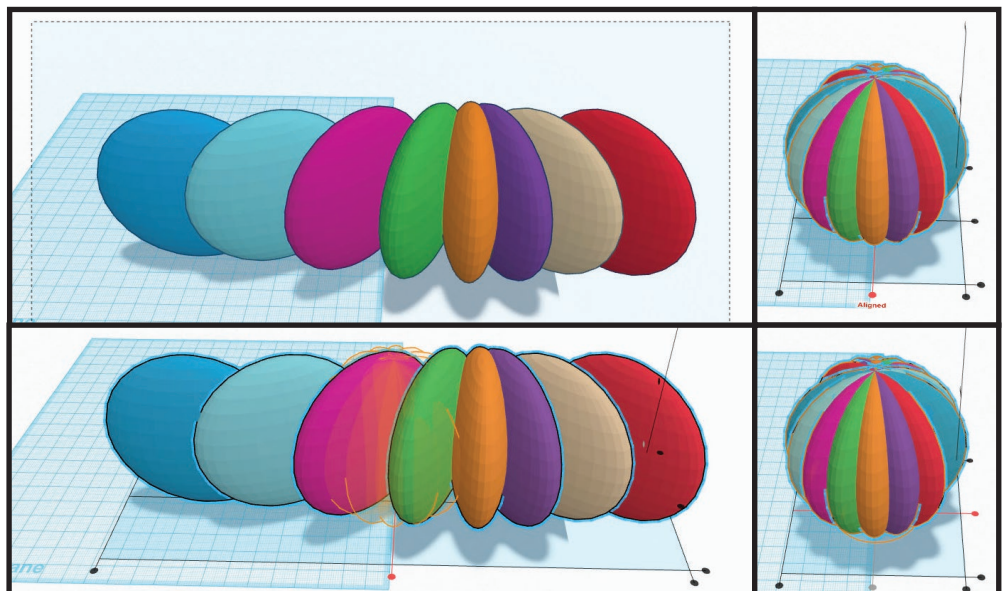
- Click on squished sphere to select, press "CTRL+C" to copy and "CTRL+V" to paste. With the new squished sphere still selected, click + drag the rotate arc on the floor plane one snap on the inside degree circle.

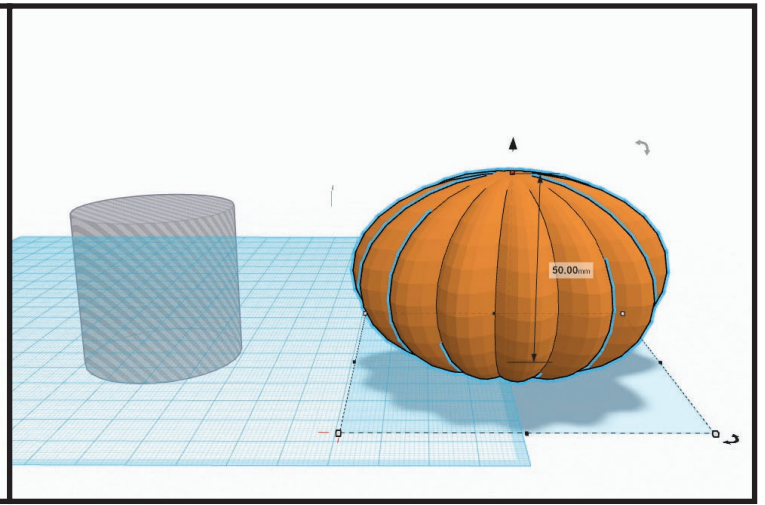
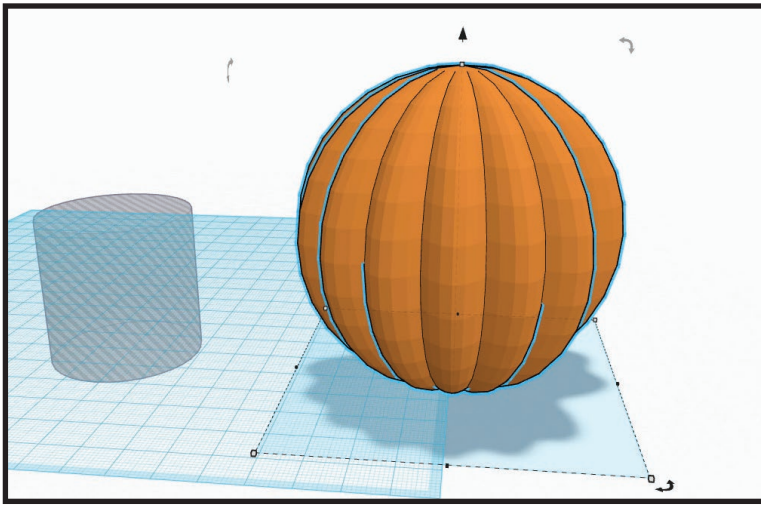


Repeat seven (7) more times. There should be a total of eight (8) squished spheres when finished.

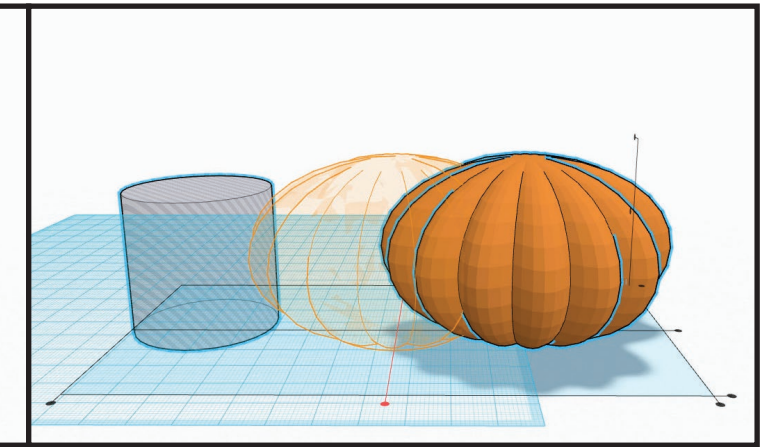
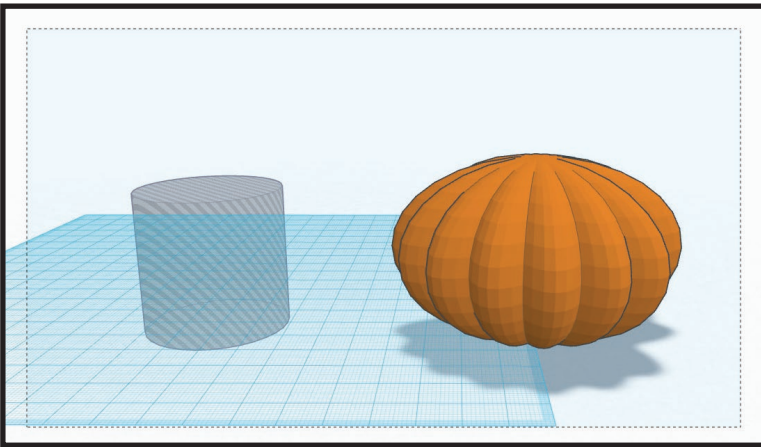


- Create a selection box over all of the squished spheres in the workspace to select. In the top right tool bar click "Adjust" > "Align...". Click the front middle line + circle to center and the side middle line + circle to center. With all squished spheres still selected, in the top right tool bar click "Group".

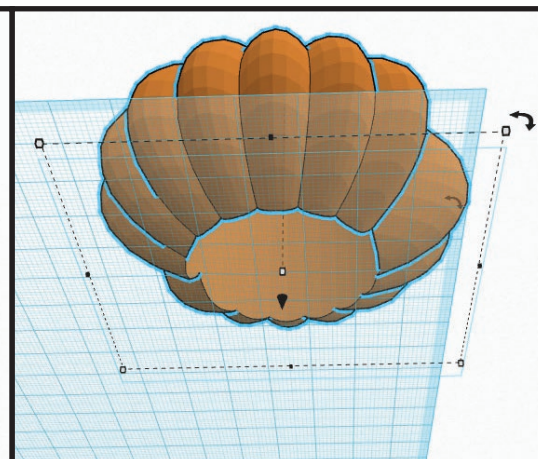
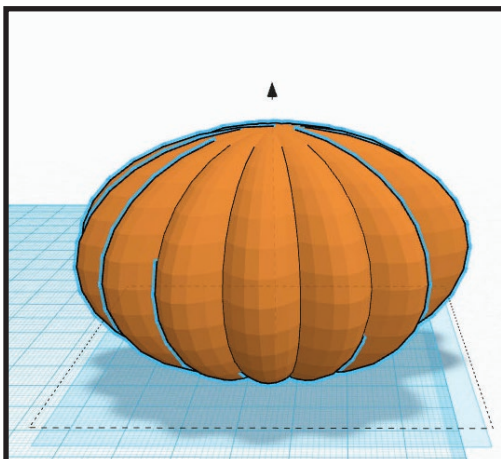
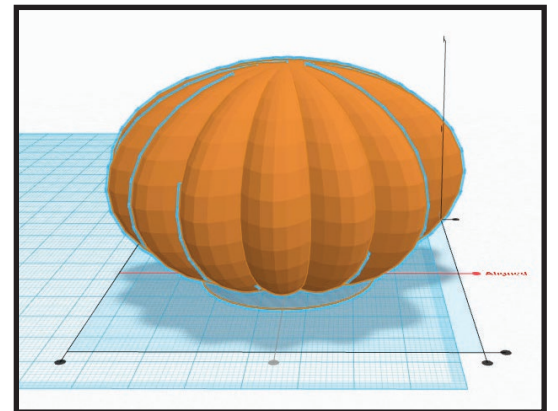




- Click on the pumpkin to select, using the tiny white box on the top middle, click + drag height to "50.00mm".

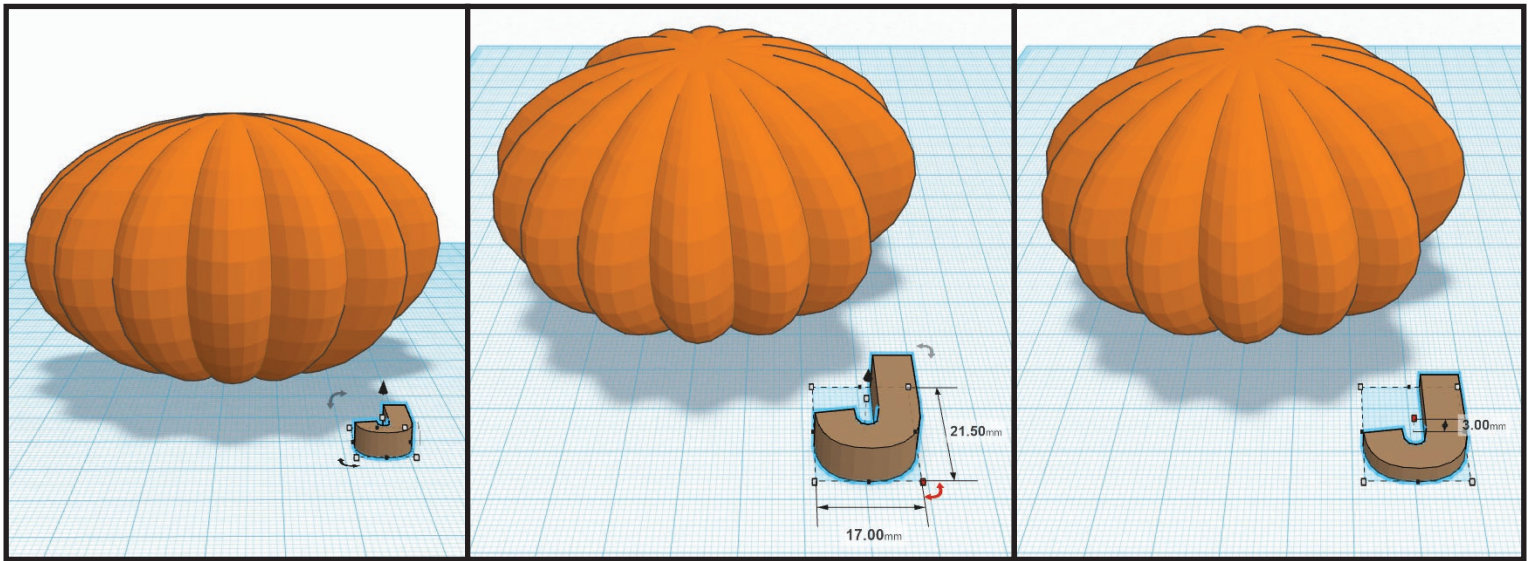


- Create selection box over both the pumpkin and the cylinder. In the top right tool bar click "Adjust" > "Align...". Click the front middle line + circle to center and the side middle line + circle to center. With both objects still selected, in the top right tool bar click "Group".

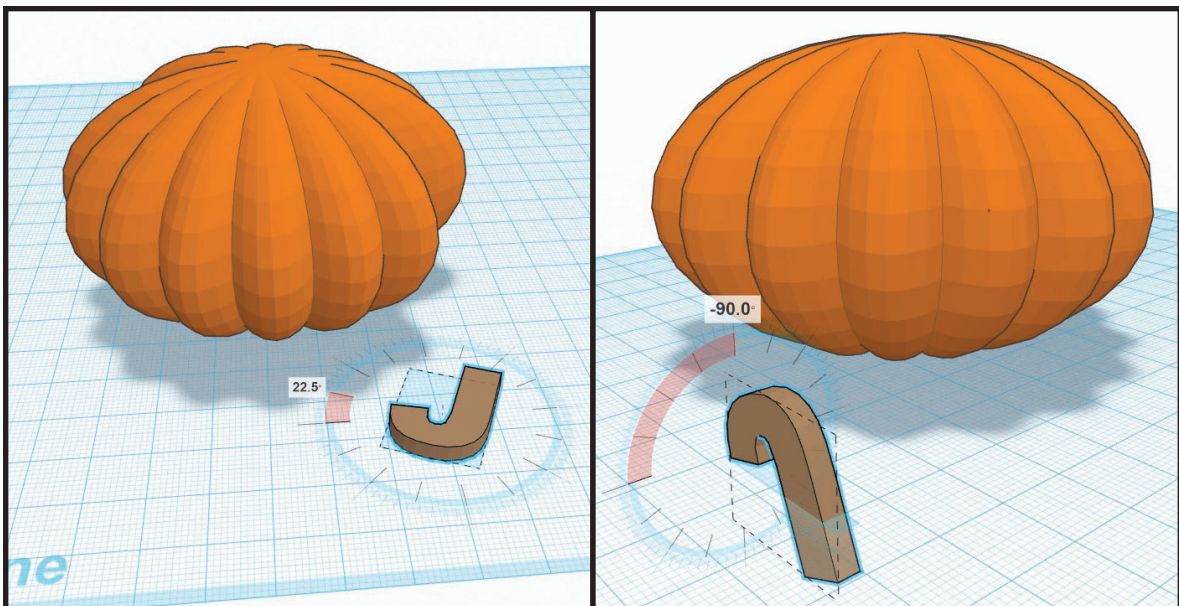


STEP 3: CREATE STEM FOR PUMPKIN

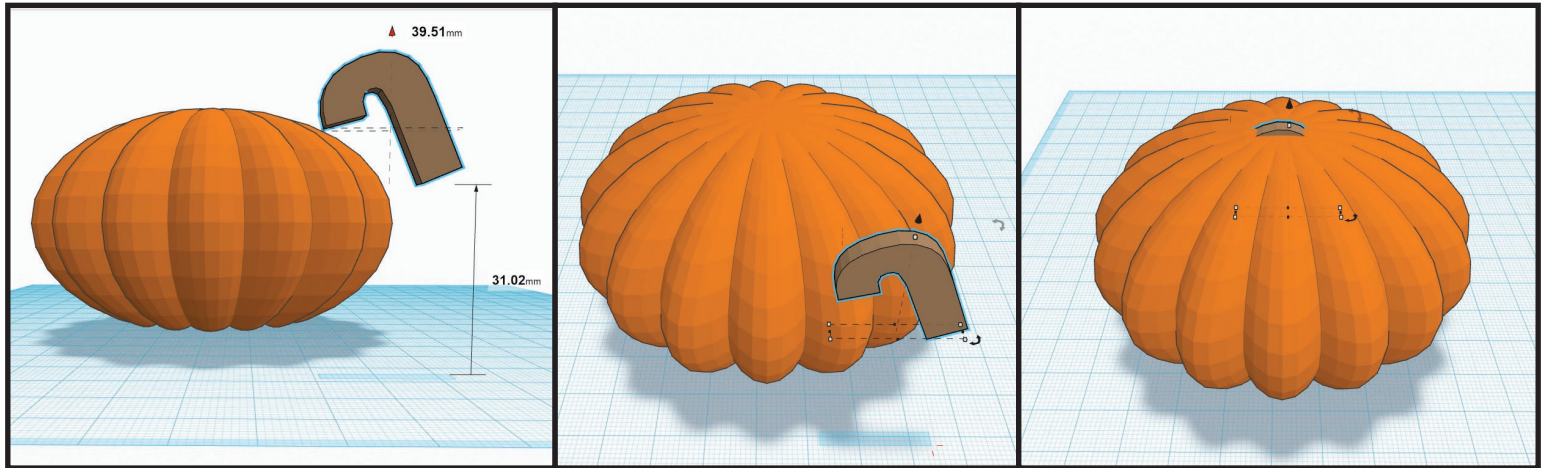
- In the right side menu, in the Letters section, click to select "J".
- Hover over the workspace and click to place the letter J.
- Using the tiny white box at the corner of the sphere, click + hold shift + drag to "21.50mm x 17.00mm".
- Using the tiny white box at the top middle of the "J", click + drag height to "3.00mm".



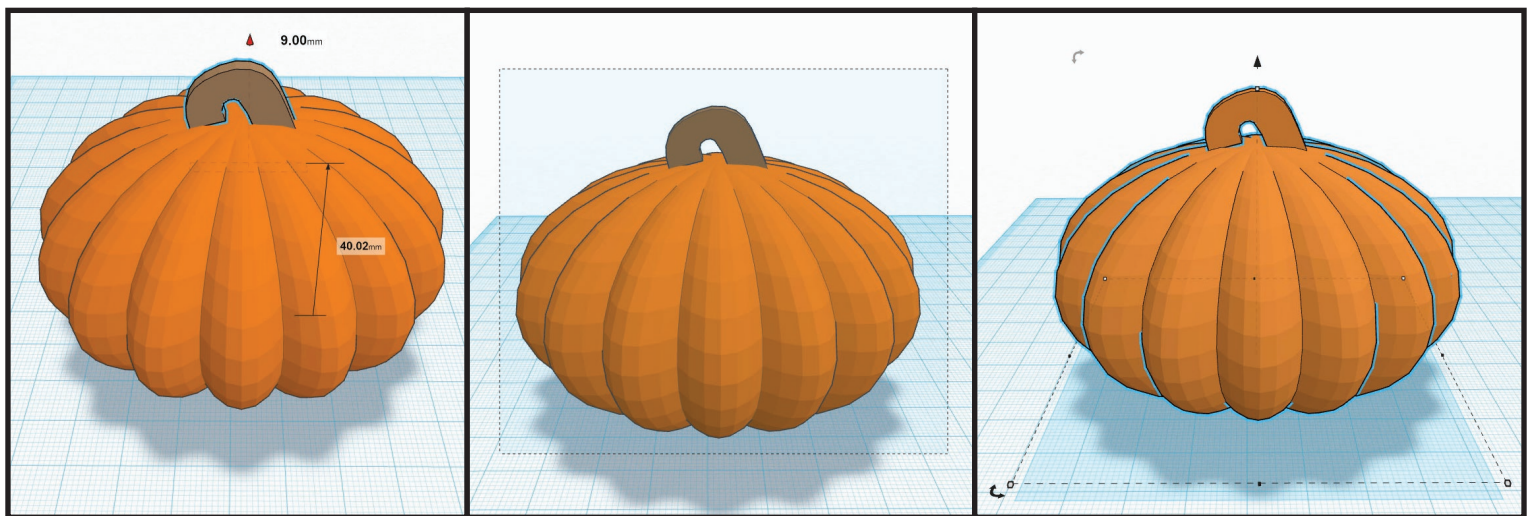
- Using the rotation arc on the floor plane, click + drag to "22.5°".
- Using the rotation arc on the side, click + drag to "-90°".



- Viewing the pumpkin from the most front perspective, click on the black arrow at the top of the "J" object and drag to set on top of the pumpkin.
- Click + drag in the center of the "J" to move into center position on the top of the pumpkin.

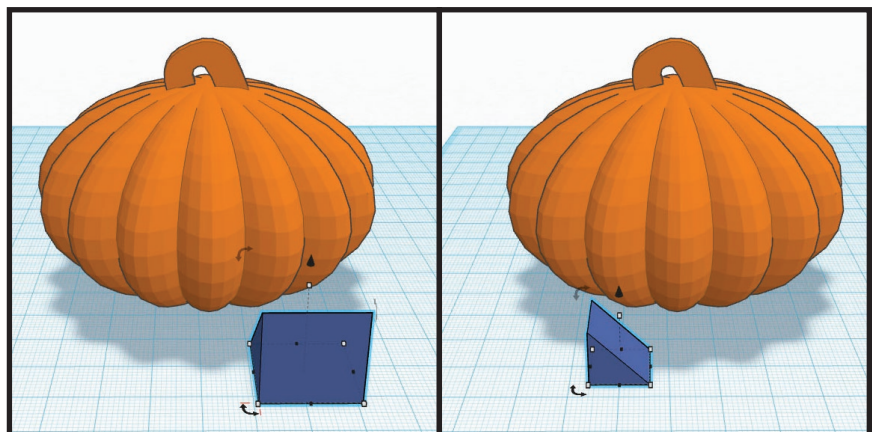


- Select both the "pumpkin" and the "J" (create selection box or hold shift while clicking on objects), in the top right tool bar click "Group".

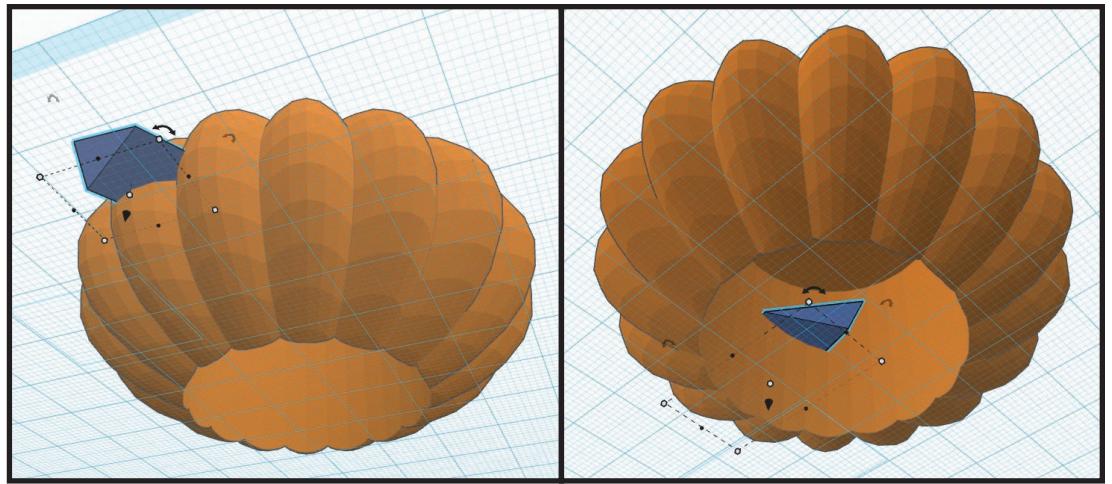


STEP 4: CREATE EYES OF JACK-O-TEA-LANTERN

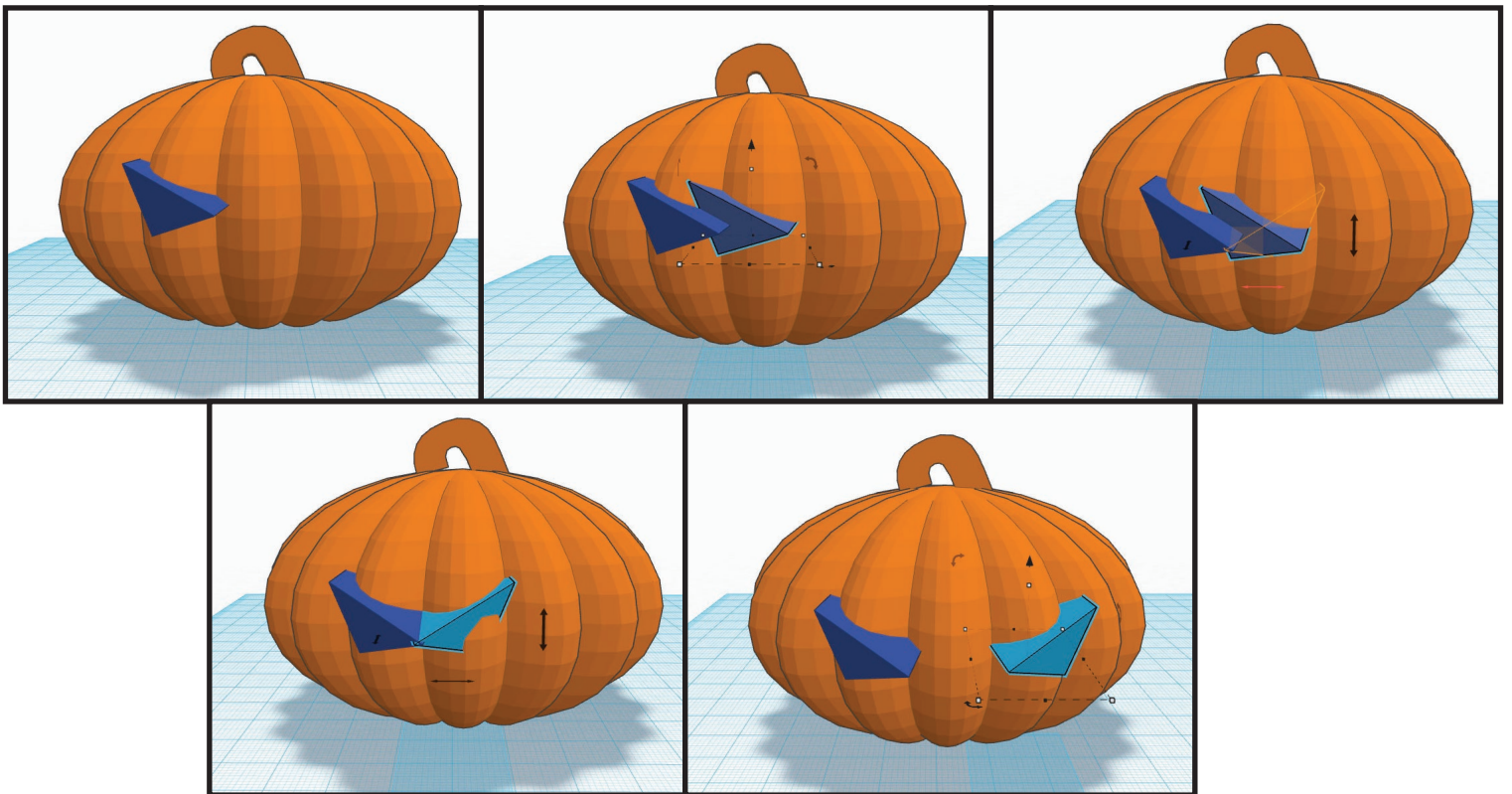
- In the right side menu, in the Geometric section, click either "Roof" or "Wedge".
- Hover over the workspace and click to place the Roof/ Wedge.



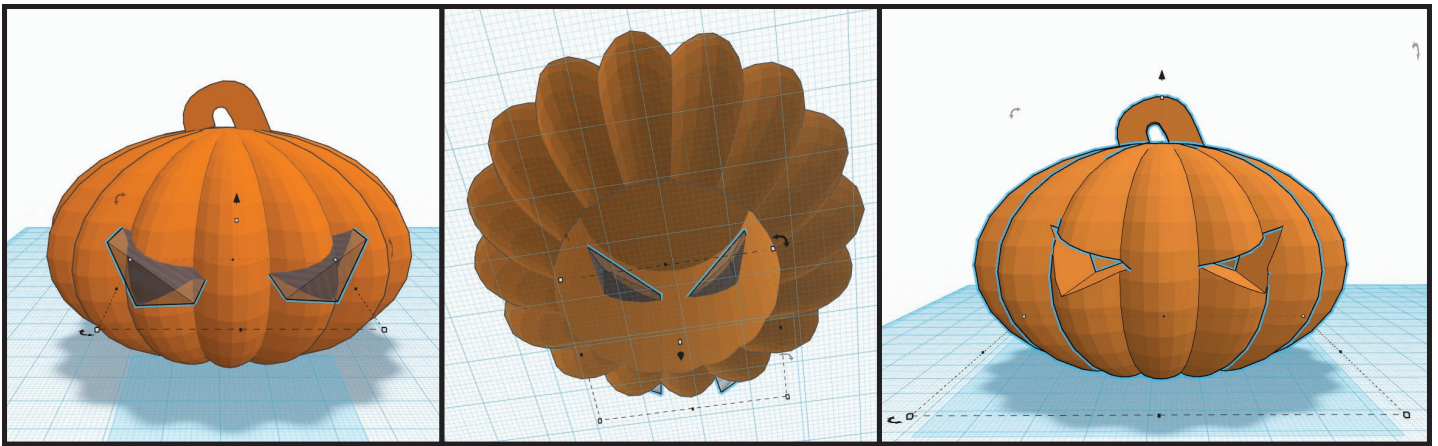
- Click in the center of the Roof / Wedge object and drag to position on the pumpkin. Use the black arrow at the top middle to move higher/ lower on the pumpkin. Also use the rotation arc on the floor plane to rotate as needed.



- Position the Roof/Wedge to be an eye on the pumpkin. Make sure the Roof/Wedge goes through to the inside where the tea light goes. Scale the Roof/Wedge using the tiny boxes as needed.



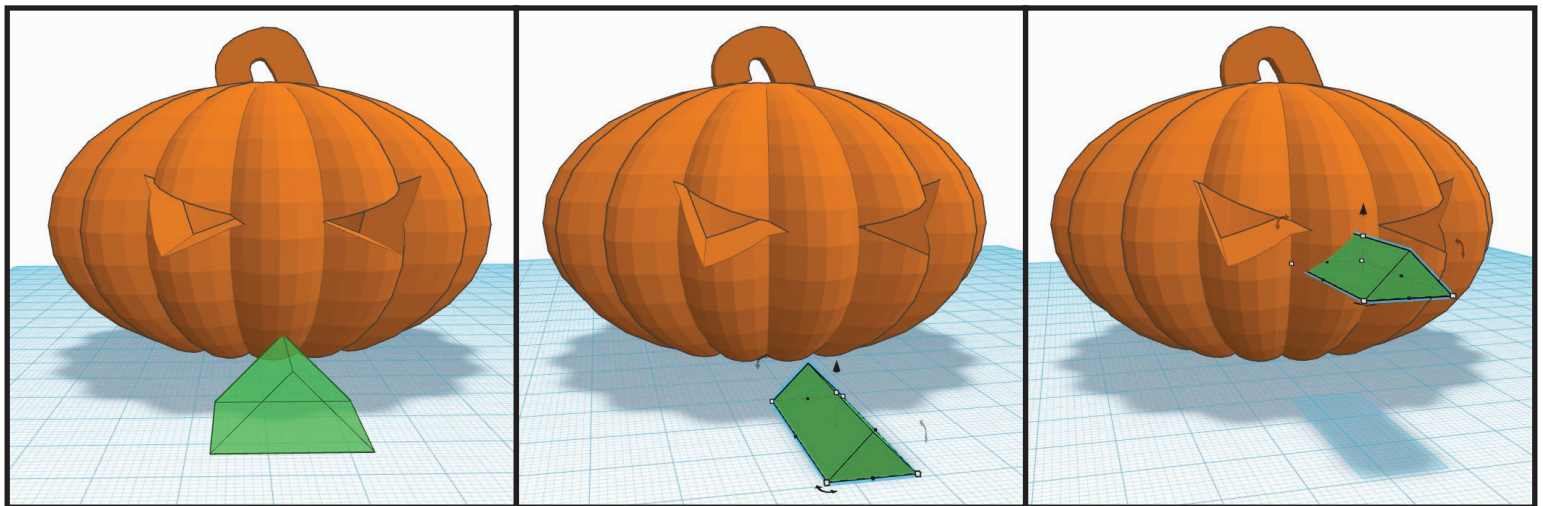
- Once the first eye is placed where you desire, with the first eye still selected press "CTRL + C" to copy and "CTRL + V" to paste. At the top right tool bar click "Adjust" > "Mirror..." and click the line in the front middle with arrows on the left and right to flip the eye.



- Cut the eyes from the pumpkin. To do this, click to select the first eye, hold shift and click the second eye. In the inspector window near the top right, change the eyes to "Hole". Draw a selection box over both the eyes and the pumpkin. In the top right tool bar, click "Group".

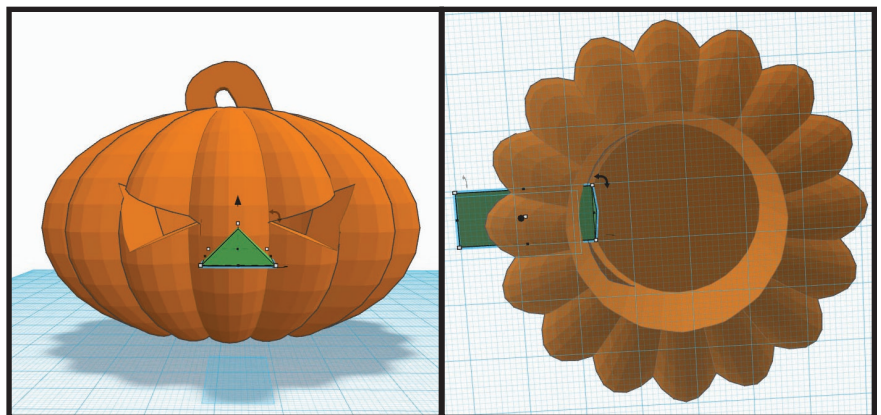
STEP 5: **CREATE NOSE OF JACK-O-TEA-LANTERN**

- In the right side menu, in the Geometric section, click either "Roof" or "Wedge".
- Hover over the workspace and click to place the Roof/Wedge.

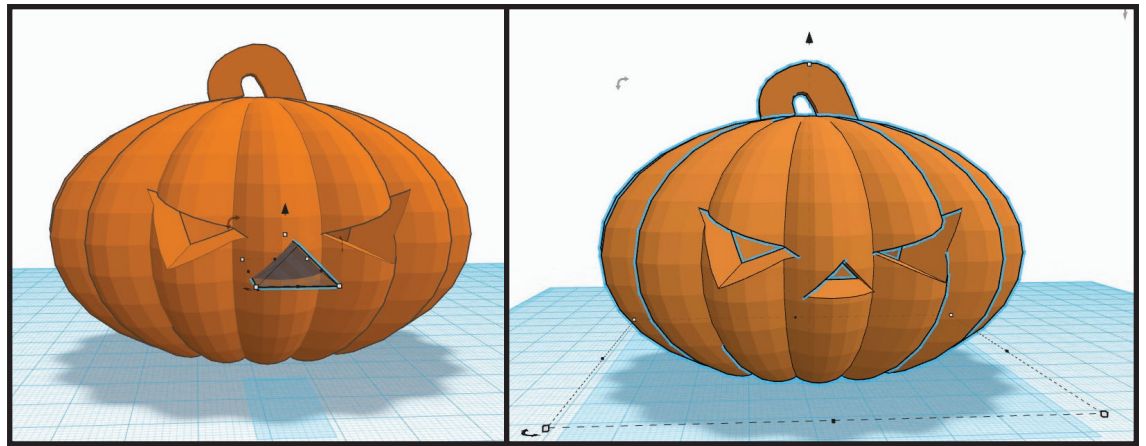


- Click in the center of the Roof/Wedge object and drag to position on the pumpkin. Use the black arrow at the top middle to move higher/lower on the pumpkin. Also use the rotation arc on the floor plane to rotate as needed.

- Position the Roof/Wedge to be a nose on the pumpkin. Make sure the Roof/Wedge goes through to the inside where the tea light goes. Scale the Roof/Wedge using the tiny boxes as needed.



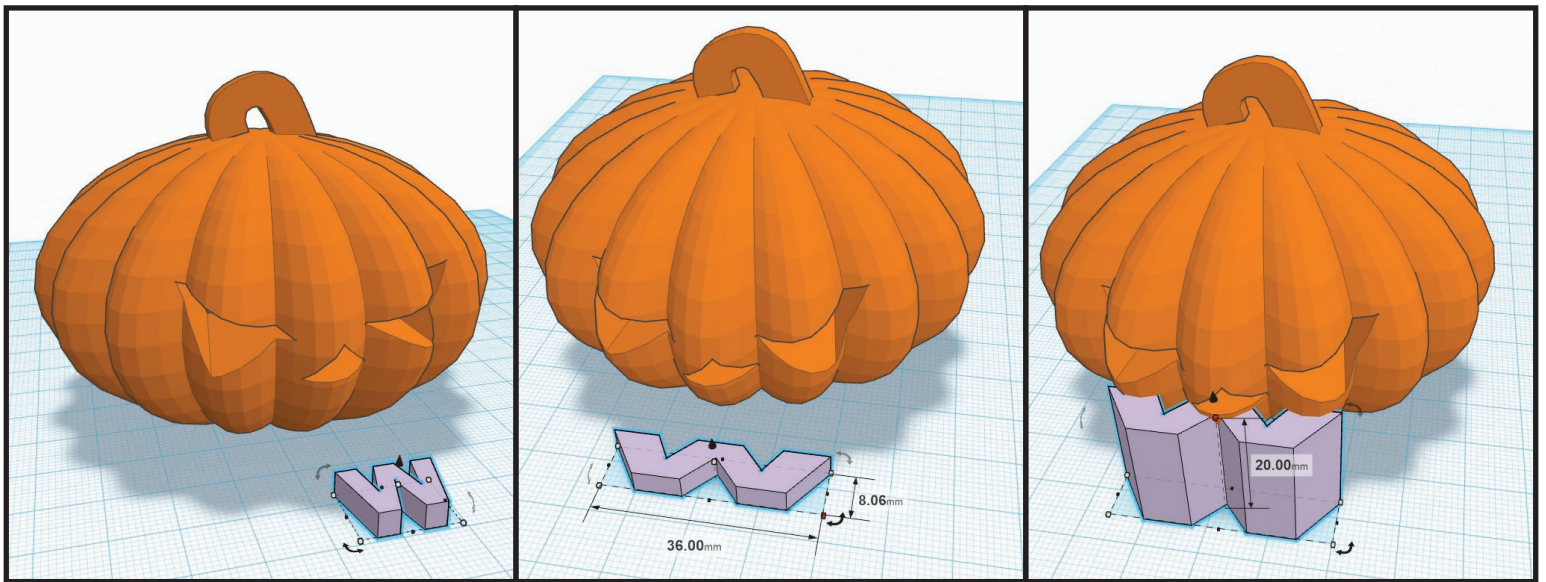
- Cut the nose from the pumpkin. To do this, click to select the nose. In the inspector window near the top right, change the nose to "Hole".



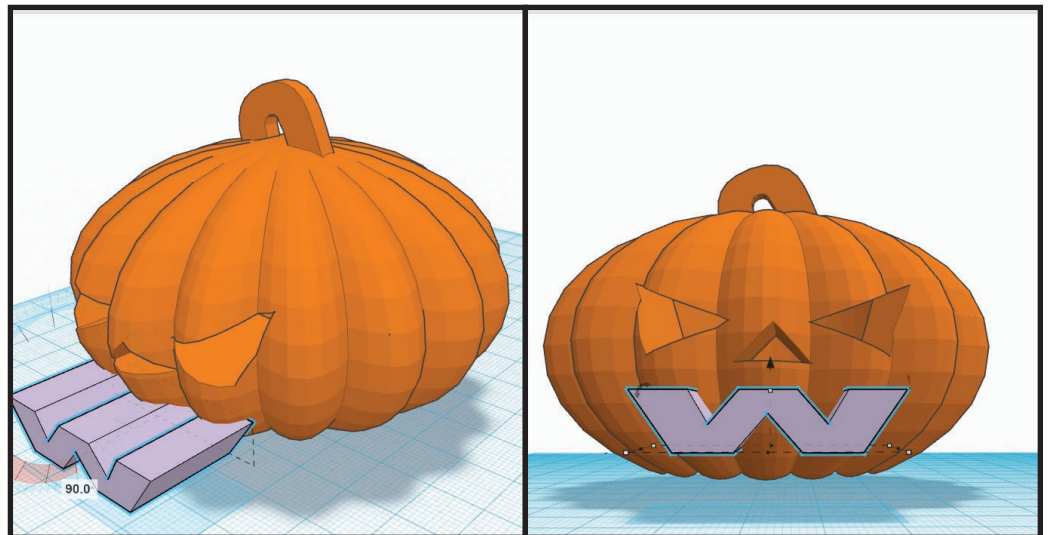
Draw a selection box over both the nose and the pumpkin. In the top right tool bar, click "Group".

STEP 6: CREATE MOUTH OF JACK-O-TEA-LANTERN

- In the right side menu, in the Geometric, Letters, or Symbols section, click the object to select. (Be creative!!! =)
- Hover over the workspace and click to place the object.

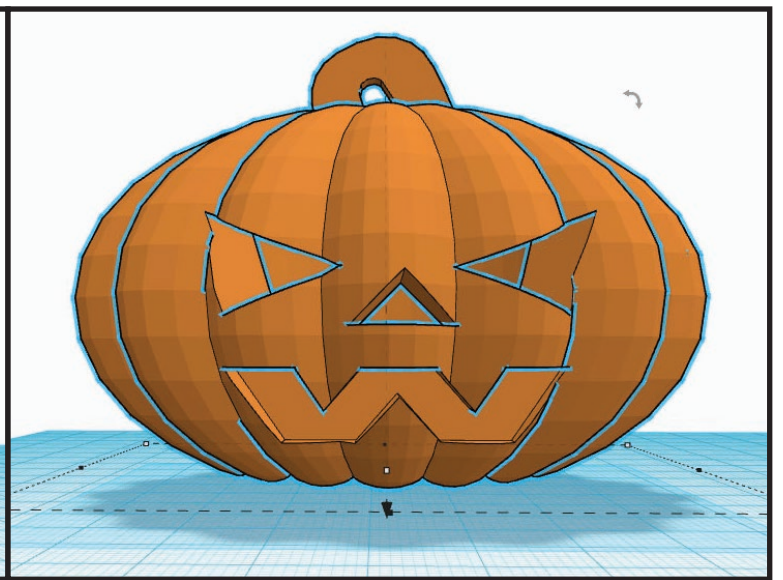
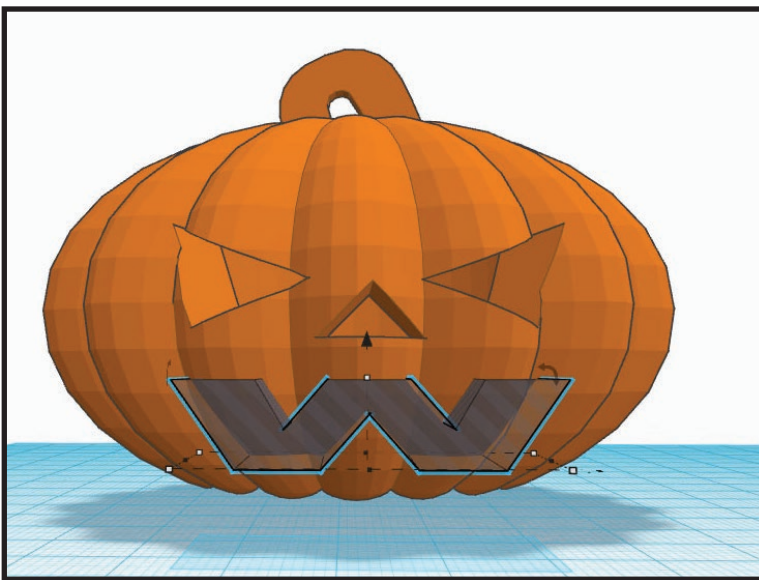
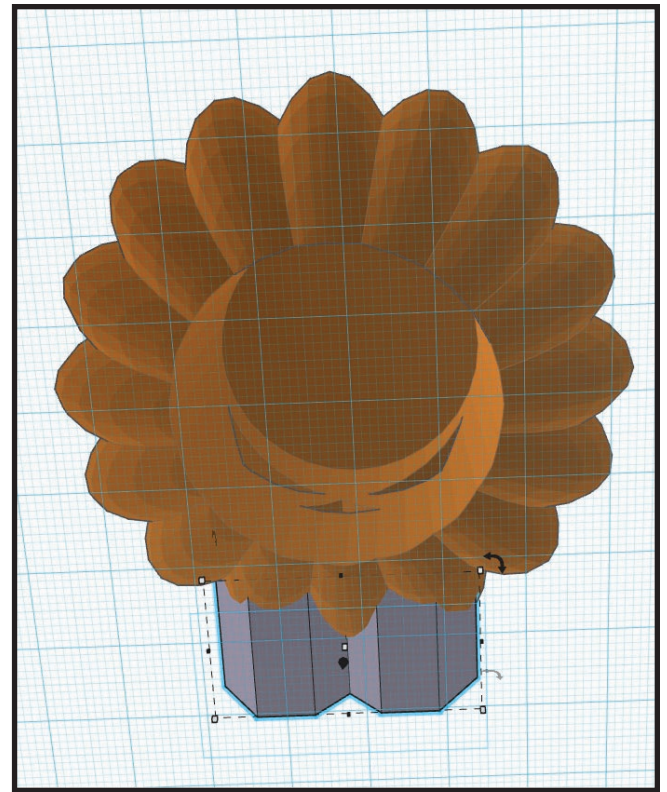


- Click in the center of the object and drag to position on the pumpkin. Use the black arrow at the top middle to move higher/lower on the pumpkin. Also use the rotation arc on the floor plane to rotate as needed.



- Position the object to be the mouth on the pumpkin. Make sure the object doesn't go through to the inside where the tea light goes. Scale the object using the tiny boxes as needed.

- Cut the mouth from the pumpkin. To do this, click to select the mouth. In the inspector window near the top right, change the mouth to "Hole". Draw a selection box over both the mouth and the pumpkin. In the top right tool bar, click "Group".



Now you're ready to export your project for printing. Be sure to use at least a 1.00mm brim on your print. If brim option not available, use a raft.

Once print is finished, insert battery operated tea light and ENJOY!