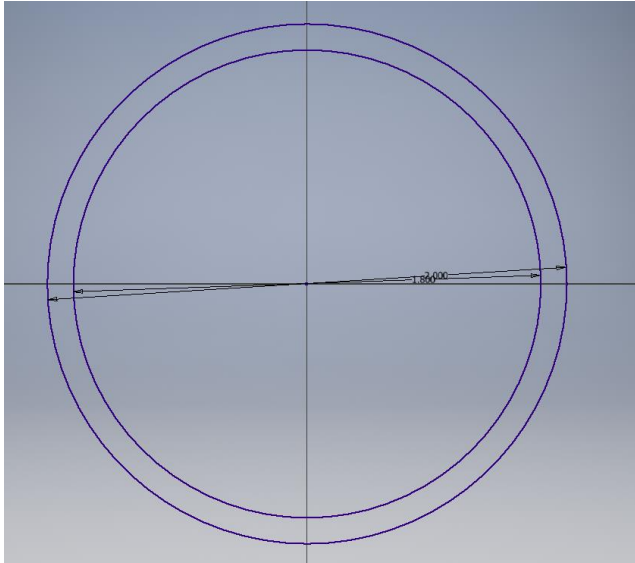
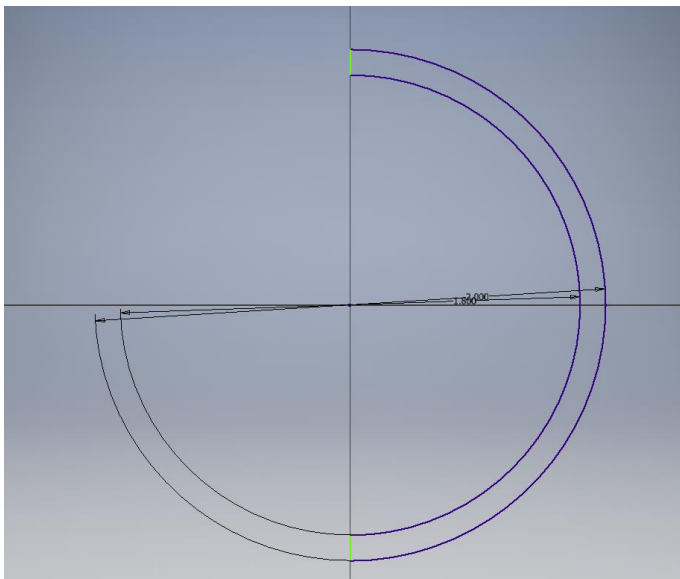


Inventor Skills Tutorial: Wiffle Ball

Start off by selecting one of the 2D planes and creating a 2D sketch on the one selected. After that, place 2 circles on top of one another, 2.0 and 1.8 inches in diameter.

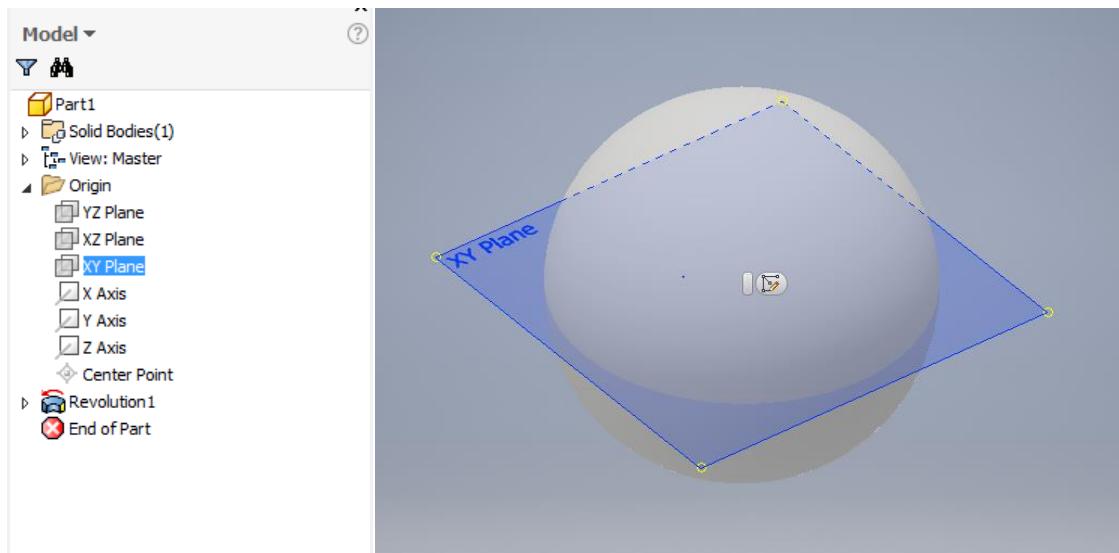


Draw a line that connects the outer circle with the inner circle on opposite sides of the circle 180 degrees from one another. Then use the trim tool under the “modify” tab to cut off half of both circles on the same side.

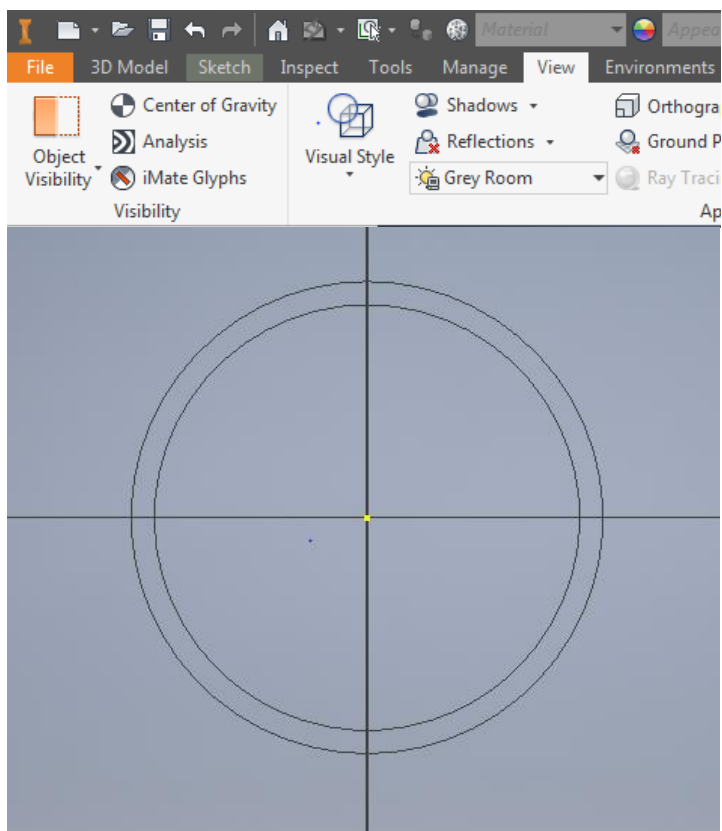


Finish the sketch and then revolve sketch into a hollowed out sphere by using the revolve tool and revolving around the axis that is the same one used to cut the 2 circles in half.

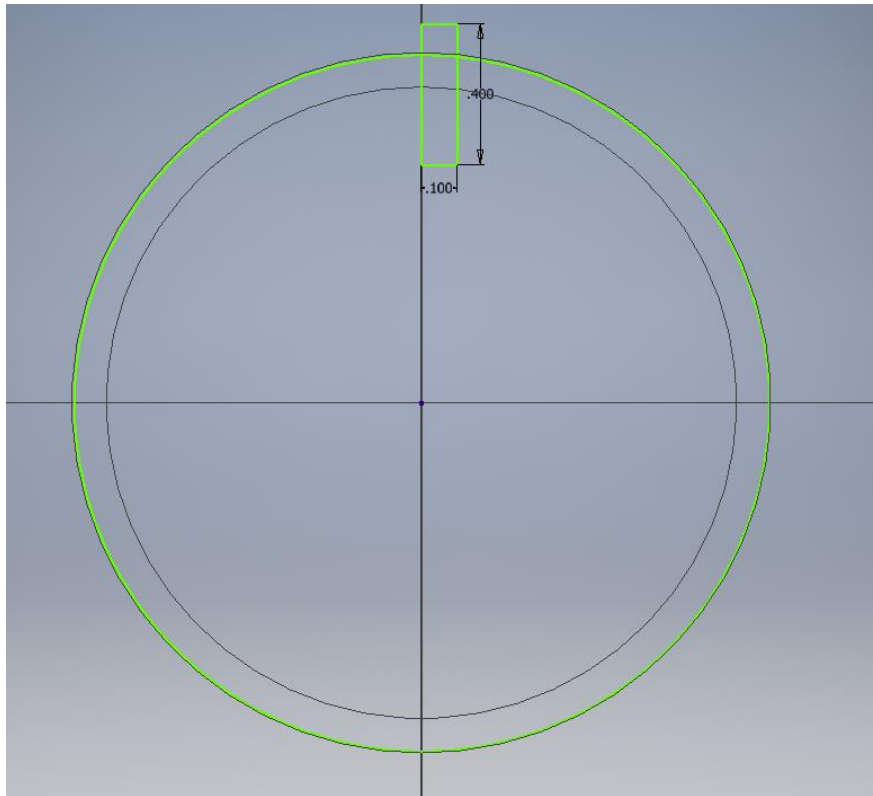
Once this hollowed sphere is created, go into the project browser and open “origin”. This folder will contain all the planes available for a sketch to be created on. Proceed to selecting a 2D plane that was not used in the original 2D sketch of the 2 circles and create a 2D sketch on it.



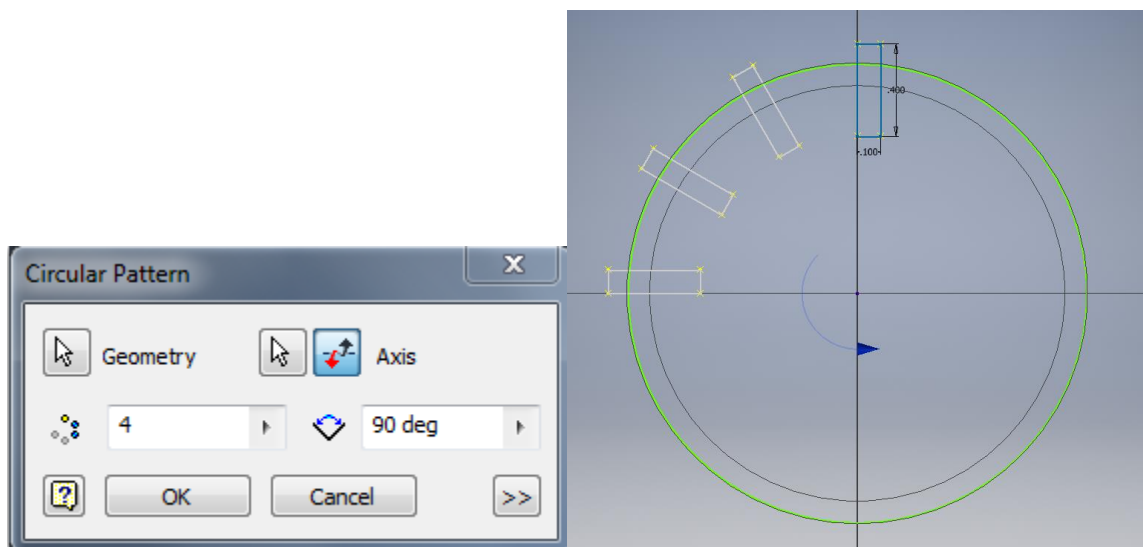
One might also wish to change the visual style to wireframe so the sketch is visible through the hollow ball.



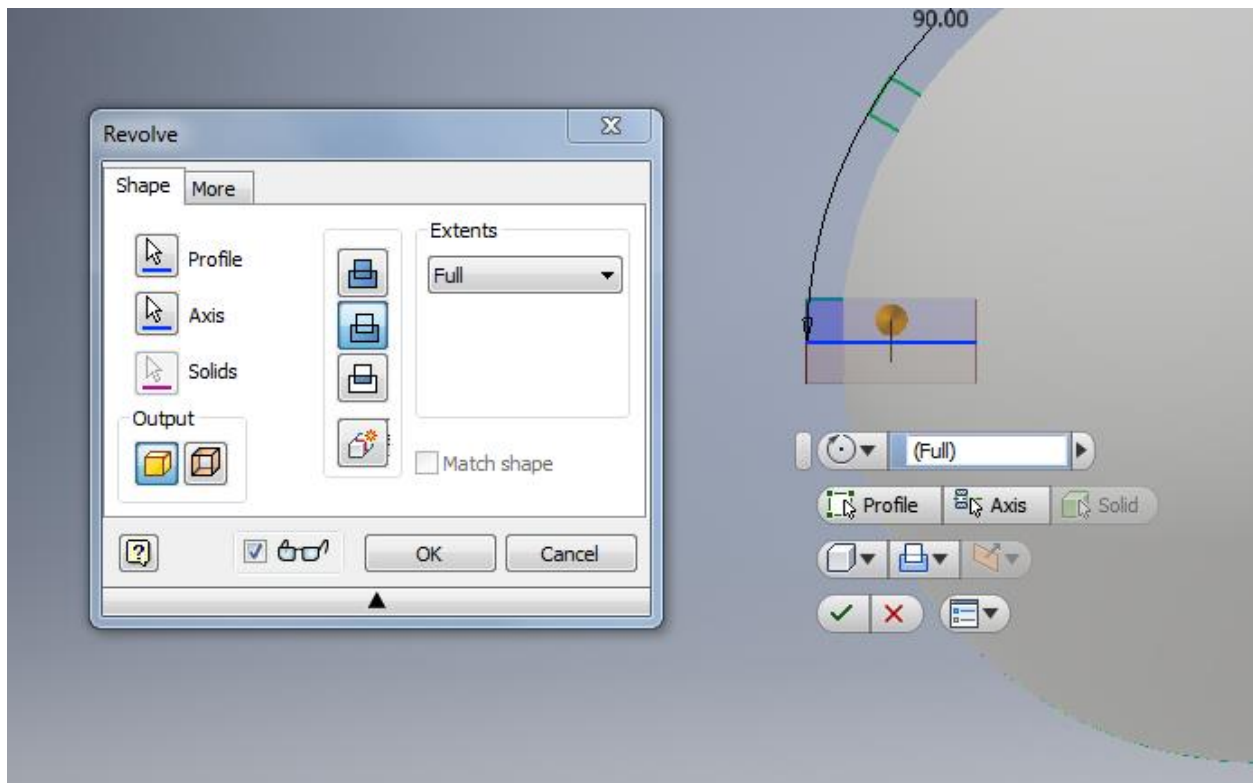
In this sketch, make a rectangle that starts from past the top of the circle has a width of 0.1 m and any length as long as it goes through both the 1.8 and 2.0 inch circles. Another circle should also be drawn that overlaps the 2.0 sphere created from the original sketch.



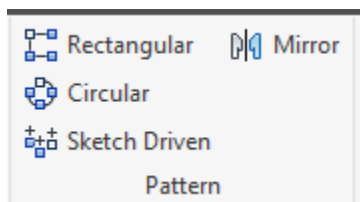
Without finishing the sketch, select the circular tool under “pattern”. Select the rectangle as the geometry to duplicate, and select the circle as the axis you will rotate your rectangle upon. Rotate the rectangle by 90 degrees and duplicate it four times.



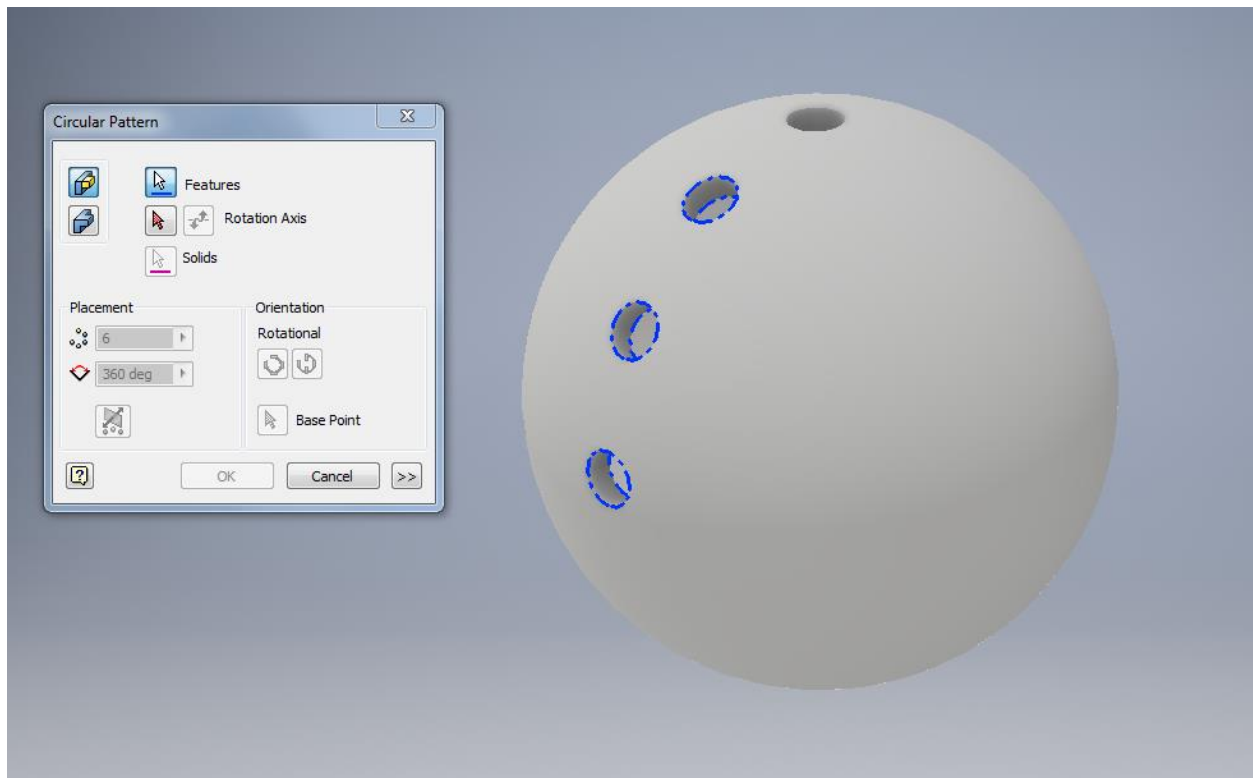
Finish the sketch and proceed to revolving all of the rectangles with the axis being the longest side length in the rectangle. Use the cut feature in “revolve” as this will create a hole in the sphere.



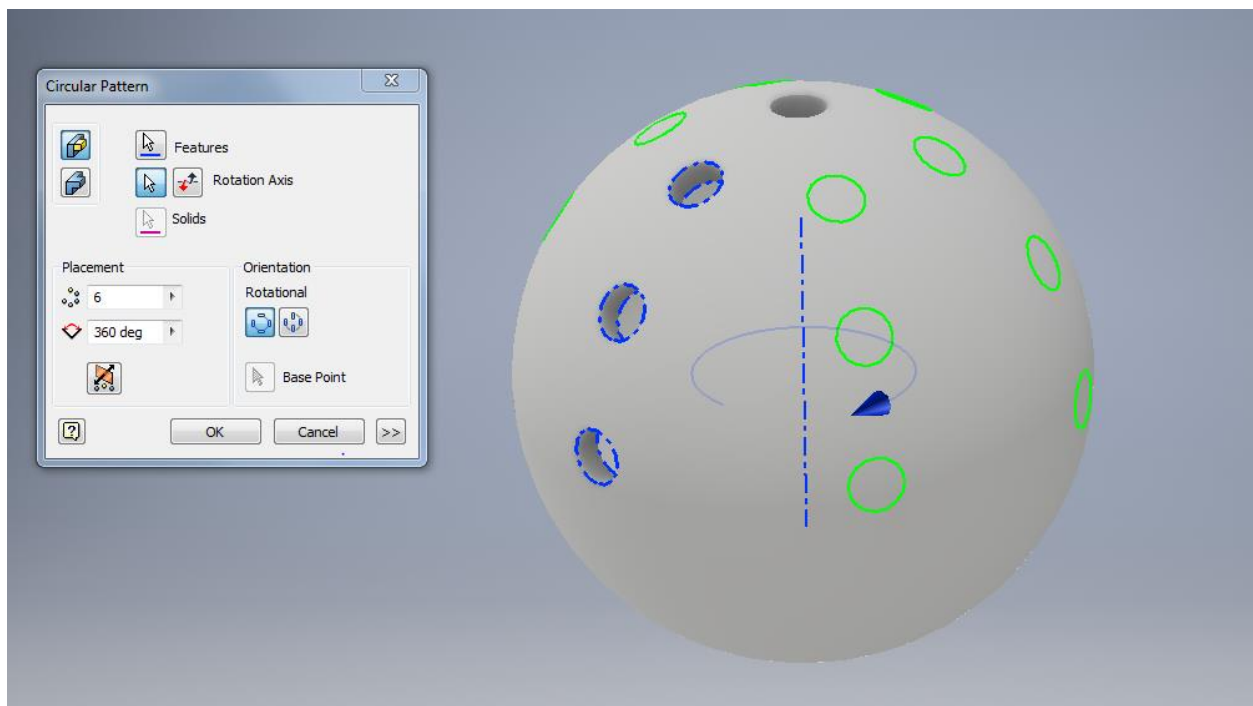
Once there are 4 holes created in the circle, go to the “circular” tool under Pattern.

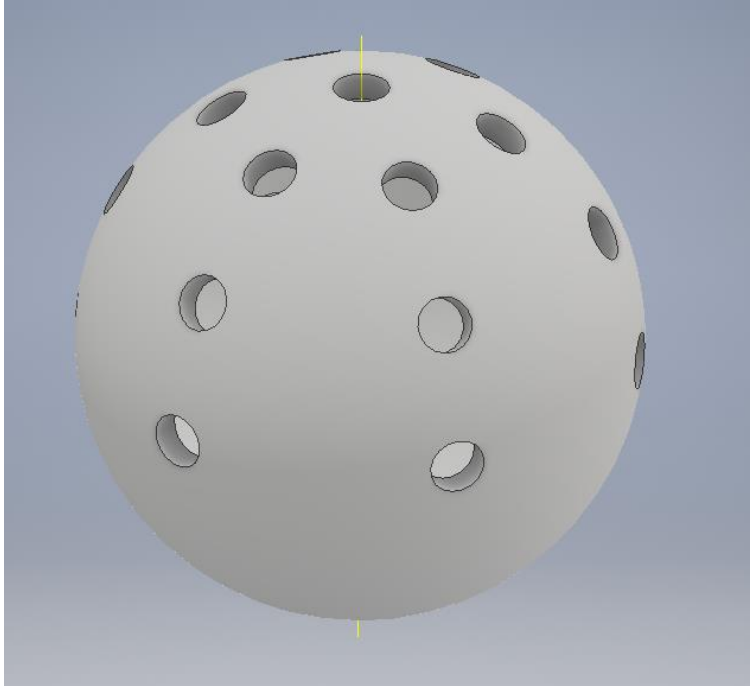


In the Circular tool, click on “features” and select all of the holes in the sphere except for the top circle by holding the ctrl key.

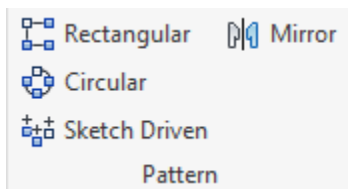


Next, select Rotation Axis and go to “origin” in the project browser. In the origin folder, double click the 1D plane that goes straight through the top circle that was not selected.

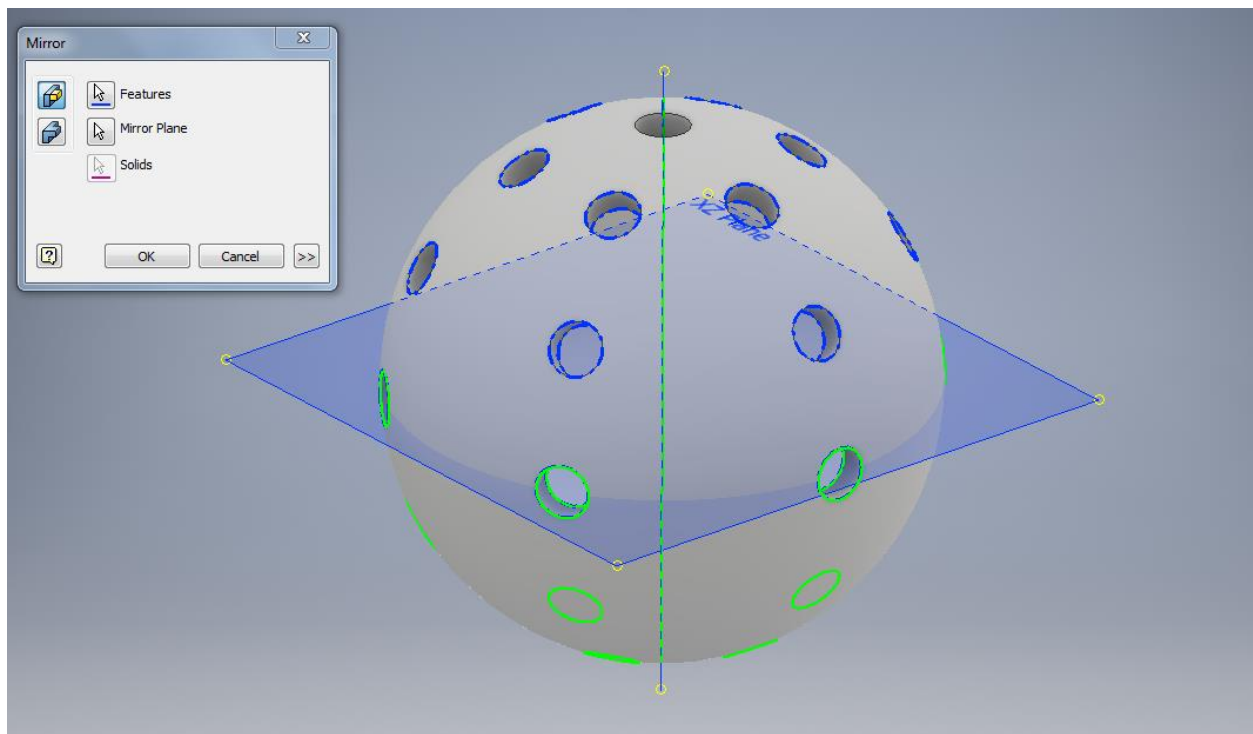




Now we need to mirror the holes on one side of the sphere to the other side of the sphere. To do this, go up to the pattern section and select “mirror”.



For the features, select all of the holes in the sphere, and for the axis, select the axis that cuts the sphere in half with the physical holes on one half, and the holes you intend to make on the other half.



Once you have completed this, give the holes and the sphere a color and post this on your website in "Inventor Skills" under "Inventor".

