How to model a soccer ball

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Step 1
Low Polygon

- Start up Modeler
- Click the ball tap and make a ball 
  \((\text{shift+o})\)
  - any size
- To make it even click on the \((\text{n})\) key to open the numeric panel
  - set “Type” to Tessellation
  - set segments to 3
  - radius X,Y,Z to 400mm
This is what we get
Step 2

This ball is composed of triangles, we must unify the triangles to create the patches on the ball

• Turn on one view port  **EX:** Perspective View

• Along side is an arrow pointing down
  - Click on it and select “Smooth Shading”
Step 3

Make sure polygons are highlighted before continuing

• Select the triangles to make the pentagon patch

• After you selected the polygons at are needed, we need to merge them together by choosing the “construct” tab and selecting merge polygons (shift+z)
Step 4

• After you unify the triangles, create a new surface - select black as the color - continue the process until we have 12 pentagons in black and the rest of the pentagons in white.

• To finish the ball just unify the rest of the pentagons.
Step 5

High Polygon

• Restart the same way
  - Select ball (shift+o)
  - Click tesselation
  - 12 segments

• Set low poly in background and high poly in foreground
Step 6

• Set transparency as 50% by opening the surface editor and turning it down (control+F3)

• Use the low polygon as reference and select the triangles in the pentagons

• With the triangles selected, apply “Smooth Shift” (shift+f), then press “n” to bring up the numeric box and apply an offset of 4 mm
Next we must apply the merge command (m), selecting “FIXED” tab as range and insert a 3.5 mm distance.

Repeat this process on the rest of the polygons

1. Select polygons
2. Assign surface
3. Smooth shift of 4 mm (shift+f) (n)
4. Merge points 3.5 mm (m)
5. Smooth shift of 4 mm (shift+f) (n)
6. Merge points 3.5 mm (m)
Step 7

We can see some results by clicking on the TAB key to transform the polygons in a subpatched view.

Once all of the patches have been transformed you will get this.
Reminder

Hot Keys

Ball (Shift+o)
Numeric Panel (n)
Merge Polygons (Shift+z)
Merge points (m)
Surface Editor (control+F3)
Smooth Shift (Shift+f)
Thank you