

## How to create an object from an existing polygon object

### OBJECTIVE

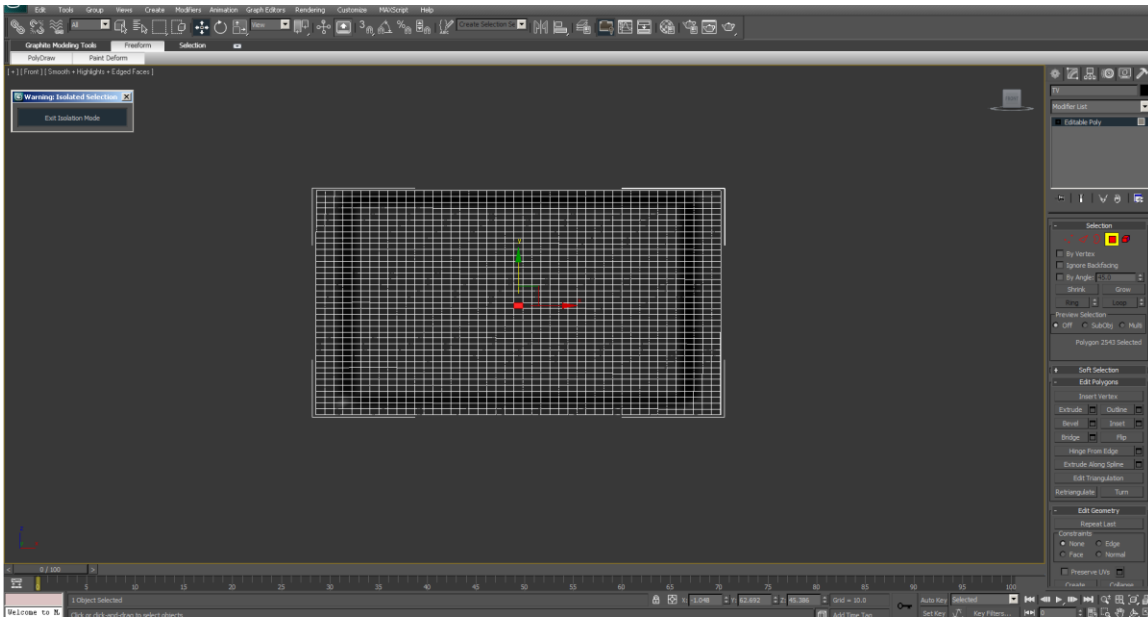
In this tutorial, you'll see how to create a monitor screen out of an existing monitor frame. You'll explore the GROW tool and Clone to Object for Polygons.

### PROCEDURE

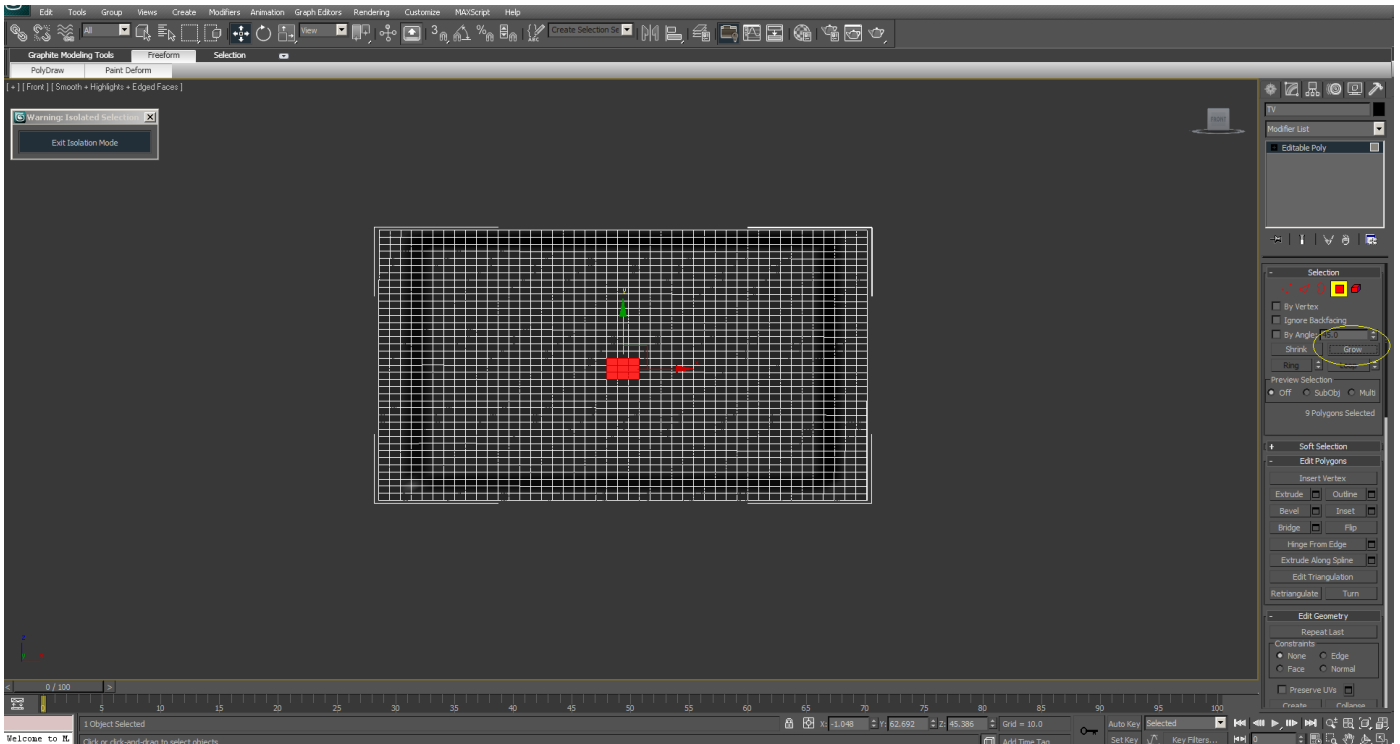
We'll start with a gestural approach of a frame for a computer monitor. This is a polygon geometry that has been extruded and deformed to create this shape.



On the FRONT view, I'll select the monitor and go to POLYGON mode (click 4 on the keyboard). Then, select an estimate of a polygon on the center of the screen, like shown below.

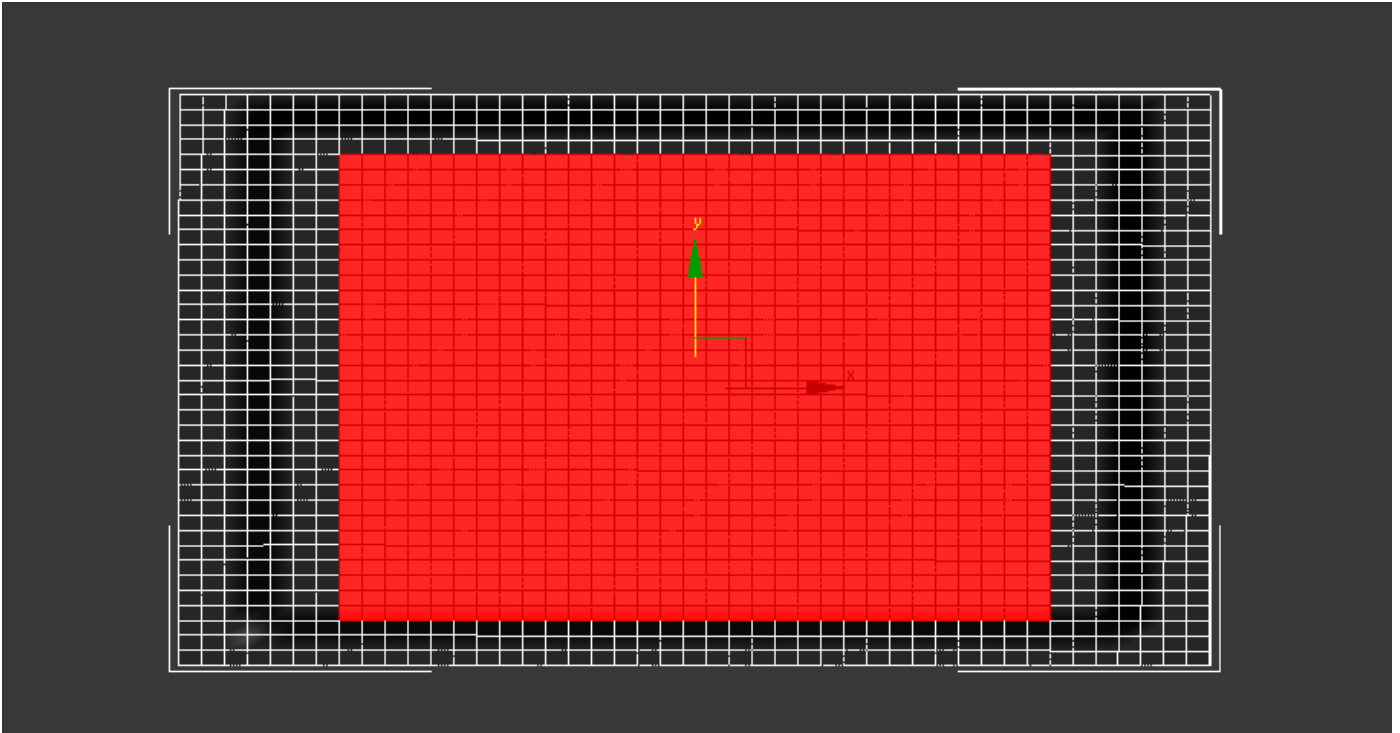


On the Modify tab, find the SELECTION section, and click on GROW. That will expand that selection of polygons to all polygons that are touching the one you selected.



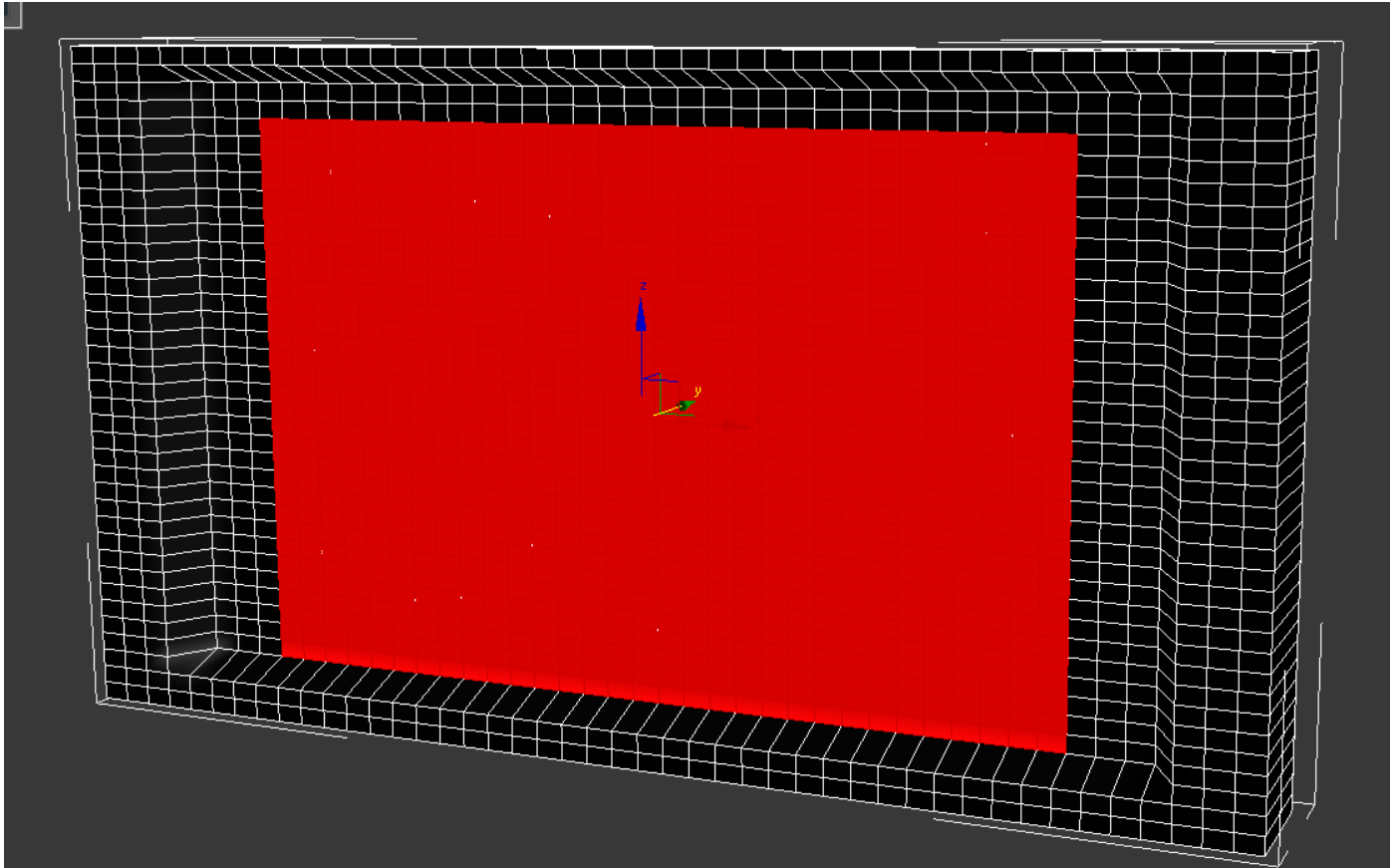
Repeat the GROW a few more times, until you have a flat surface (right before you start selecting the ones that are bending at the edges of the monitor geometry). On the example below, I repeated it 14 more times to achieve what you see on the image below.

If you go overboard, and need to deselect polygon faces, you can click on SHRINK, next to the GROW button. That will revert to eliminate the outer polygons selection.

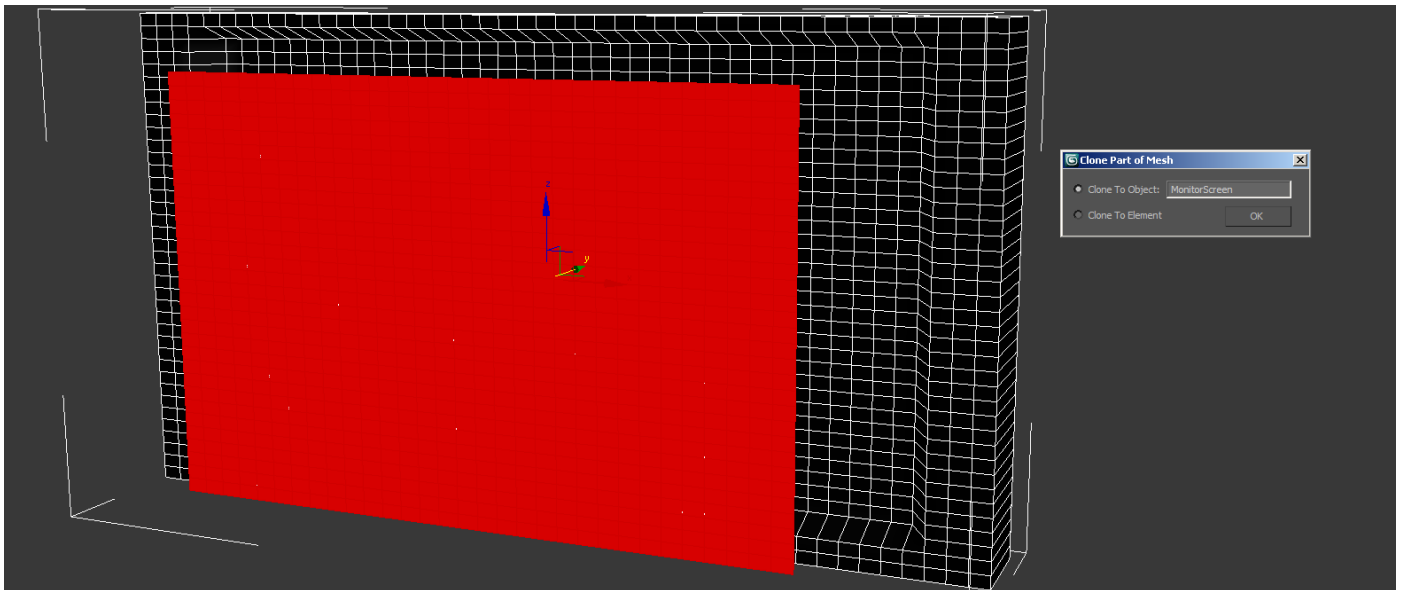


On the PERSPECTIVE viewport (remember to Middle mouse on the viewport instead of left clicking so that you don't lose your selection), select the move tool (W on the keyboard).

Holding the SHIFT key down, select only the Y axis, or the axis that represents the depth on your geometry. You know which axis is selected because they turn yellow when you place the mouse over the handles.



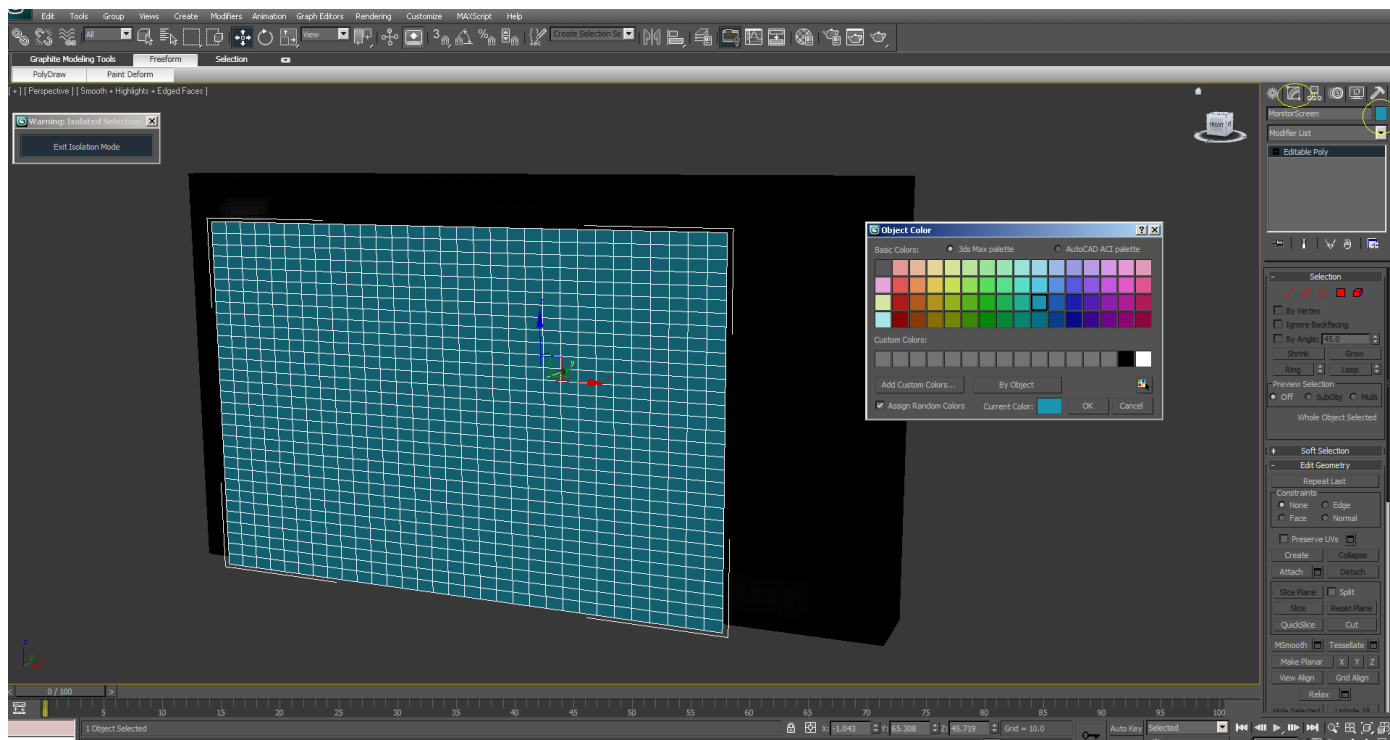
Then, while holding the SHIFT key down, move the faces forward, to place them in front of the monitor. This will create a copy of the faces you have selected, and will open the CLONE window. Select CLONE TO OBJECT and rename the object MonitorScreen. Click OK when done.



You just created a new polygon object called MonitorScreen, based on the faces you selected on the original polygon object. You might be thinking that you could also create a plane with even less polygons and place it in front of the monitor geometry. That would be correct, and a better way to create a computer screen. However, I wanted to demonstrate this concept on something simple that you could visualize.

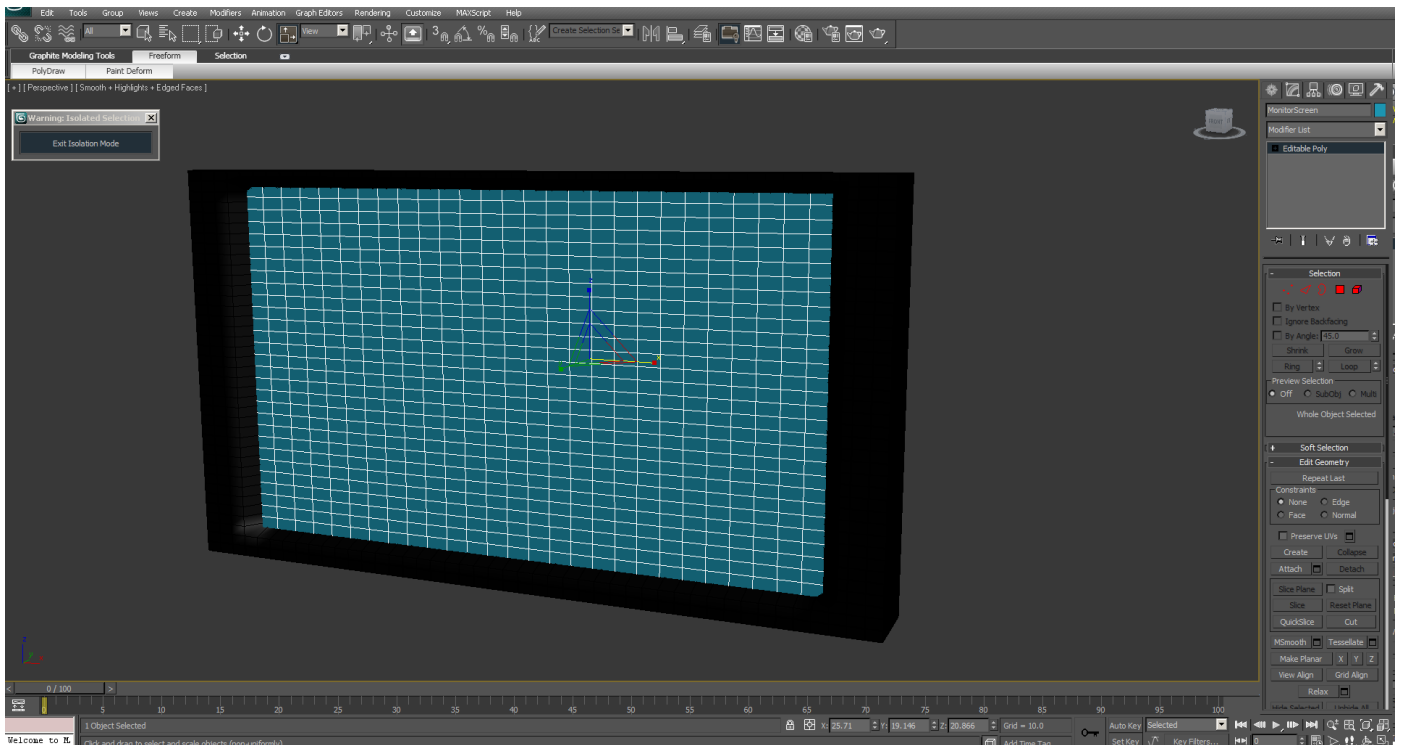
Next, I'll change the color of the monitor on the Modify tab, and move it back with the move tool until it intersects the monitor. I will also scale it up so that all edges get embedded and intersect the geometry, so that it looks like it's overlapping instead of floating on it.

So, let's color it first. Go to the Modify tab (unclick the polygon mode if needed), with your new object selected. Select a blue color or some other color that might make contrast. You can map a screen snapshot if you want with a material later. Click OK when done.



Next, we'll move the MonitorScreen geometry back until it's placed in front of the monitor frame. Select the move tool, and push it back only on the depth axis (y in my case). As you move it back, once it disappears, you know you went too far, so push it slightly forward. It should end up in front of the other screen face.

Then, you'll notice that it's not intersecting on the edges, and it seems floating there. Switch to the scale tool (R on the keyboard) and scale it in width and height until it intersects with the frame. It should do that on all 4 edges (top, bottom, left and right).



At the end, you'll have something similar to this. As I mentioned before, a plane with less geometry would be a more efficient way in this instance, because there's lots of unneeded vertices on this plane that we don't really need, since the surface is flat. You could very well, create a plane and place it there instead.

Enjoy!

