

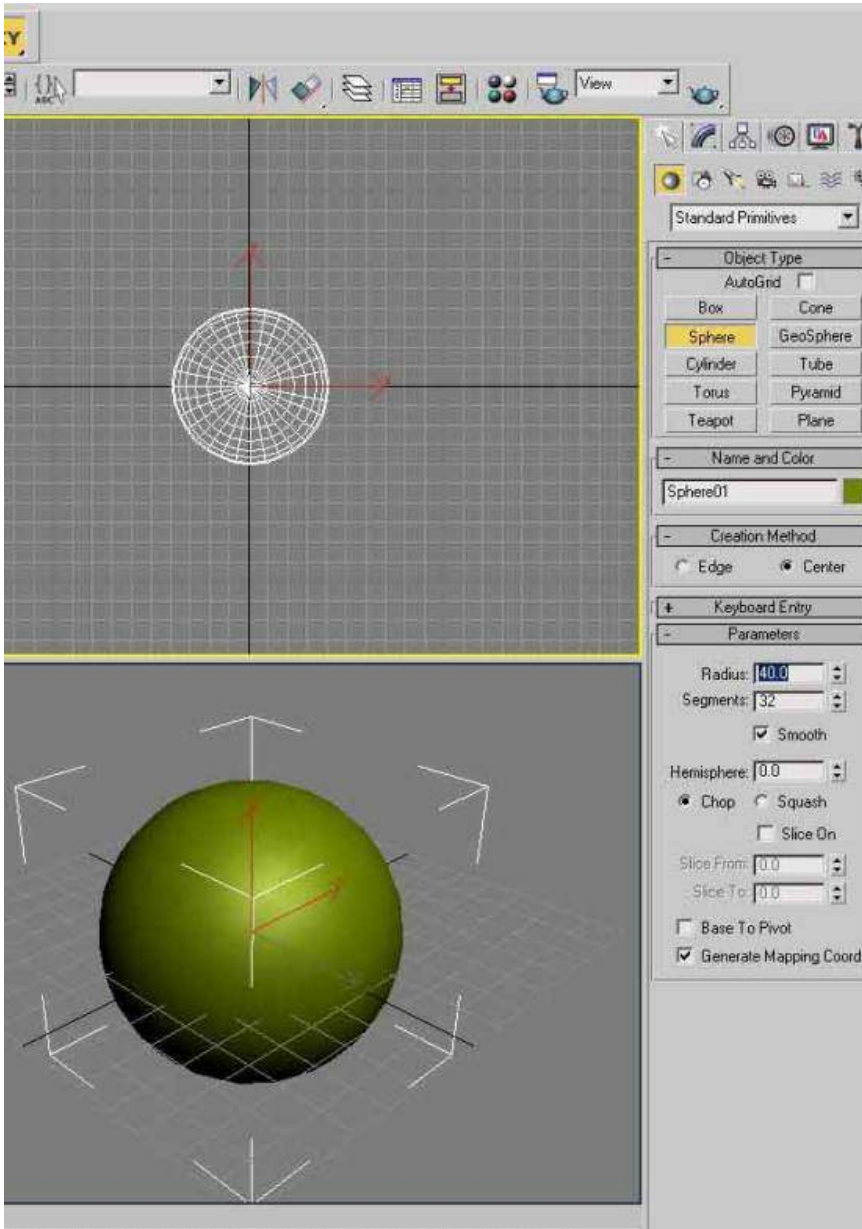
Explosions

1. This is a tutorial for creating explosions in 3ds max. In this tutorial I will show you how to blow up a planet by starting with a sphere, adding a bomb, adding fire and smoke, making the explosion into a movie, adding materials and a background. Using the tools covered in this tutorial you will be able to easily blow up just about anything. This file takes a minute to load.

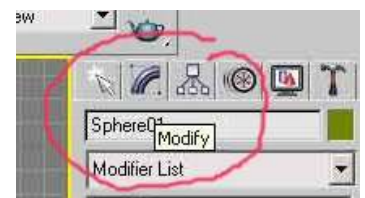
To get started, go to "file" and "reset".

1. Making the Sphere

Go to the shapes tool (highlighted sphere) and click on "sphere". Click in the front panel and drag the mouse to create the sphere. In the parameters box, change the radius to 40.



If you change your mind about the size of the sphere, you can click on the curved blue modifier and change the values.

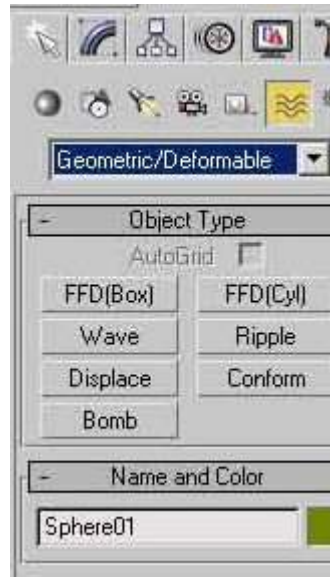


2. Adding a Bomb

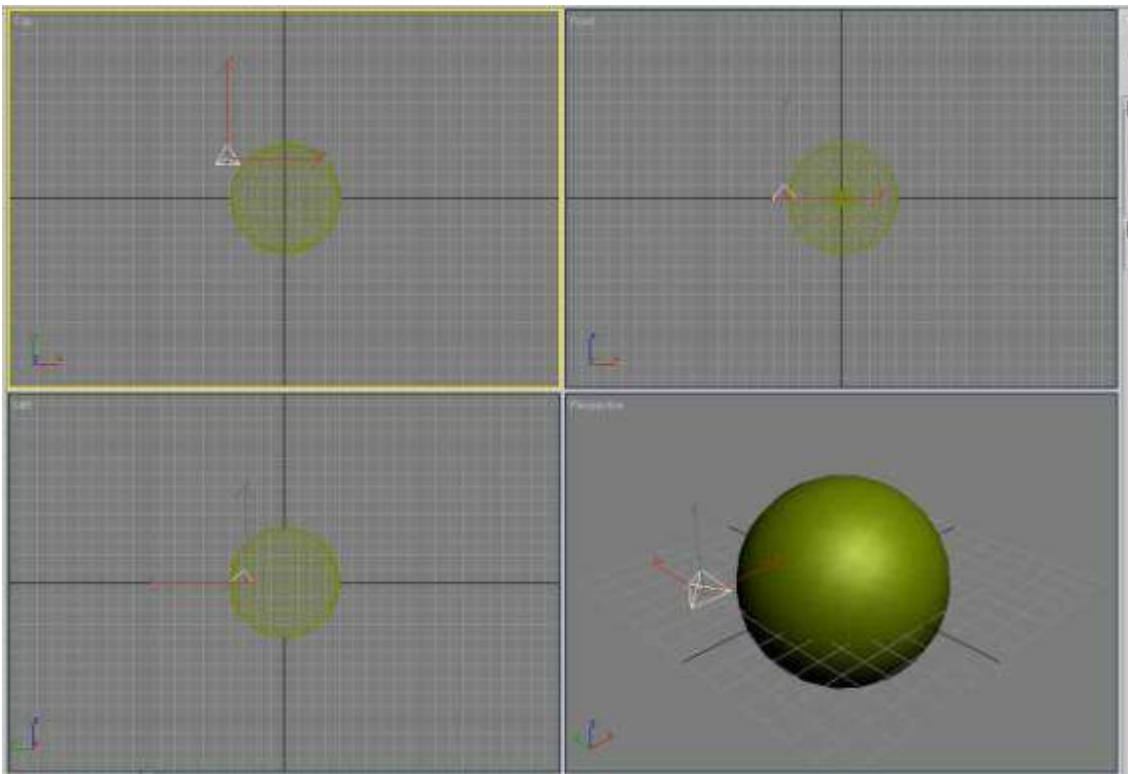
Now we need to add the bomb. So click on the "Space Warps" button (highlighted in yellow).



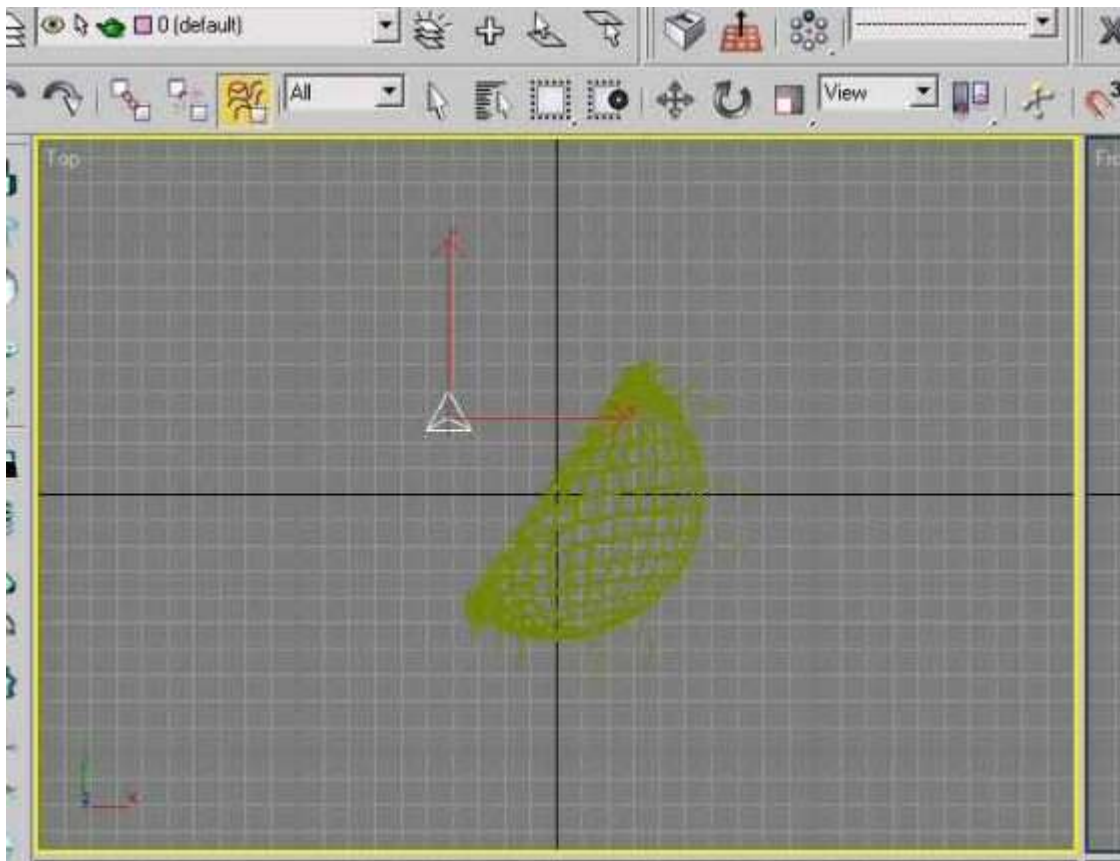
In the drop down menu under the space warp, choose "Geometric/Deformable" and select "Bomb".



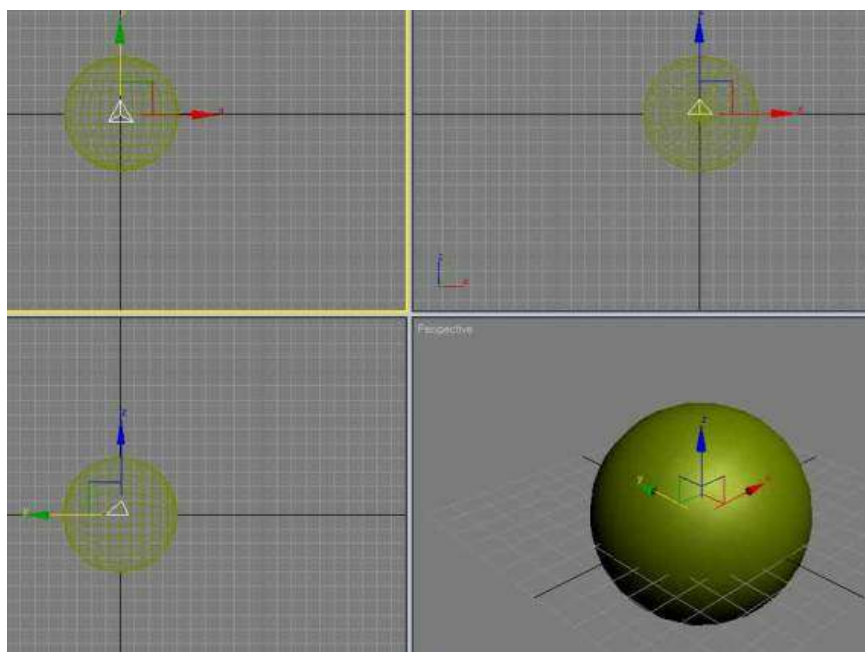
Click somewhere in the top view to add the bomb close to the sphere.



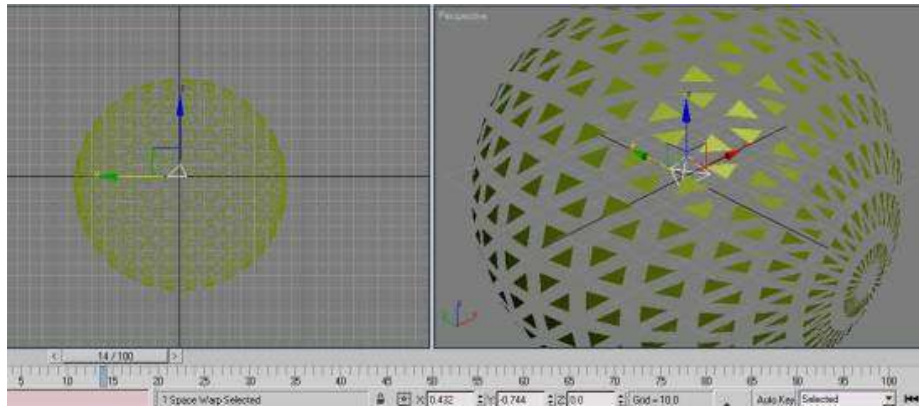
Now, we need to bind the bomb to the sphere. So click on the "Bind to Space Warp" tool (highlighted in yellow). Click on the bomb and drag your mouse to the sphere. The sphere will flash white for a second. I have dragged the time slider (at the bottom of the screen) to frame 12 to see the effect.



I moved the bomb into the middle of the sphere, because I want the bomb to explode equally in all directions. To do this, use the move tool on the top task bar (the one with four arrows is the move tool).




Now, dragging the timeslider to frame 14, has this effect:

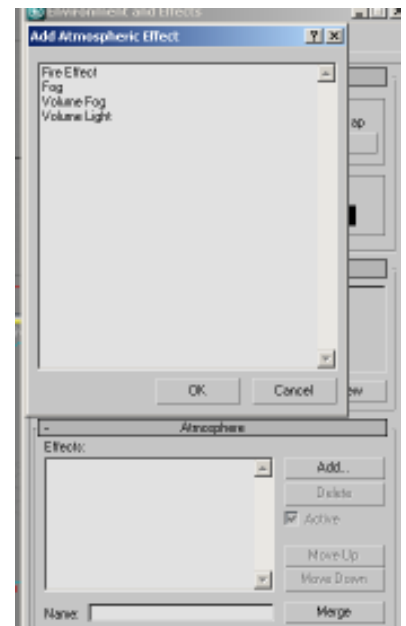


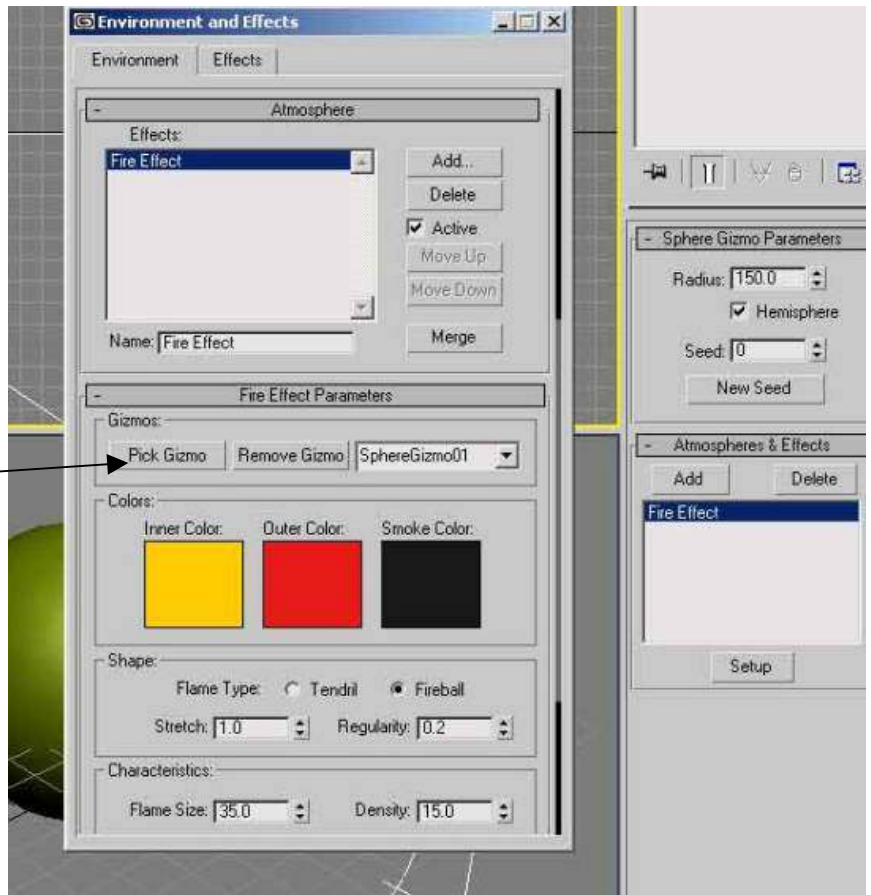
3. Adding Fire and Smoke

First of all, we need to add a gizmo, so we can make an explosion with fire and smoke. Choose "Helpers" (highlighted yellow). In the drop down menu (where it says standard) choose "Atmospheric Apparatus". Click on "Sphere Gizmo" and in the parameters rollout select "Hemisphere". Click in the middle of the sphere and drag your mouse out past the sphere. Set its Radius to 150.



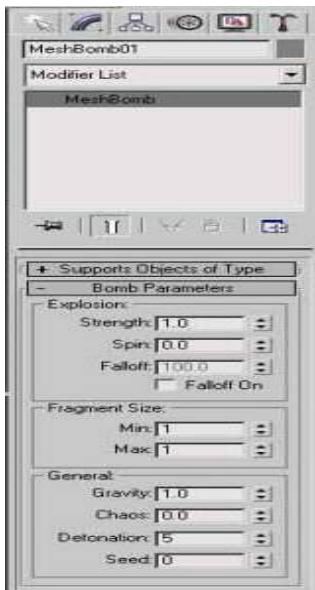
Next you need to do 2 things. First, I used my  cursor to make a box around everything on the screen and moved it to zero on the Z plane (I moved it up). Second, under the render window, choose environment, in the atmosphere rollout, click on Add. This opened up a window where I'm going to select "Fire Effect" and say "OK".





Be sure to click on the pick gizmo button and choose SphereGizmo01 (the object you just place on your screen)

At the very bottom, in the explosion options, place a checkmark in the "Explosion" box and select "Setup Explosion". Another window opens up. I have the fire effect of the explosion starting at frame 15 and ending at frame 50. Click "OK" to exit the environments and effects window.



Now I'm going to modify the bomb. So hit the H key to select the bomb and select the modifier tool again (curved blue icon). Change the spin to 100, chaos to 2, detonation to 15. You can play around with the numbers to achieve different effects.

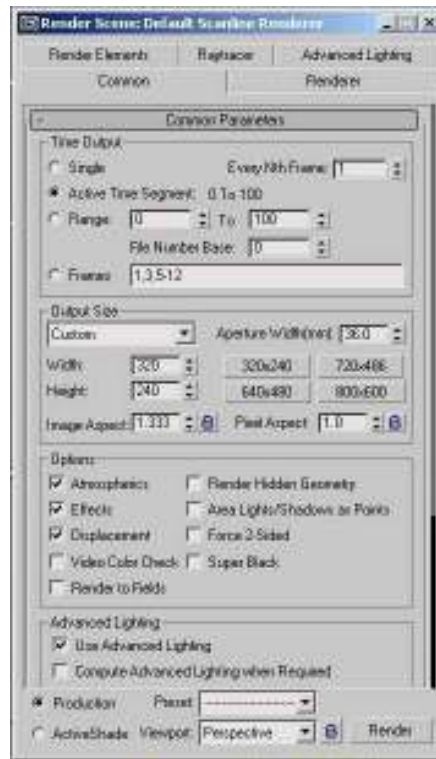


The most common problem that happens now is, that you will want to look at a screen shot to see the fire and smoke (press F9) and you won't see the fire. You have to actually render the scene to an AVI video to see the fire. So click on "Render" and in the rollout select "Render".

4. Rendering

And the following window opens up. Select the "Active Time Segment": 0 To 100 with a resolution of 320x240 (makes the file smaller).

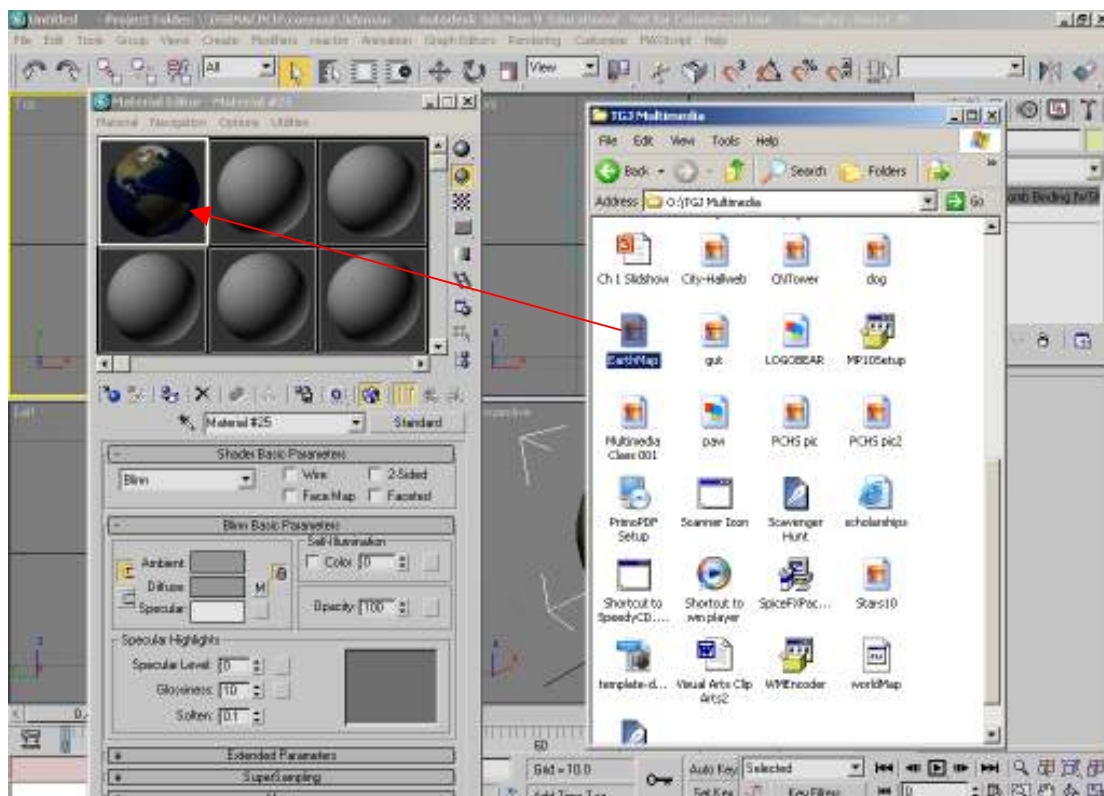
You can watch the screen, rendering the AVI frame by frame and make notes about changes to improve the effect.



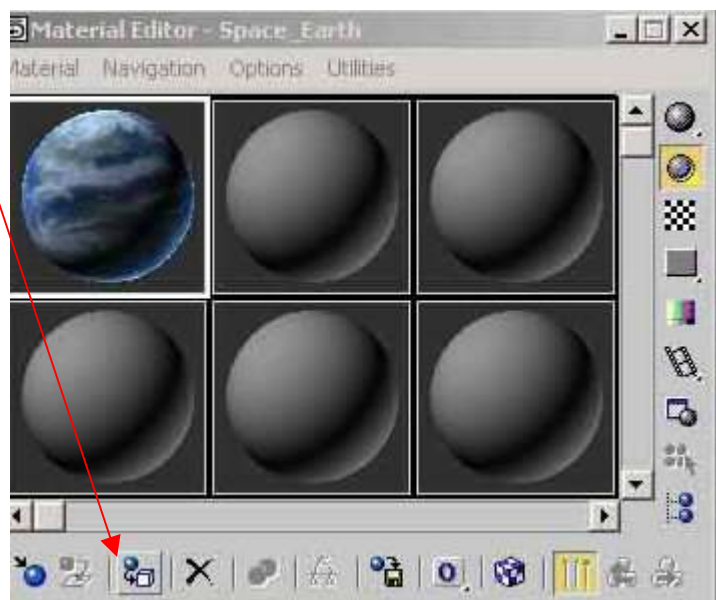
Scroll down in this menu box and click on Files. Another window opens up. Here, you can give your file a name and in the drop down options (where it says ".jpg") change this to ".avi". Click "Save" and make sure the viewport is set to a perspective. Now, click on "Render" at the bottom of the first menu box.

5. Adding Materials

Finally, I'm going to add some materials to the scene to make it look more realistic. Select the sphere and press "M" for materials. We will use a regular jpg graphic located in your handout folder. It is named earthmap. Drag and drop the graphic onto the upper left sphere



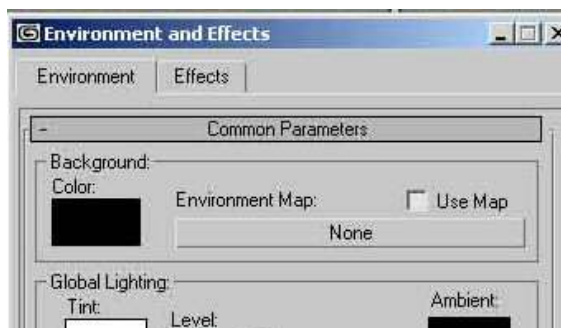
Now you should see this. There's a little icon of a sphere with an arrow pointing to a cube. Click on this to assign the material to the sphere.



Press F9 to see a screenshot of the material applied to the sphere.

6. Adding a Background Environment

Now, we're going to add a background environment. Click on "Rendering" and select "Environment". The following window will open up. Click on "None".

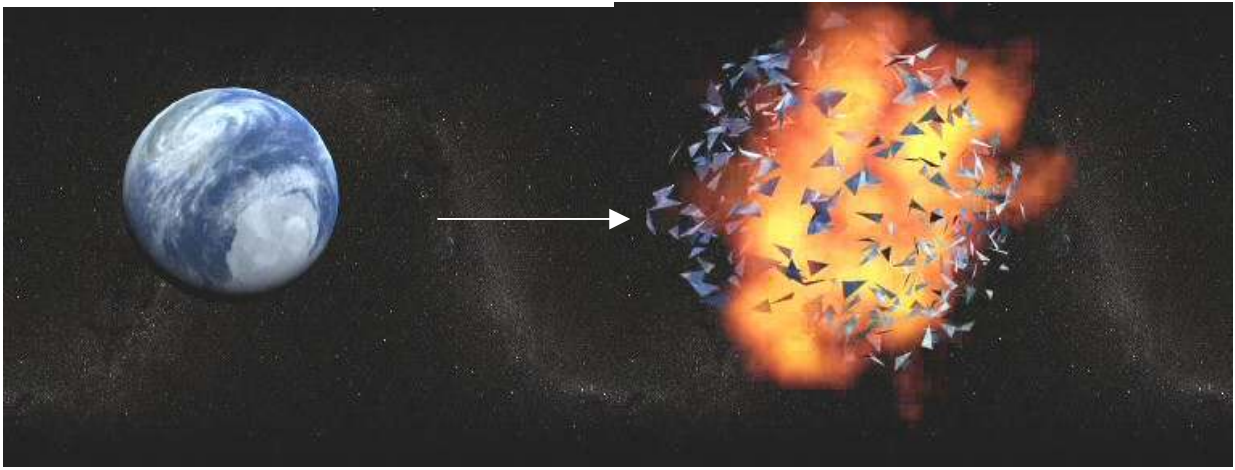


Another window opens up. Check off the "mtl library" and click on open. Locate the "materiallibrary" folder the handout folder and double click on "3dsmax".

Scroll down and click on the "space_Hi-Res-Stars (stars 10.jpg)

7. Result

You will want to re-render your scene to look at the result. It should look similar to this picture:



For enrichment:

- Try to make the earth spin
- Change/add different camera angles
- Create a meteor that flies into the earth prior to the explosion.