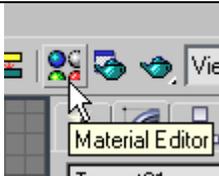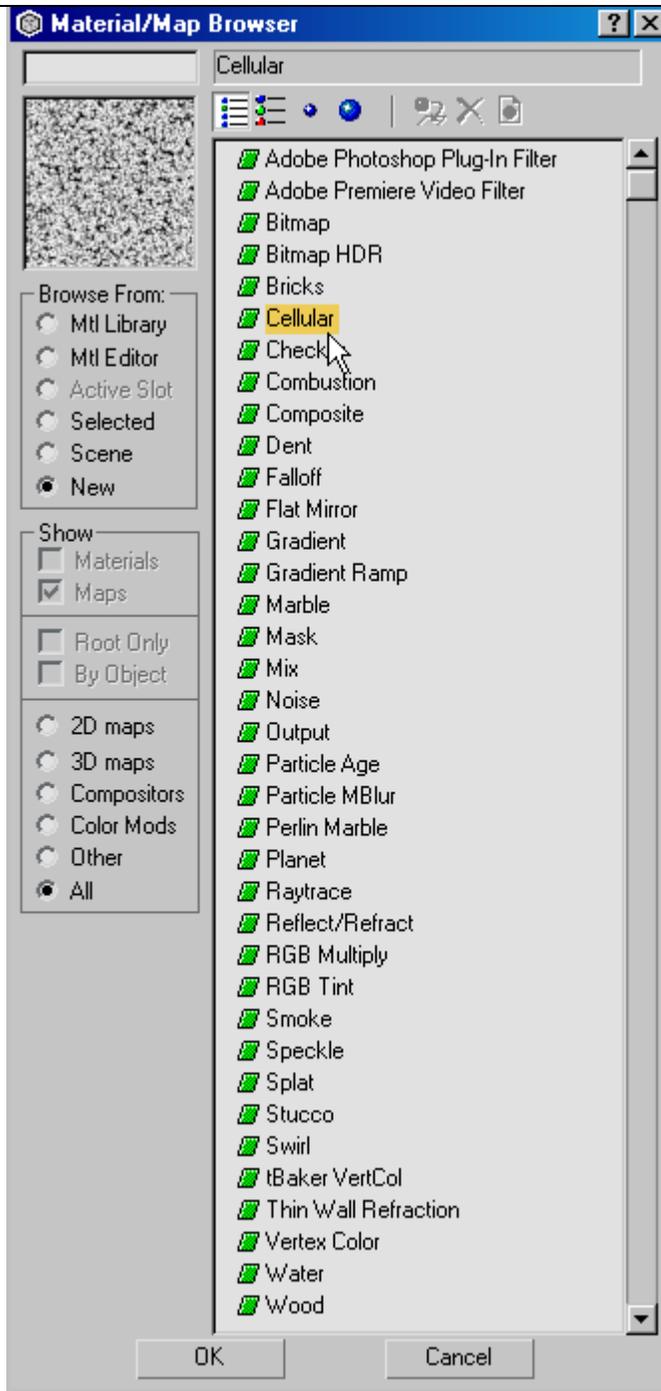|	
	Using photos for materials is swell but we always have problems with seams and repetitive tiling effects. Another class of materials is called Procedural Materials. These are mathematically based and won't have the above-mentioned problems. Lets start with a teapot…. of course.
	Open the material Editor
	Make sure 2-sided is checked otherwise we get goofy looking results
	Select an unused shader, open the Maps rollout and click on the word "none" next to Diffuse

Material/Map Browser

Cellular

Browse From:
- ○ Mtl Library
- ○ Mtl Editor
- ○ Active Slot
- ○ Selected
- ○ Scene
- ● New

Show
- ☐ Materials
- ☑ Maps
- ☐ Root Only
- ☐ By Object
- ○ 2D maps
- ○ 3D maps
- ○ Compositors
- ○ Color Mods
- ○ Other
- ● All

- Adobe Photoshop Plug-In Filter
- Adobe Premiere Video Filter
- Bitmap
- Bitmap HDR
- Bricks
- Cellular
- Check
- Combustion
- Composite
- Dent
- Falloff
- Flat Mirror
- Gradient
- Gradient Ramp
- Marble
- Mask
- Mix
- Noise
- Output
- Particle Age
- Particle MBlur
- Perlin Marble
- Planet
- Raytrace
- Reflect/Refract
- RGB Multiply
- RGB Tint
- Smoke
- Speckle
- Splat
- Stucco
- Swirl
- tBaker VertCol
- Thin Wall Refraction
- Vertex Color
- Water
- Wood

OK   Cancel

Double click Cellular

All the things that you see here are procedural maps and can be used to create materials. Some work better than others. We'll try two different ones:
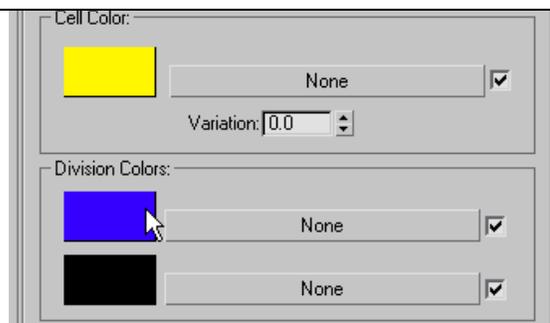
These also work well:

Bricks
Checker
Dent
Gradient Ramp
Marble
Noise
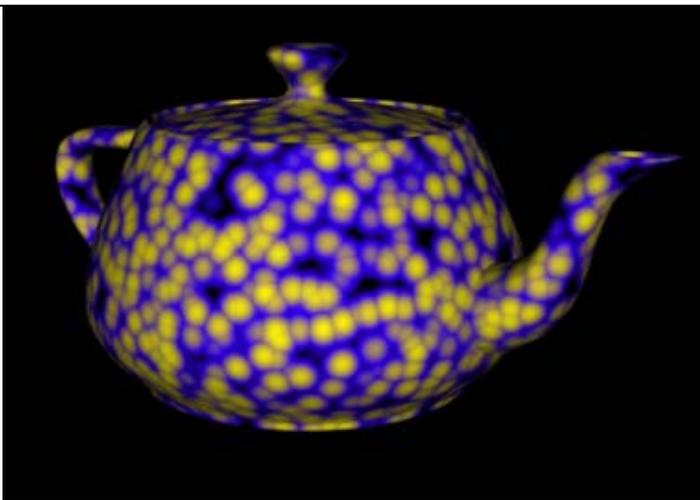Perlin Marble
Smoke Speckle
Splat
Stucco
Swirl
Water
Wood

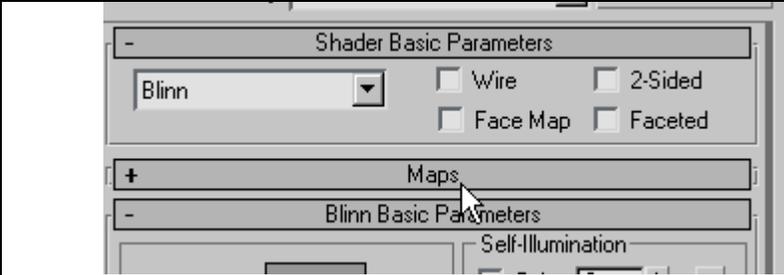The others I haven't mentioned act a little differently and are used for more advance special effects
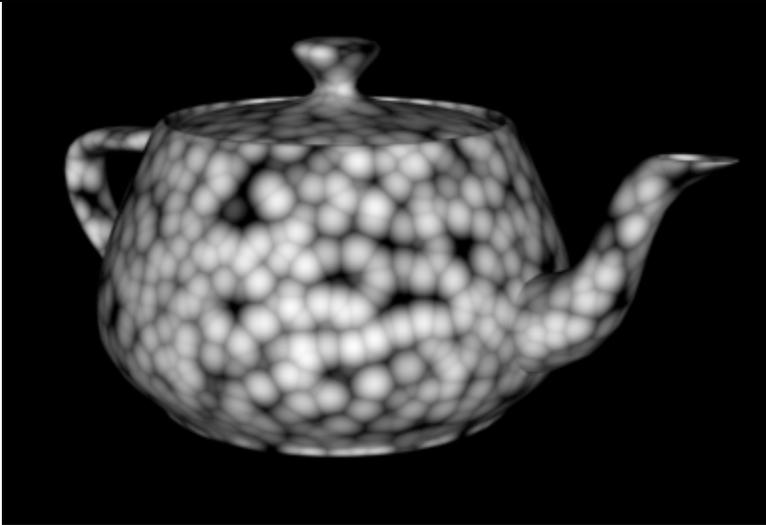
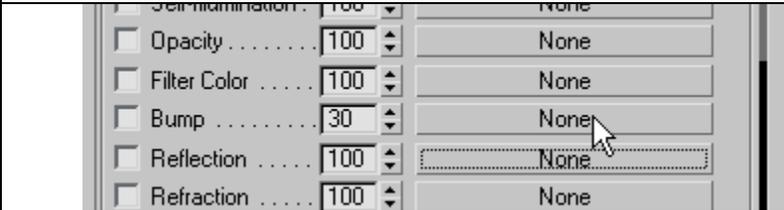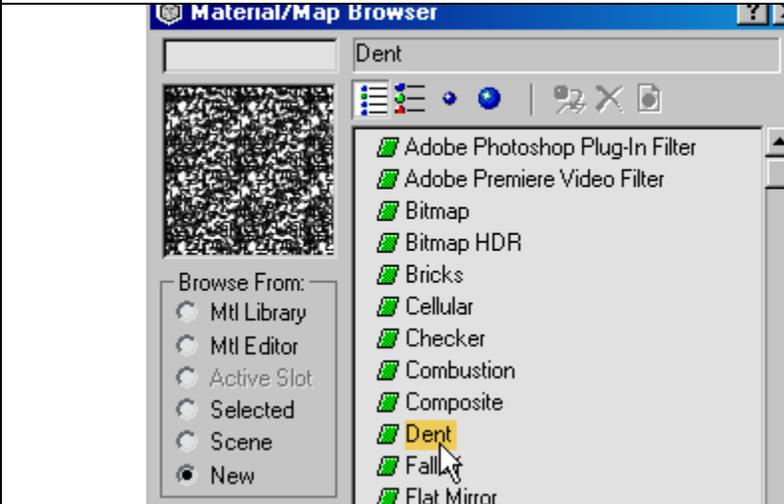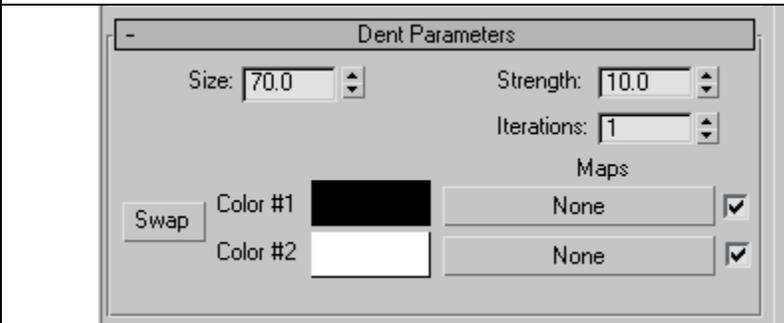|	
	Apply the material to the teapot and render. Pretty weird!
	Under the Cellular parameters change Cell color and first division color by clicking on the swatches
	Render. Really weird! Try playing with some of the other Cellular settings. Eventually we will animate these materials and we can make them move and ooze across the objects surface. Its pretty cool but kind of creepy!

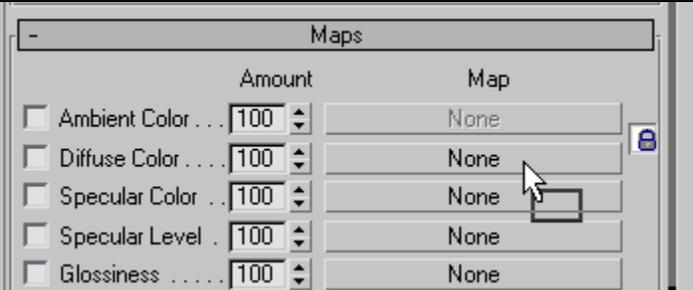|	
Shader Basic Parameters Blinn ▼ □ Wire □ 2-Sided □ Face Map □ Faceted + Maps - Blinn Basic Parameters Self-Illumination	Lets try a different one. First select a new unused shader in the Material Editor. Open the Maps rollout as before
□ Opacity . . . . [100] ⬍ None □ Filter Color . . . . . [100] ⬍ None □ Bump . . . . [30] ⬍ None □ Reflection . . . . . [100] ⬍ None □ Refraction . . . . . [100] ⬍ None	Now, select the word "None" next to Bump
Material/Map Browser ? ? [　　　] Dent ≣ ≣ • ● │ ⅛ ✕ ▣ 🟩 Adobe Photoshop Plug-In Filter 🟩 Adobe Premiere Video Filter 🟩 Bitmap 🟩 Bitmap HDR 🟩 Bricks Browse From: 🟩 Cellular ○ Mtl Library 🟩 Checker ○ Mtl Editor 🟩 Combustion ○ Active Slot 🟩 Composite ○ Selected 🟩 Dent ○ Scene 🟩 Falloff ● New 🟩 Flat Mirror	Double Click on Dent
- Dent Parameters Size: [70.0] ⬍ Strength: [10.0] ⬍ Iterations: [1] ⬍ Maps Swap Color #1 [▇] None ☑ Color #2 [　] None ☑	In the Dent Parameters change Size to 70, Strength to 10 and Iterations to 1

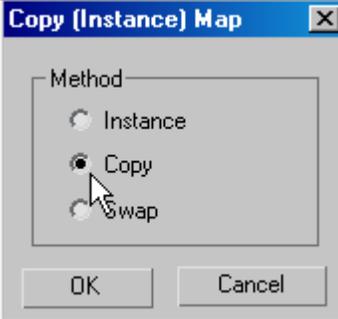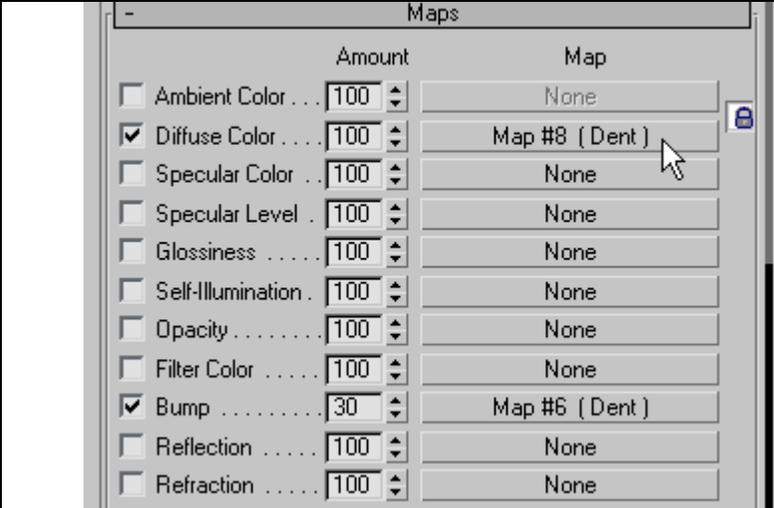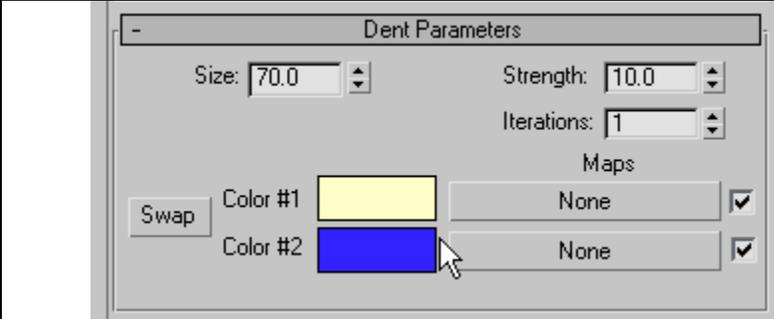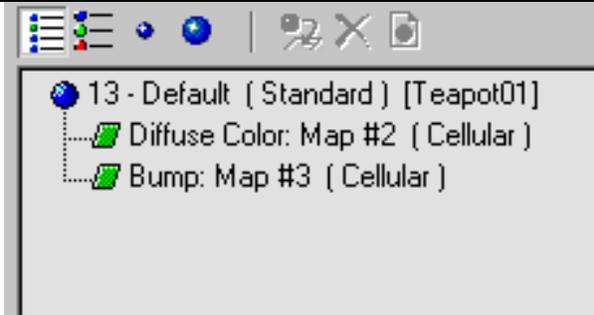|	
	Render and we get dents
	We need to go up a level in the material editor so select the Go to Parent icon
	How do you know where you are in the Material Hierarchy? If neither of these arrows are black, you are at the parent level
	Next, left click and drag on the word "Dent" in the Bump slot to the Diffuse slot. Release the left button
	Select Copy

Maps Amount · · · · · · · · · · · · Map ☐ Ambient Color . . . `100` ⬍ None ☑ Diffuse Color . . . . `100` ⬍ Map #8 (Dent) ☐ Specular Color . . `100` ⬍ None ☐ Specular Level . `100` ⬍ None ☐ Glossiness . . . . . `100` ⬍ None ☐ Self-Illumination . `100` ⬍ None ☐ Opacity . . . . `100` ⬍ None ☐ Filter Color . . . . . `100` ⬍ None ☑ Bump . . . . `30` ⬍ Map #6 (Dent) ☐ Reflection . . . . . `100` ⬍ None ☐ Refraction . . . . . `100` ⬍ None	Now we have dent in two places, the Bump slot and the Diffuse slot
Dent Parameters Size: `70.0` ⬍ Strength: `10.0` ⬍ Iterations: `1` ⬍ Maps Color #1 ▭ None ☑ Swap Color #2 ▭ None ☑	Click on Dent in the Diffuse slot and change the color swatches. Now we can make the dents have different colors
	Render

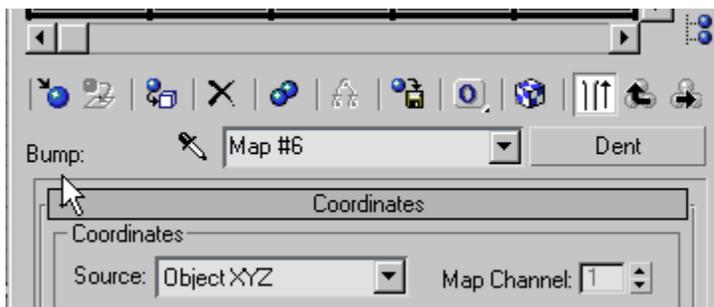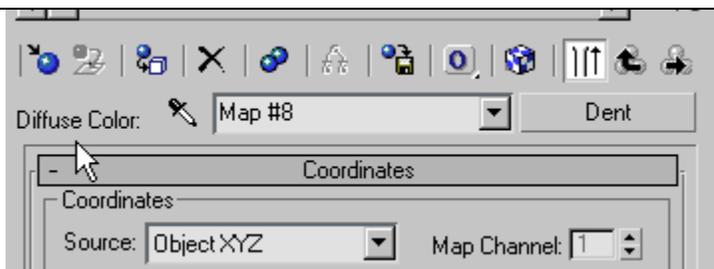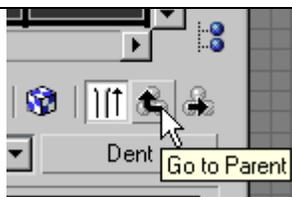|	
13 - Default (Standard) [Teapot01] Diffuse Color: Map #2 (Cellular) Bump: Map #3 (Cellular)	All this stuff about materials, parents and siblings sounds confusing. This is what the Hirachy of the material we just made looks like. The Blue sphere is the Parent Material, it's the original shader we started with. The two green parallelograms represent the two children
	We can edit the material at different levels. At the parent level and the children level. Use arrows to navigate
Dent Go Forward to Sibling Bump: Map #6 Dent Coordinates Coordinates Source: Object XYZ Map Channel: 1	If I pick the Go Forward to Sibling Icon, I move back and forth between the Siblings, Bump and Diffuse Go ahead a click once, now I'm at the Bump Child
Diffuse Color: Map #8 Dent Coordinates Coordinates Source: Object XYZ Map Channel: 1	Go ahead a click the Go Forward to Sibling icon again and I'm back to the Diffuse Child
Dent Go to Parent	Click this one and you go back to the Parent level, our original shader.