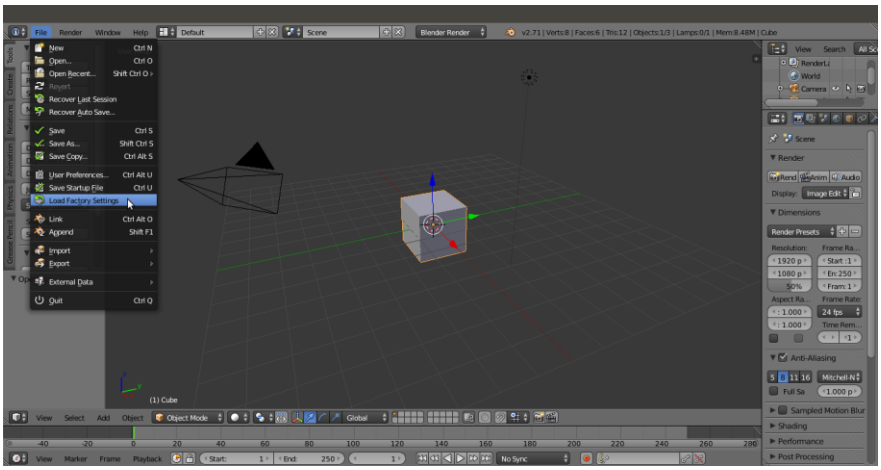
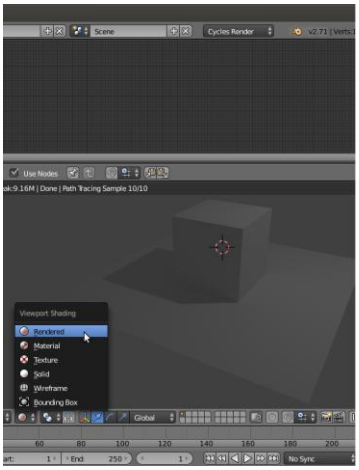
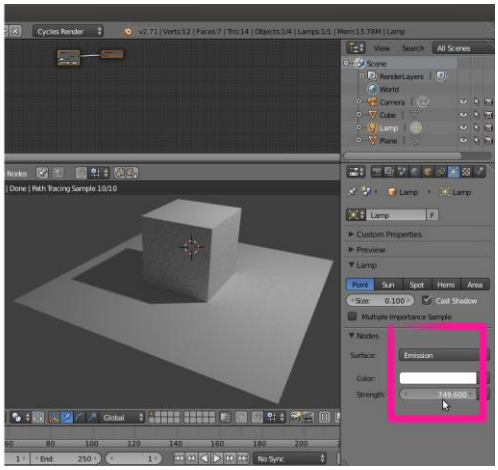
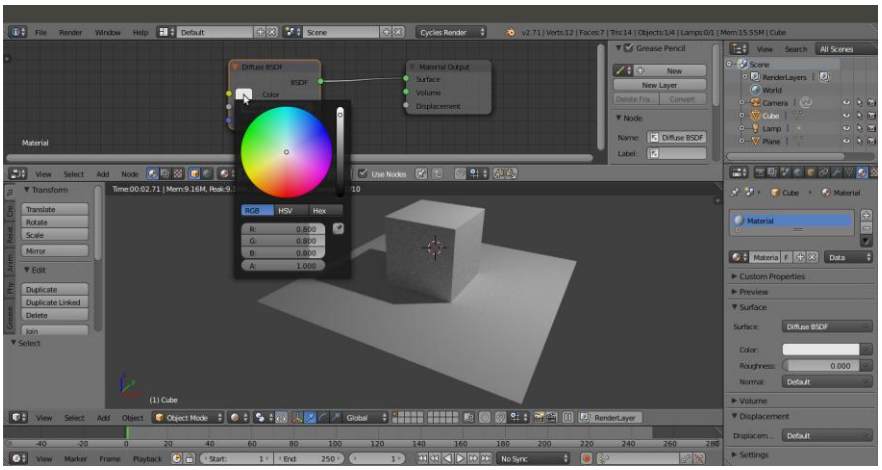
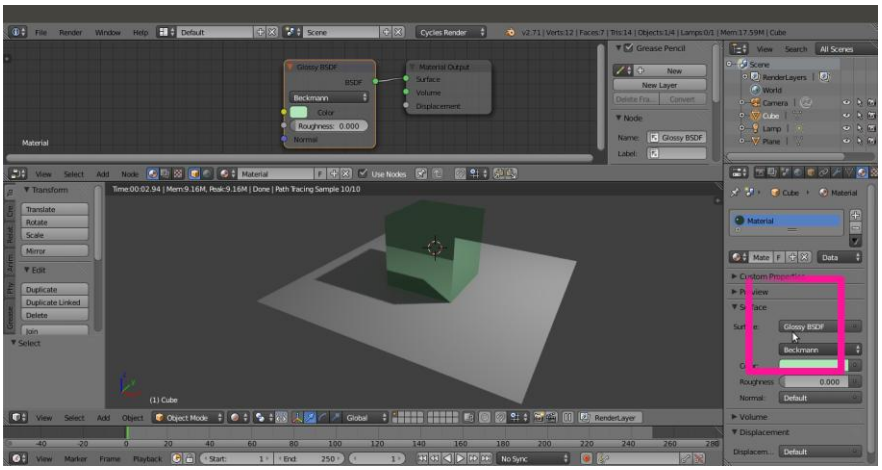
Chapter 1: Overview of Materials in Cycles

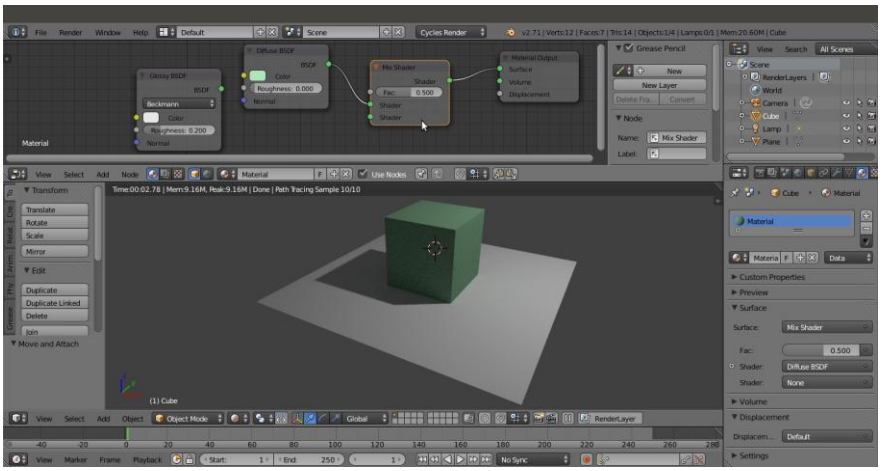


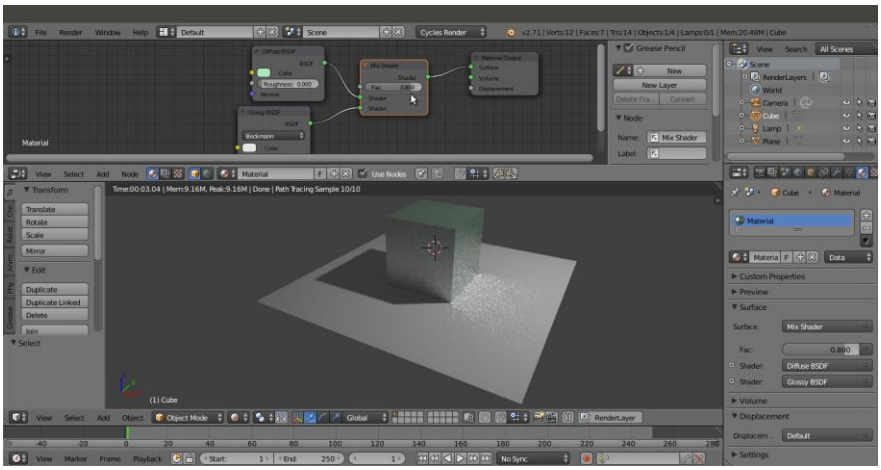


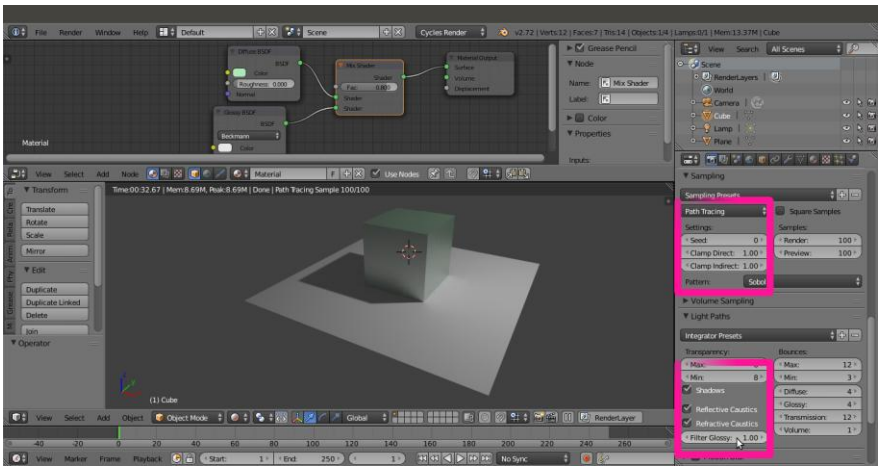


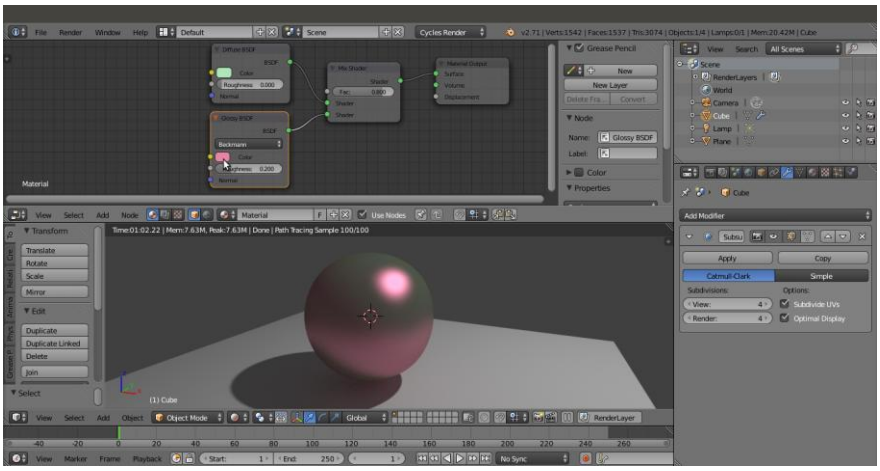


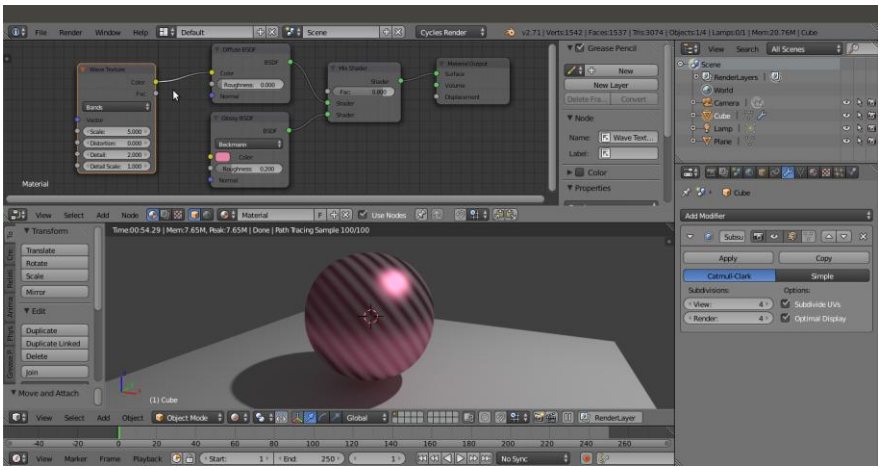


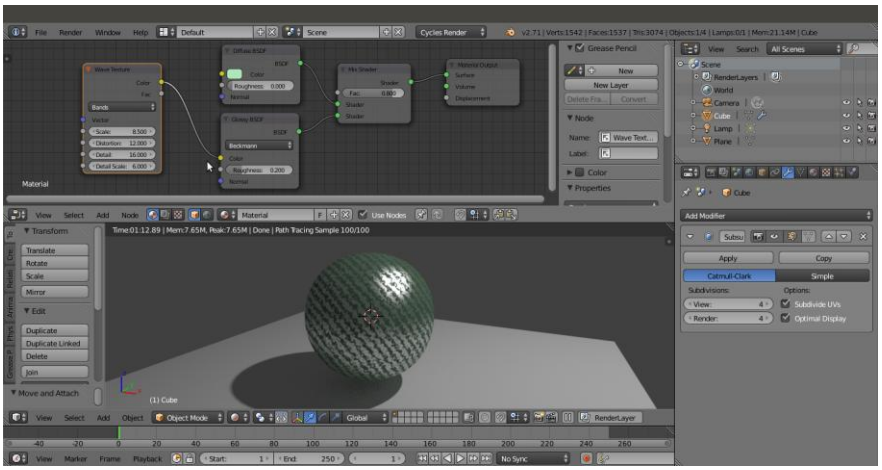


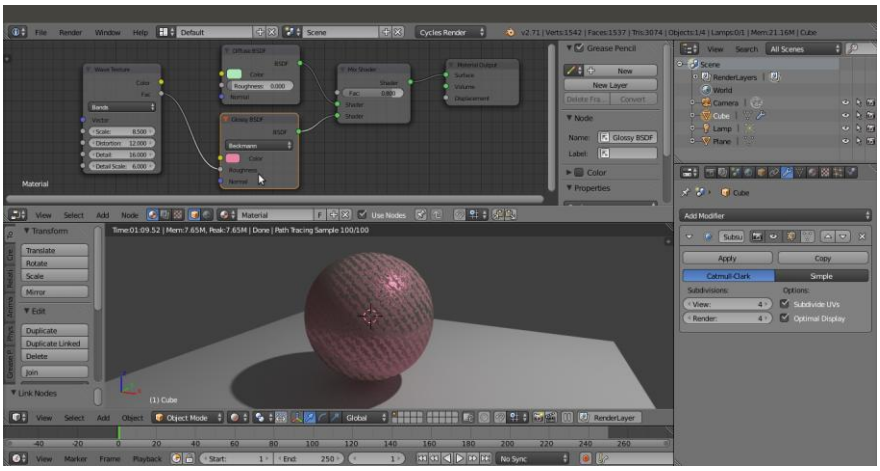


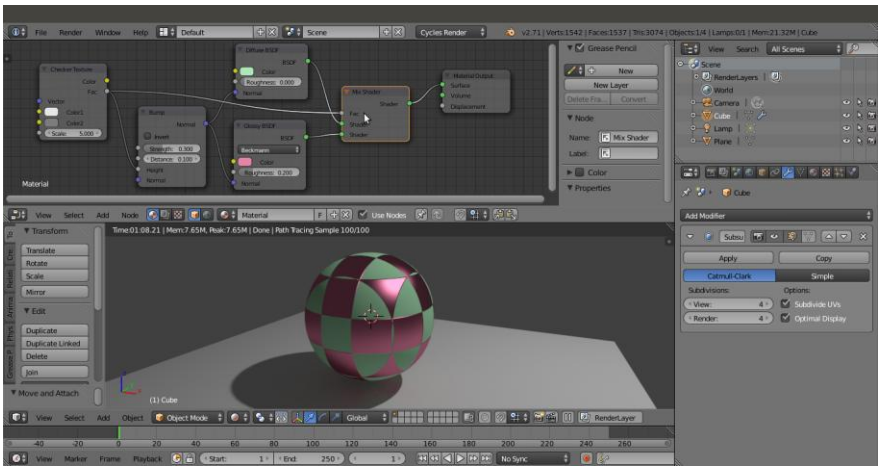


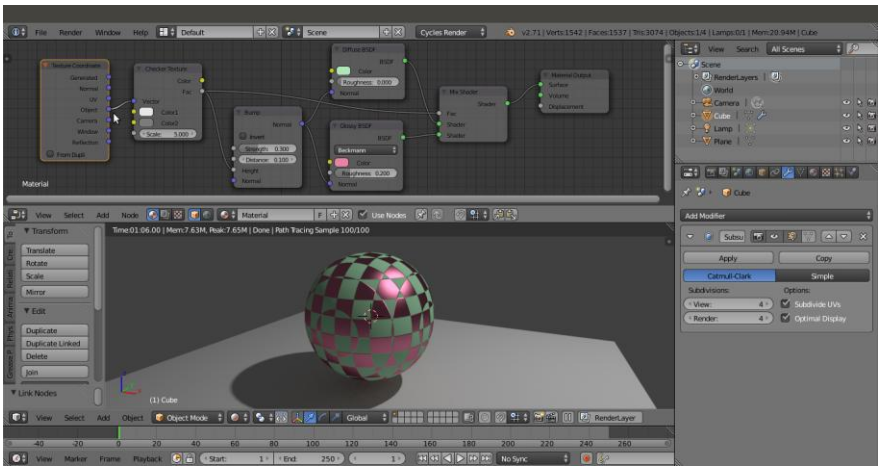


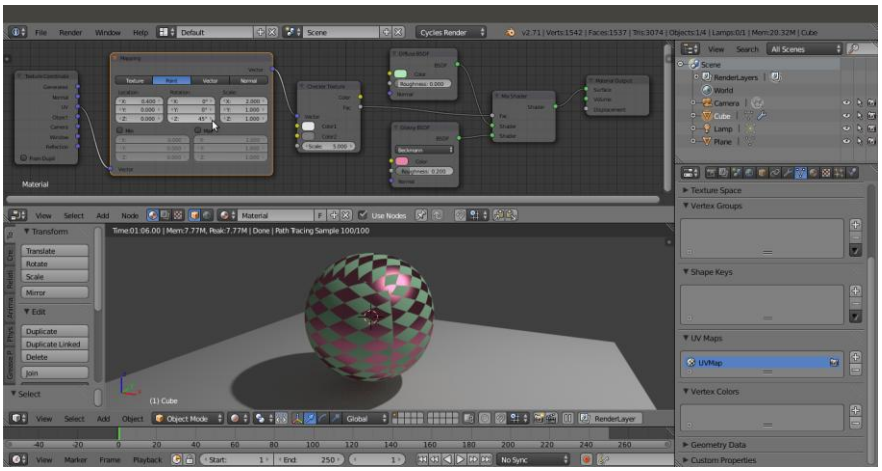


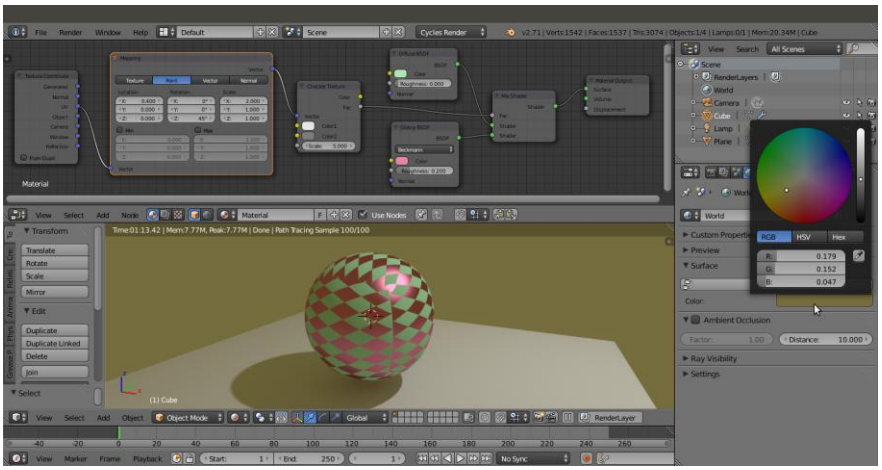


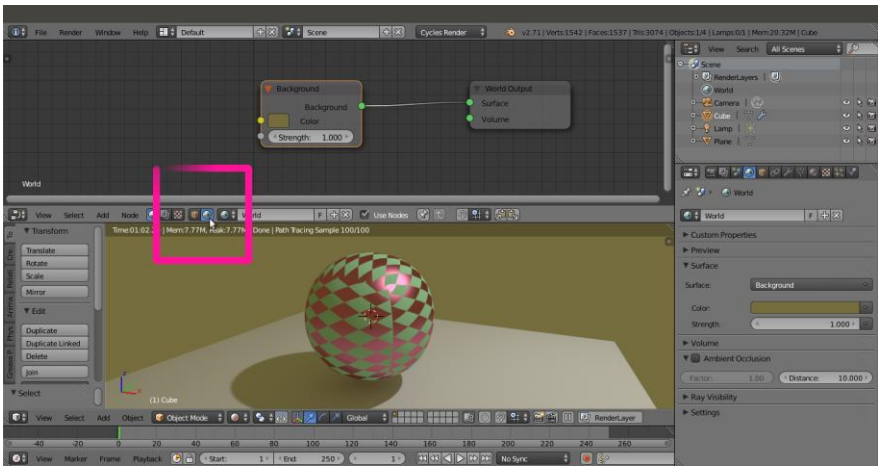


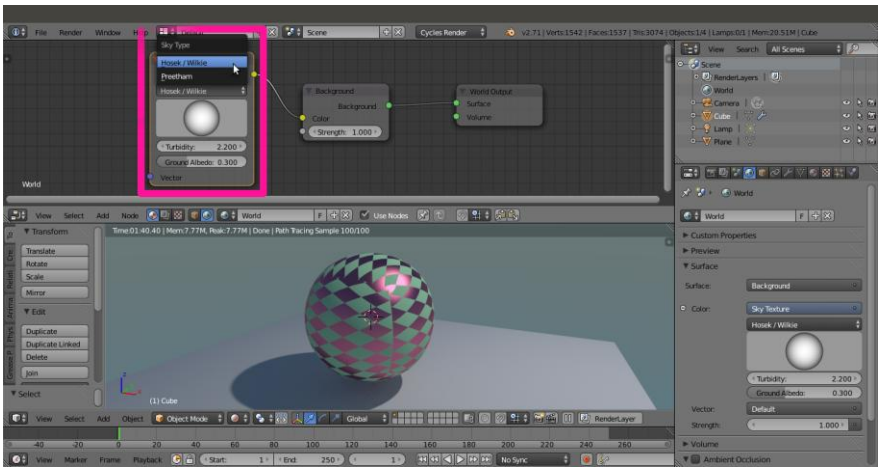


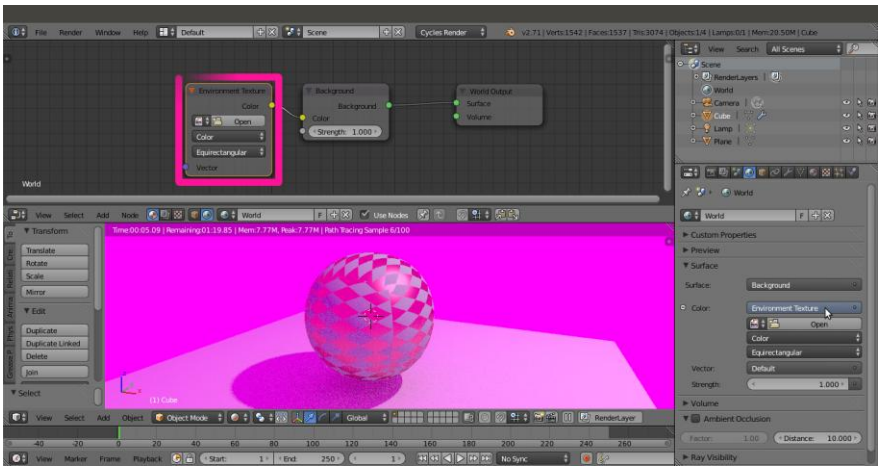


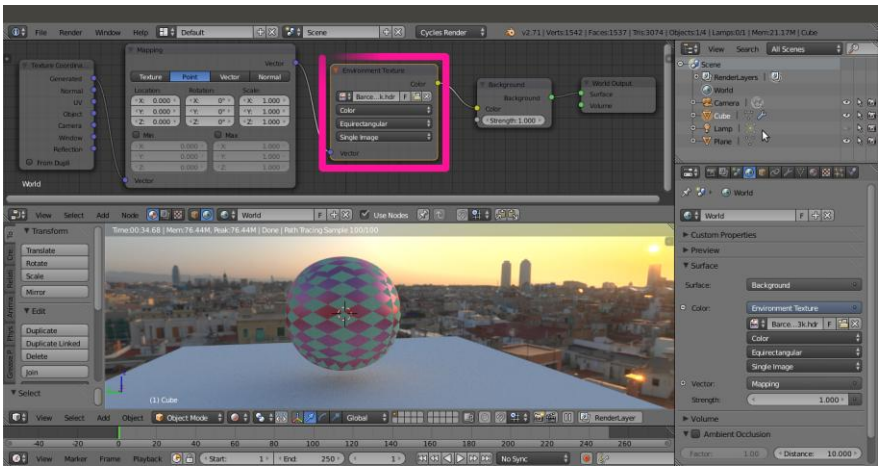


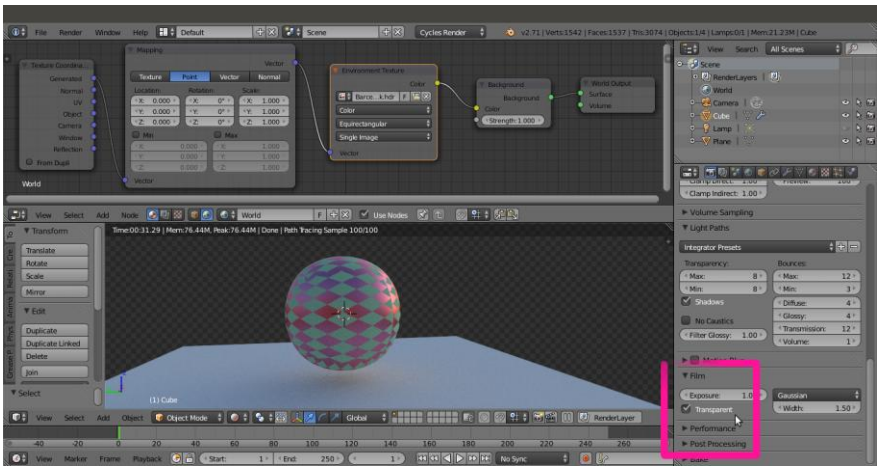


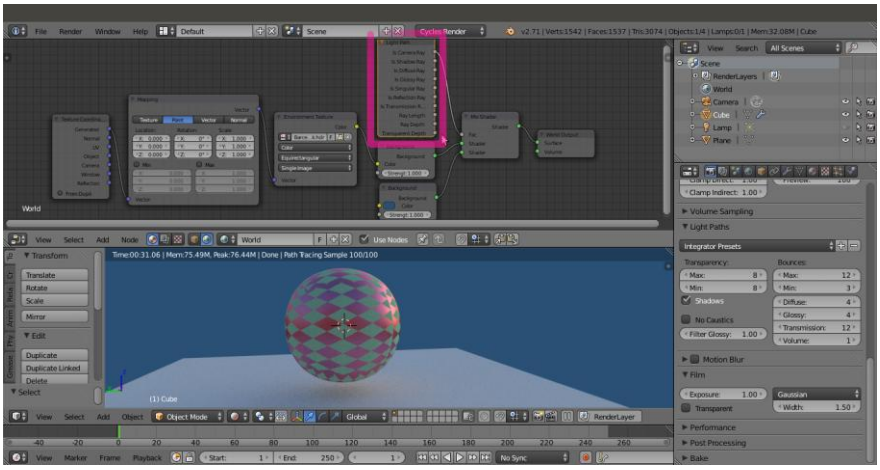


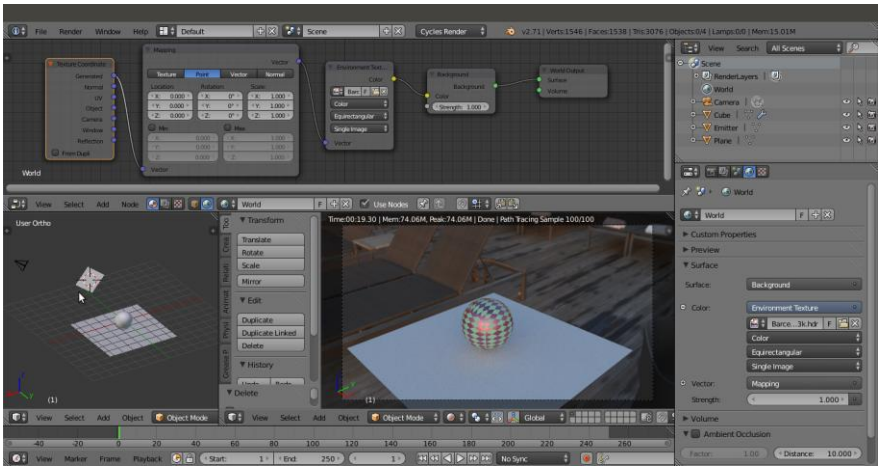


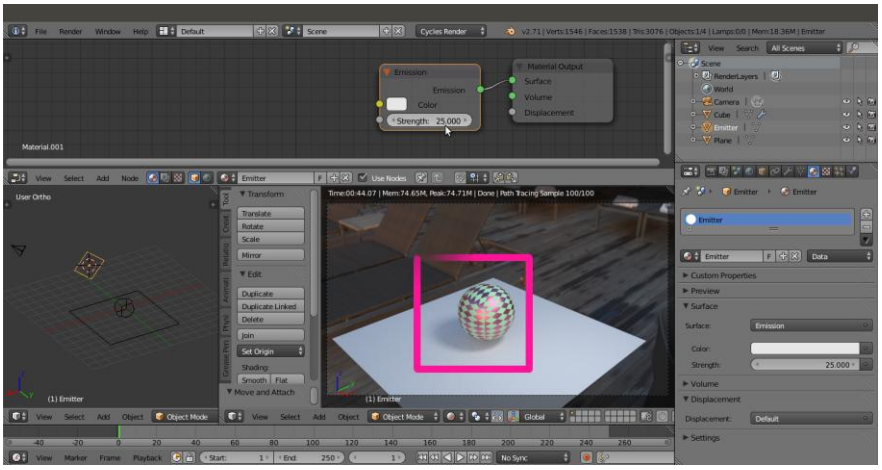


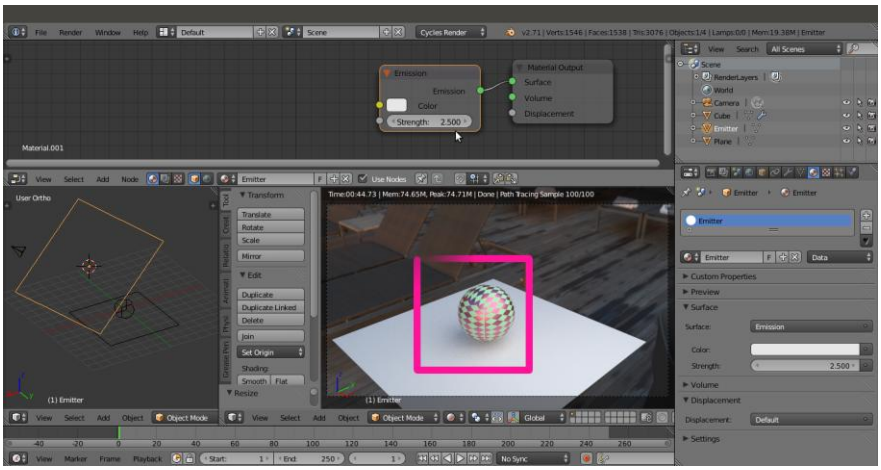


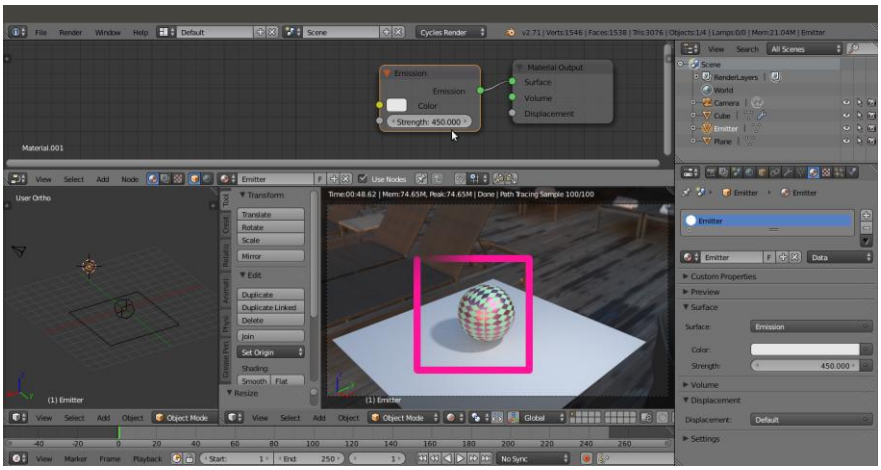


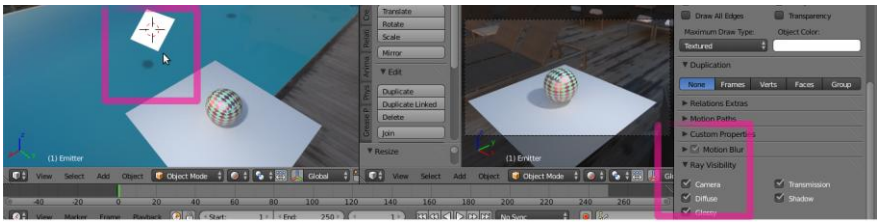


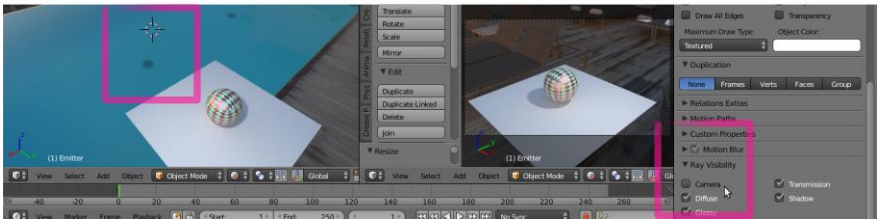


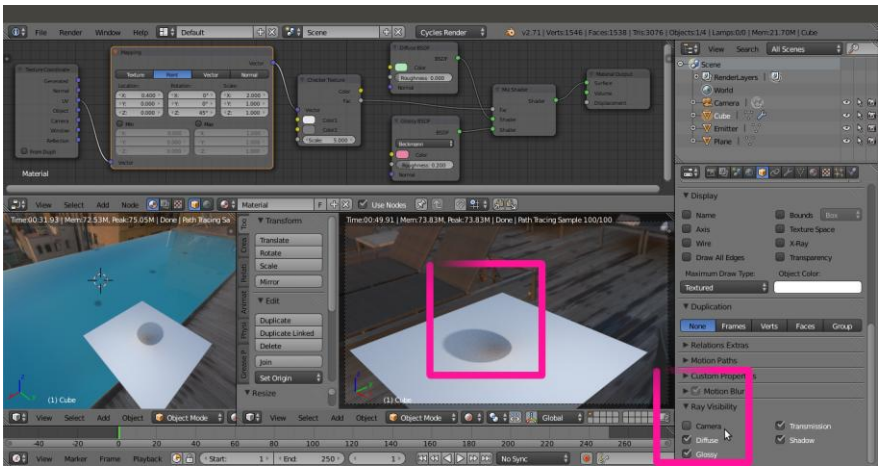


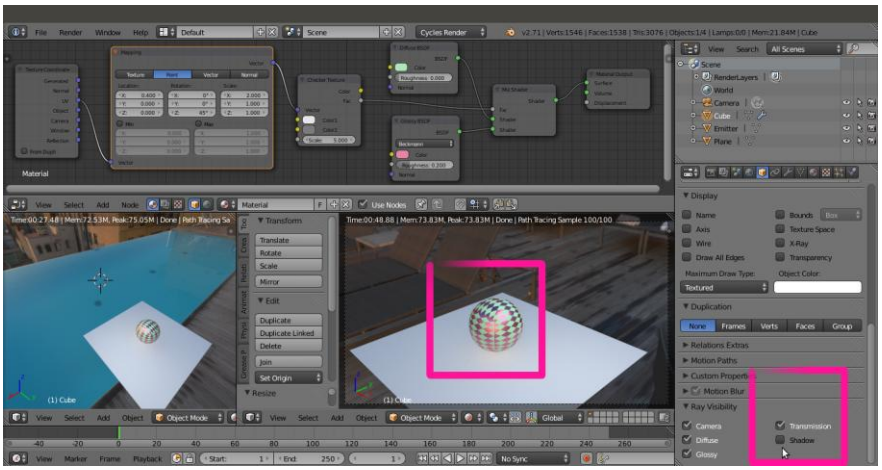


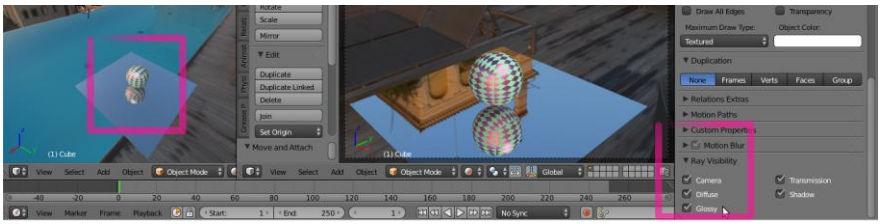


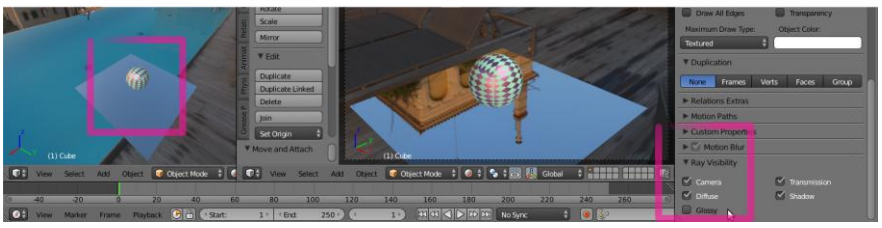


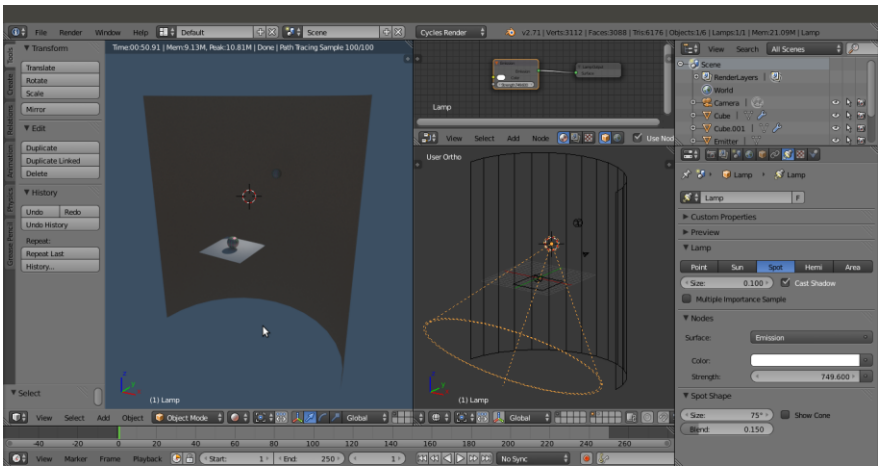


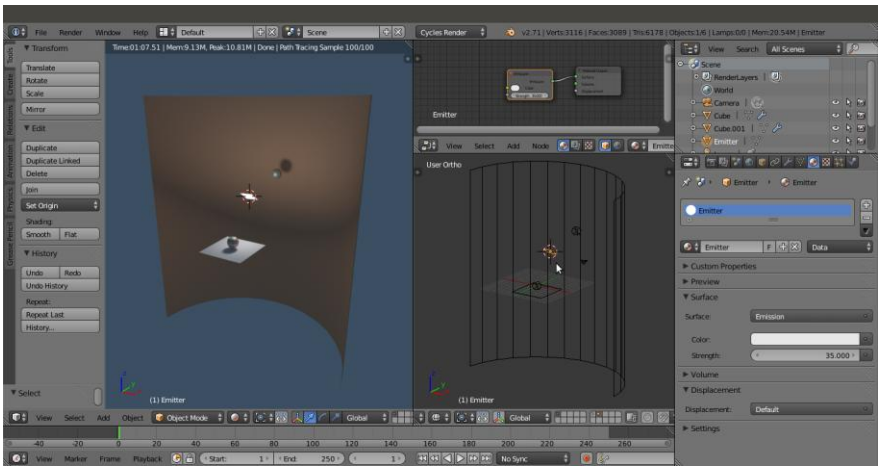


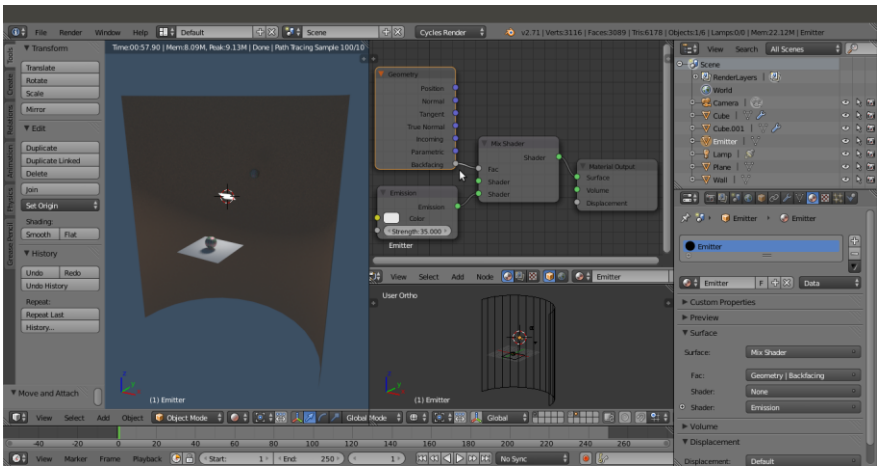


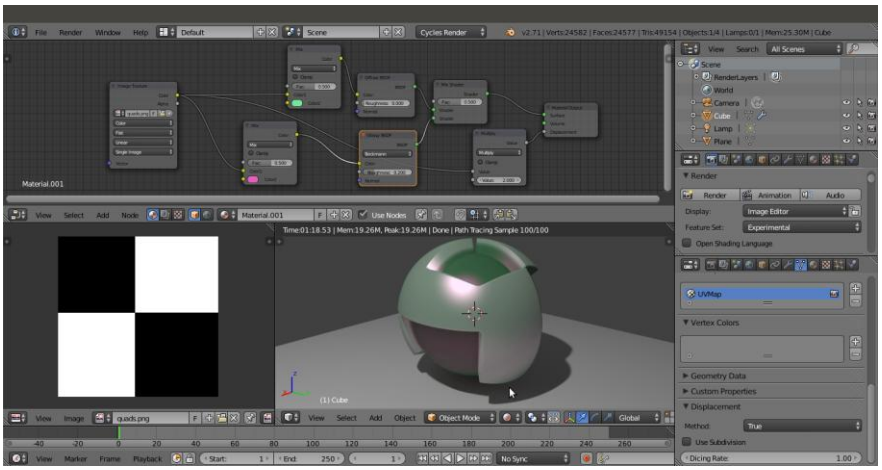


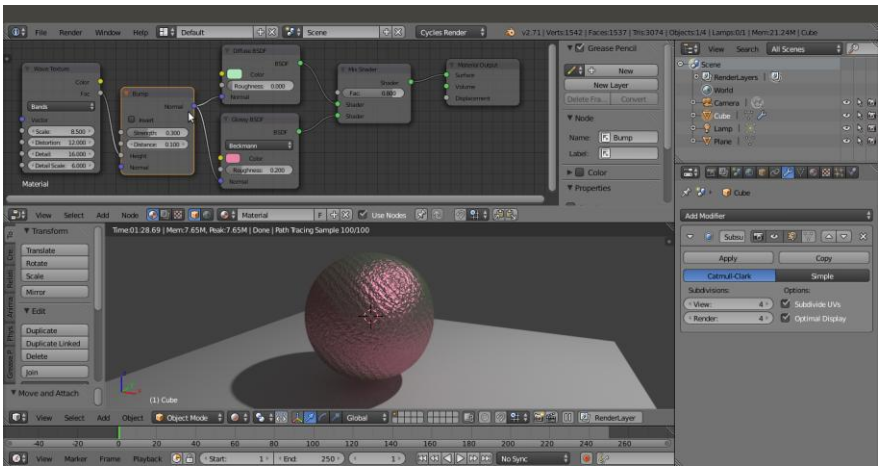


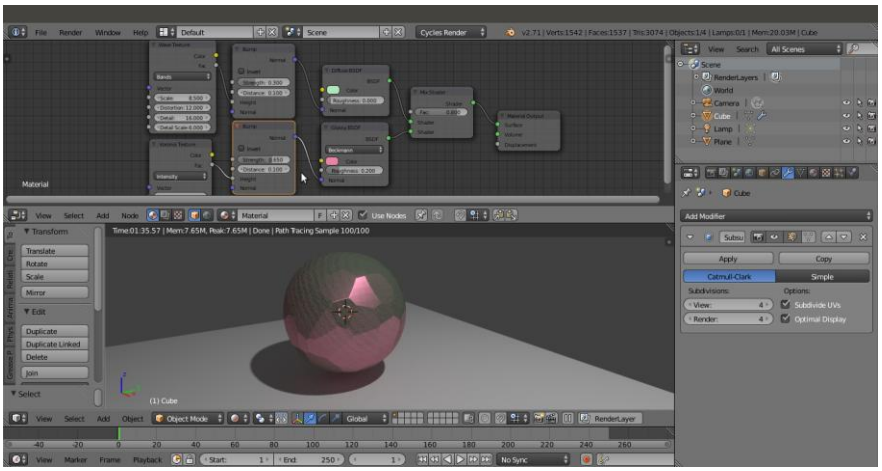


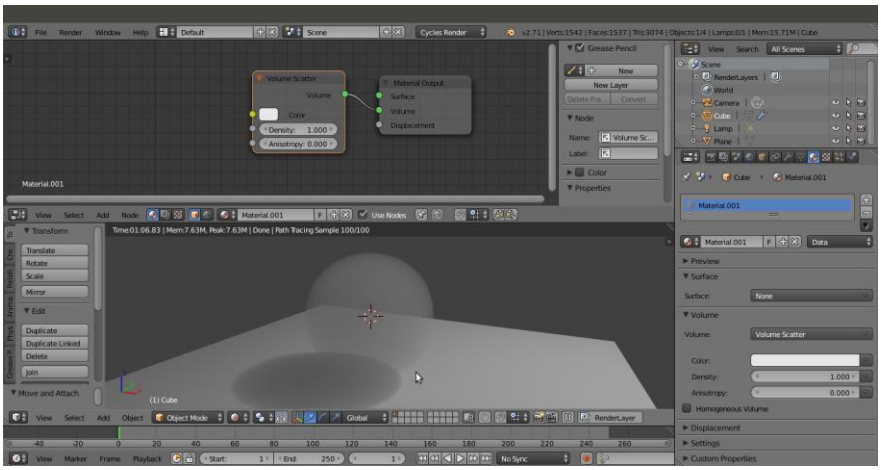


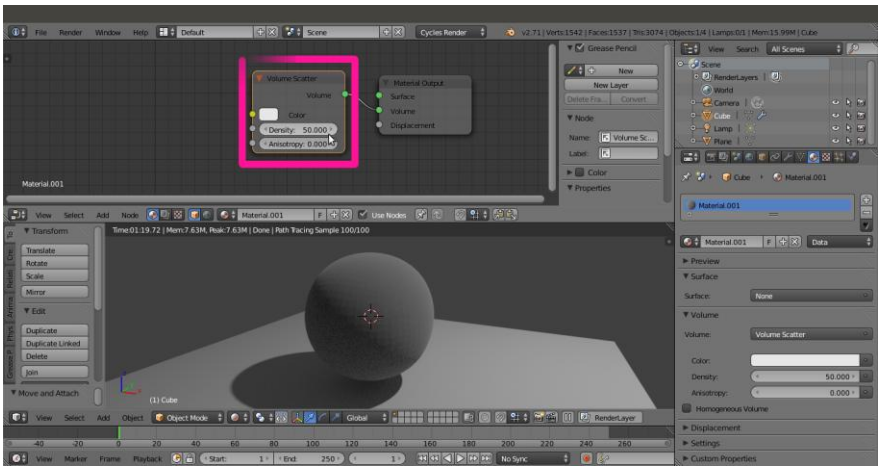


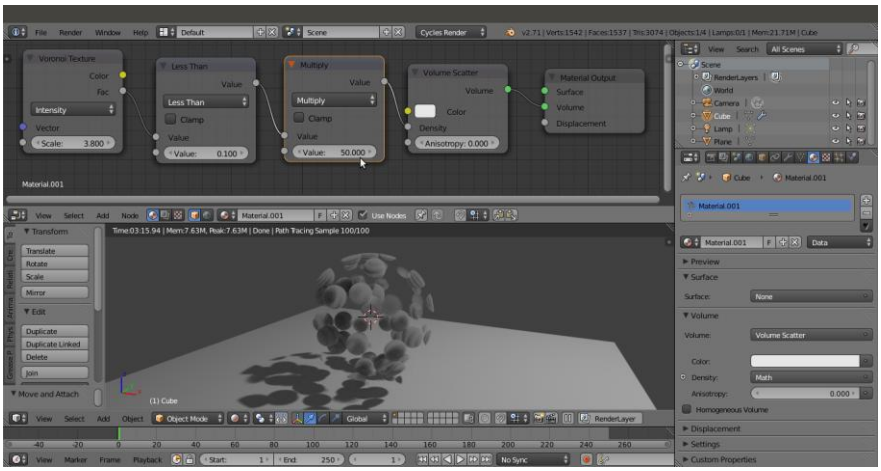


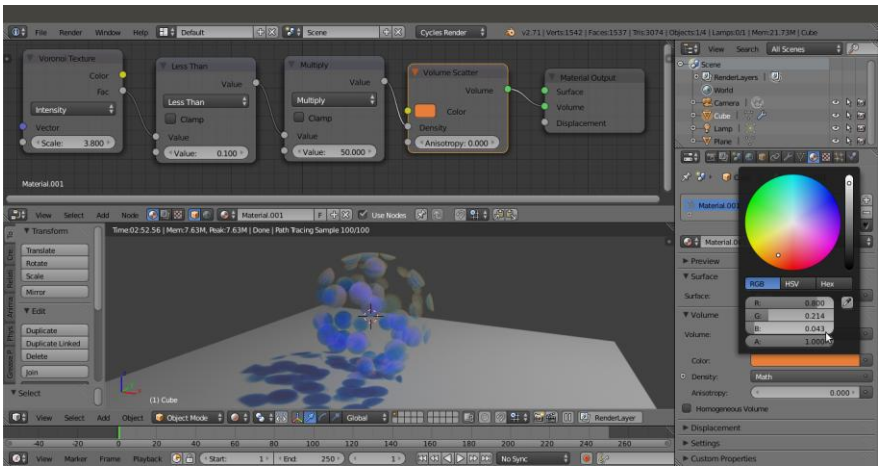


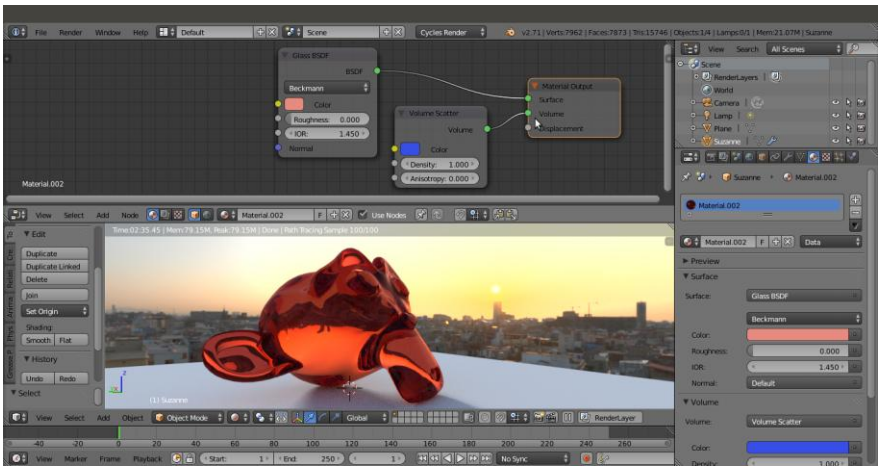


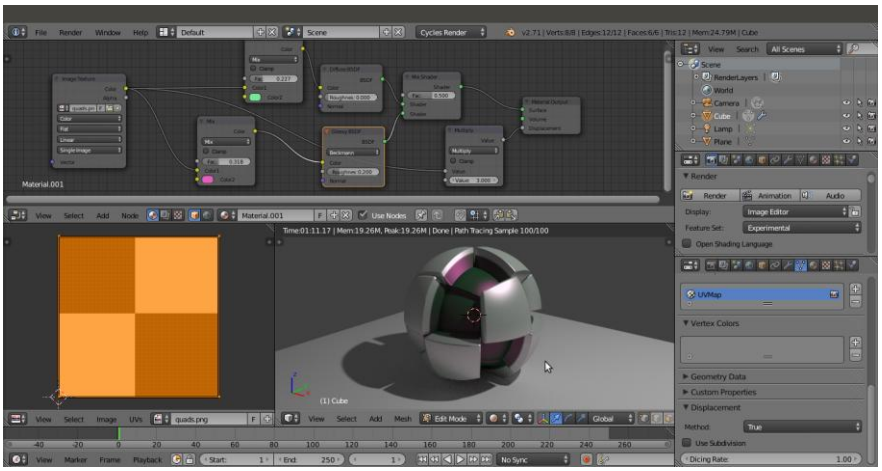




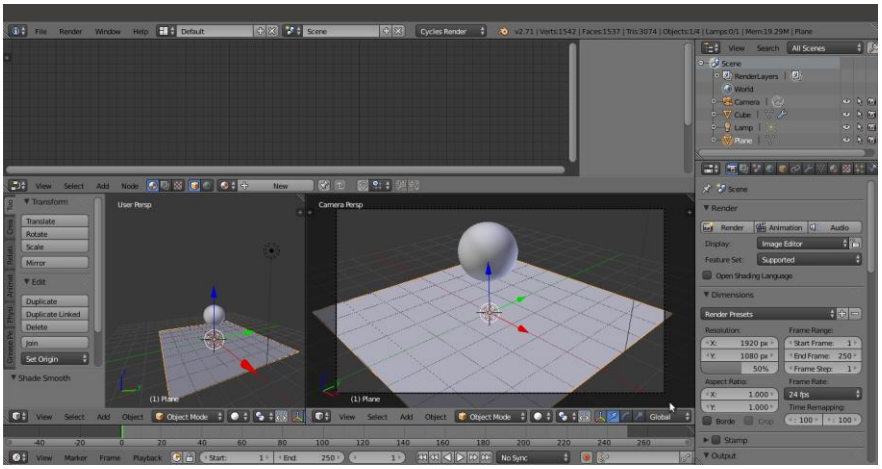


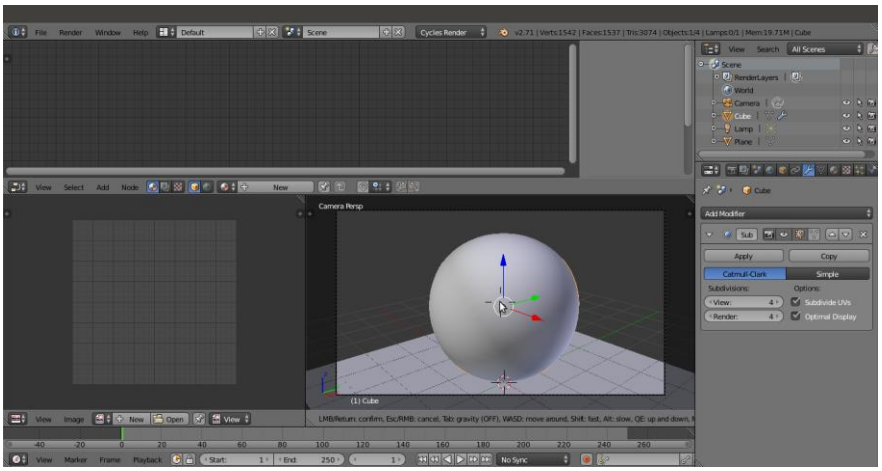


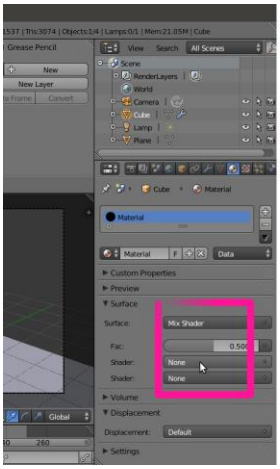


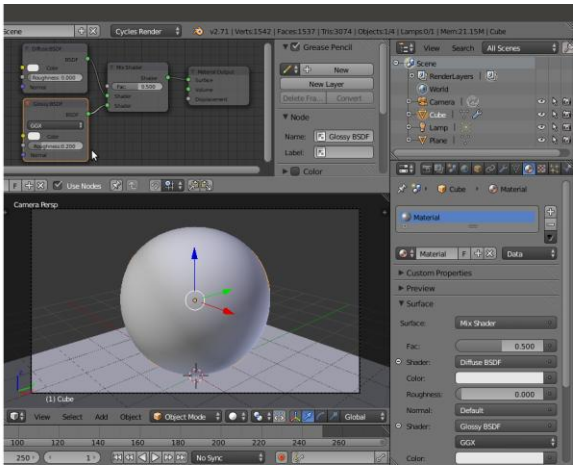


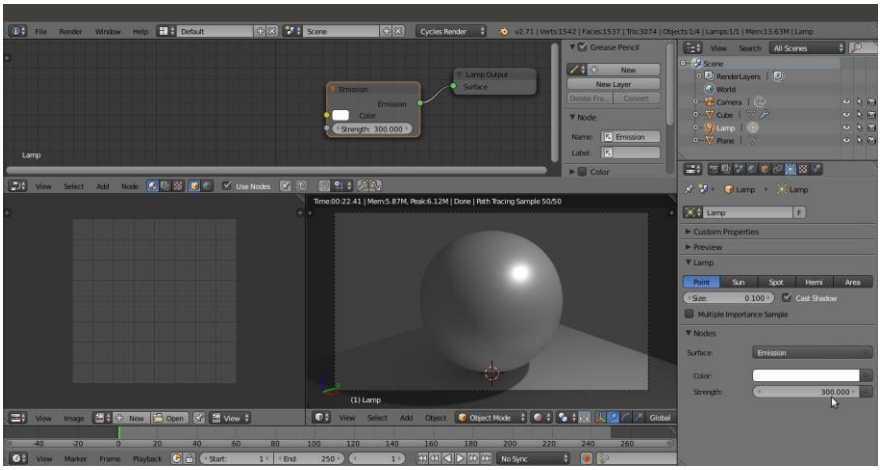
Chapter 2: Managing Cycles Materials

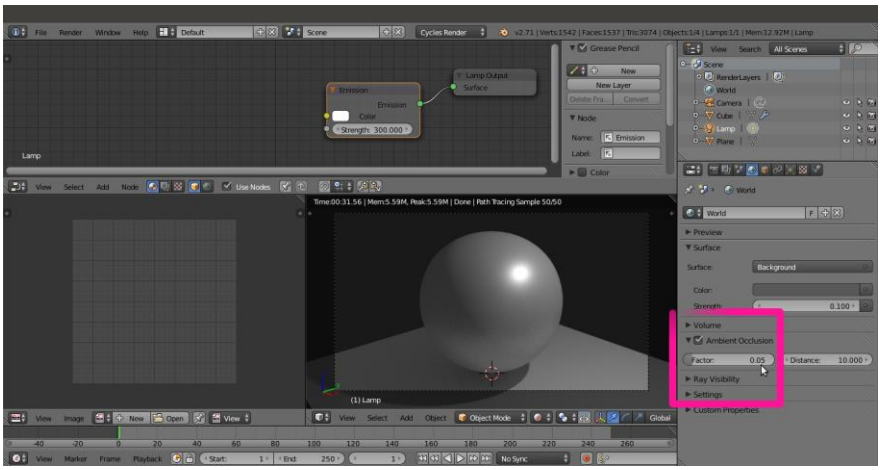


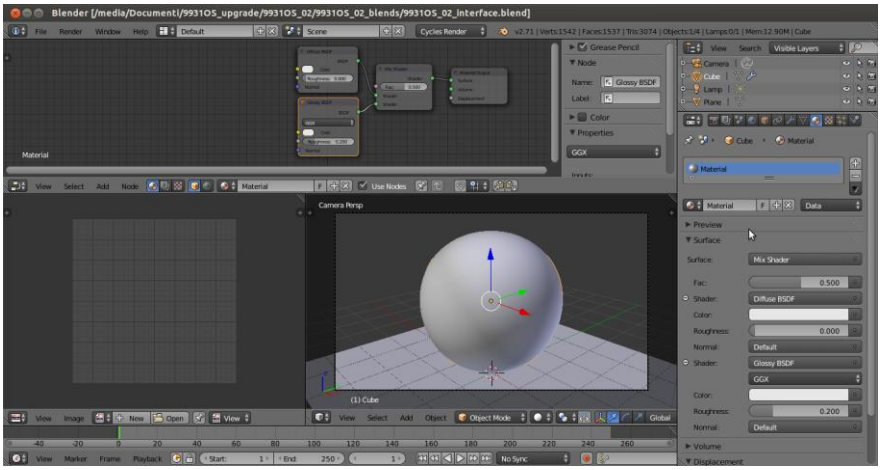


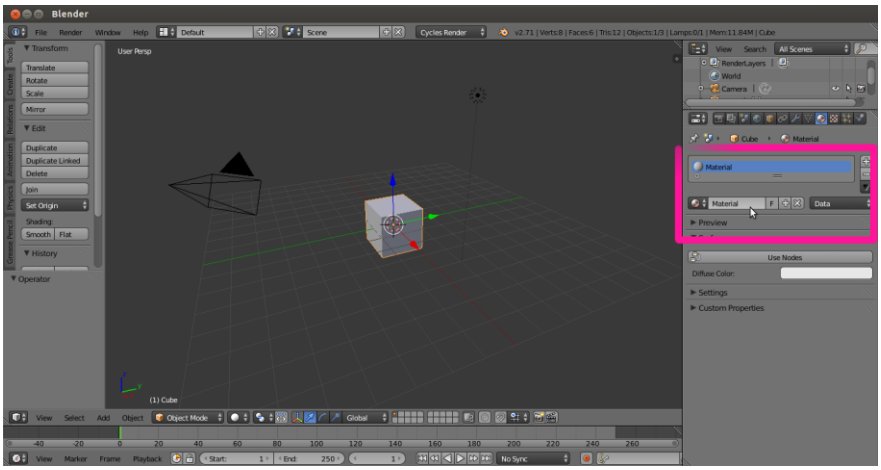








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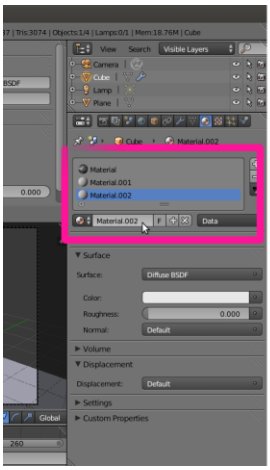

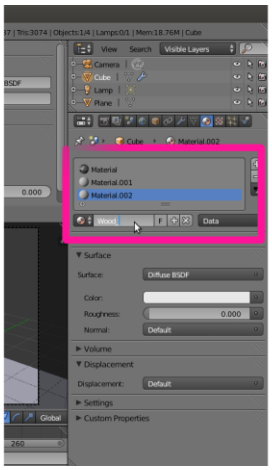

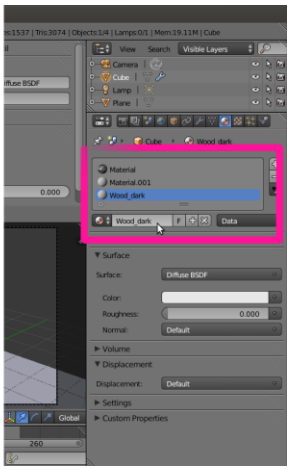

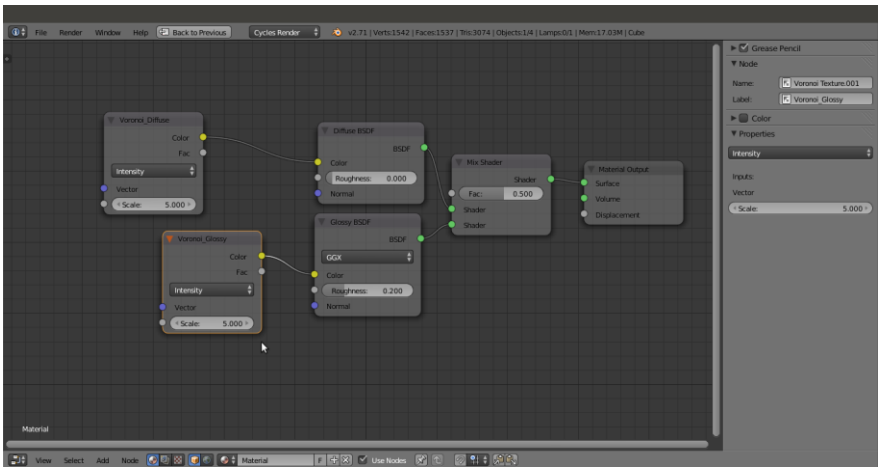
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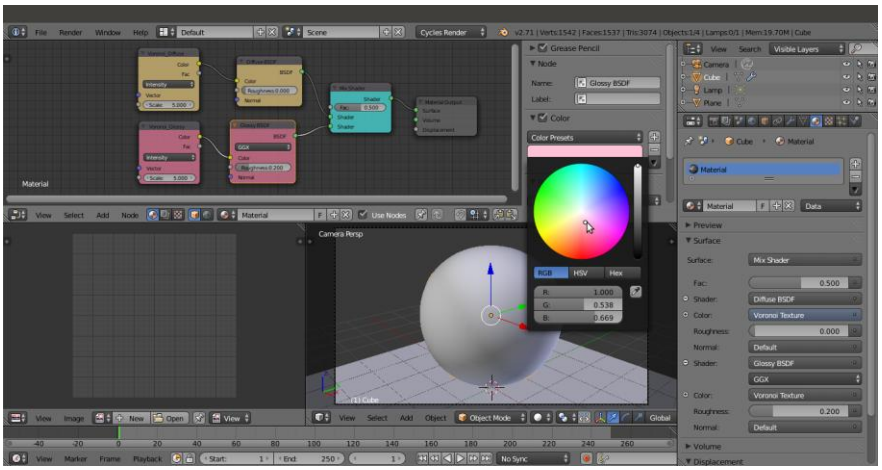
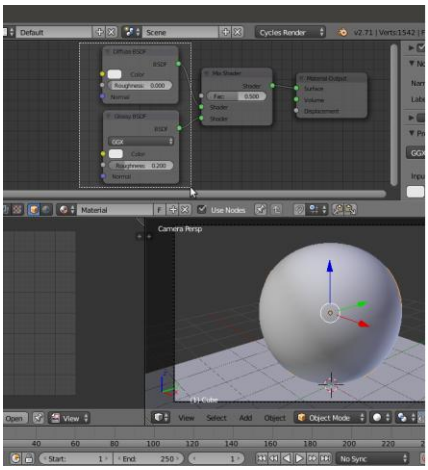
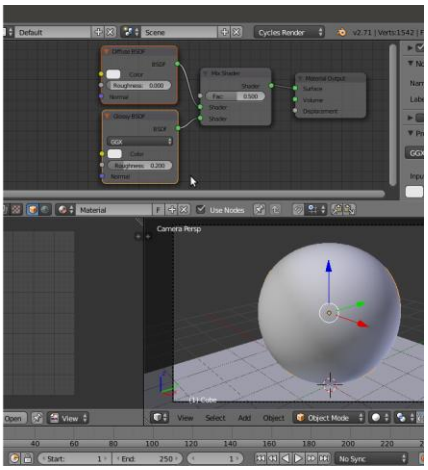
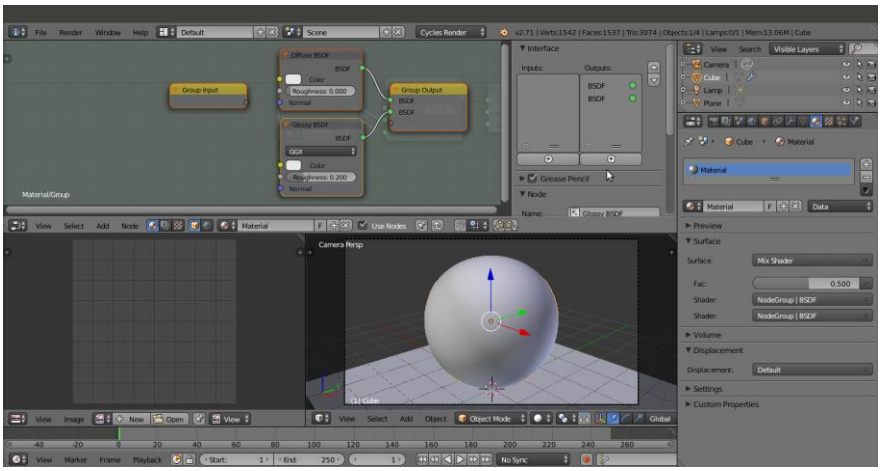
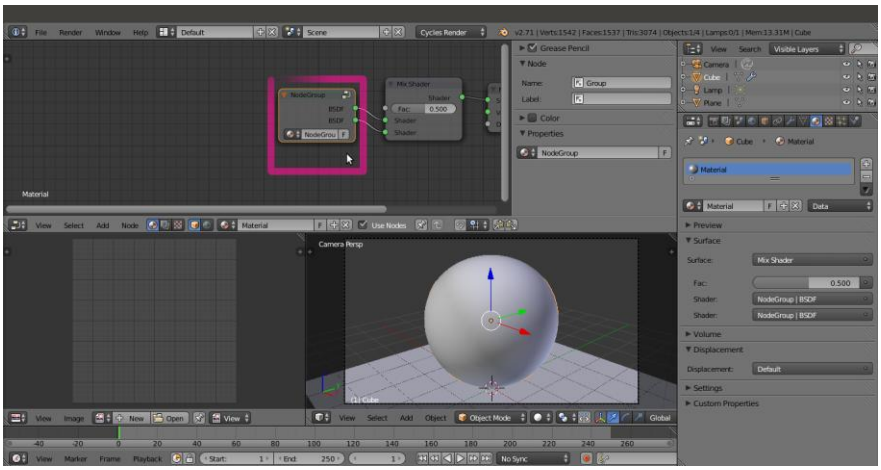
Mix Shader
Material Output
Voronoi_Glossy
Glossy BSDF
Material

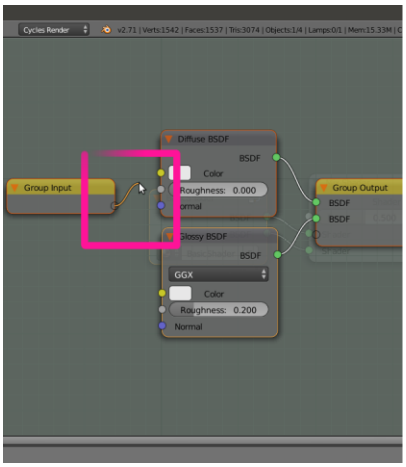








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BSDF
Color
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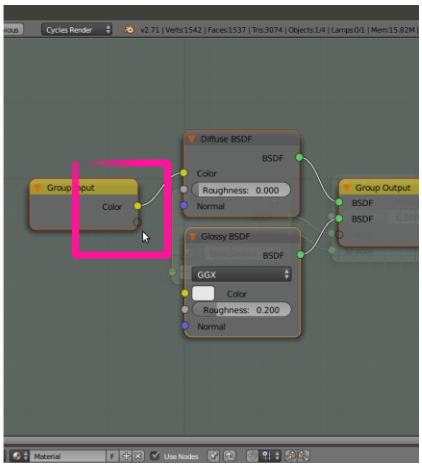
Normal
Group Input
Group Output
BSDF
Glossy BSDF
GGX
Color
Roughness: 0.200
Normal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BSDF
Color
Roughness: 0.000
Normal
Group Output
BSDF
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GGX
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Roughness: 0.200
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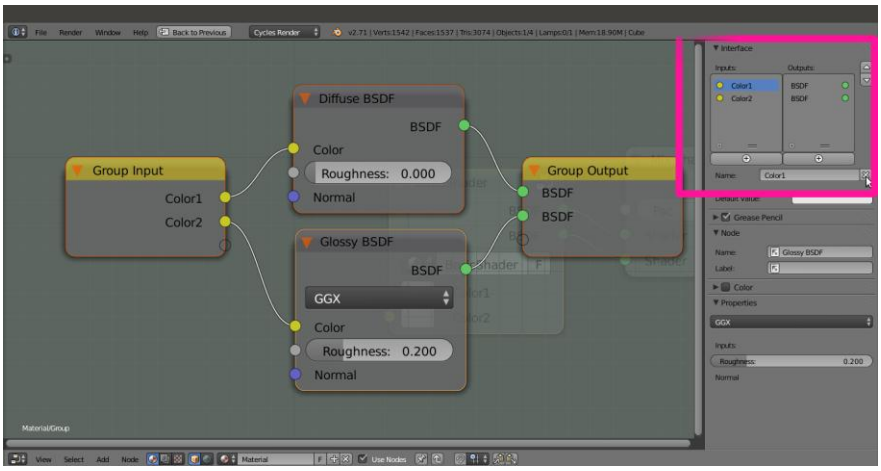
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BSDF
Color
Roughness: 0.000
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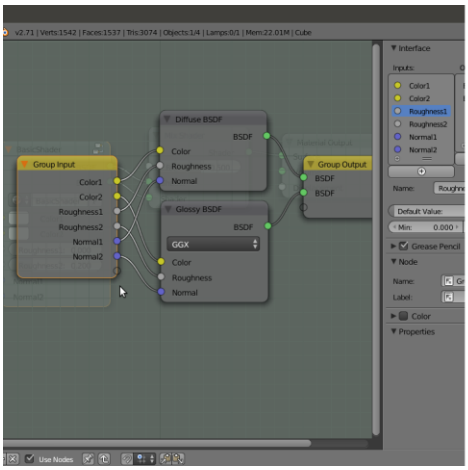

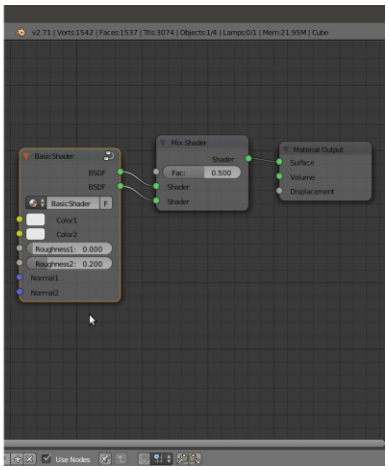

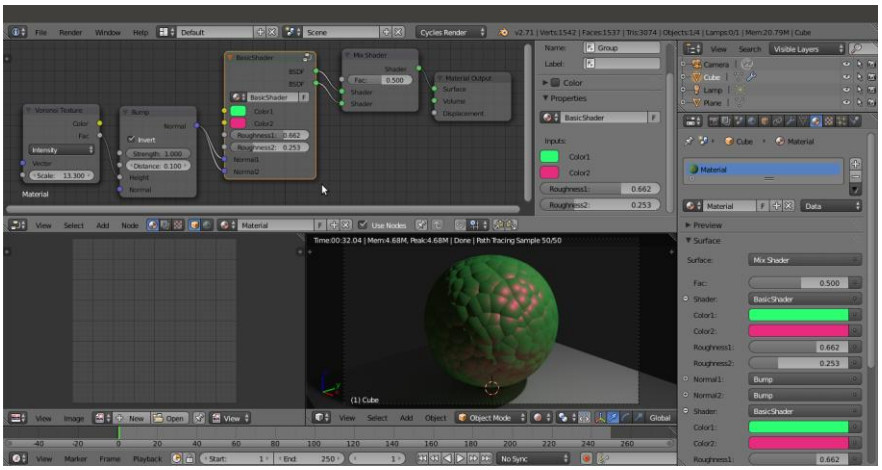

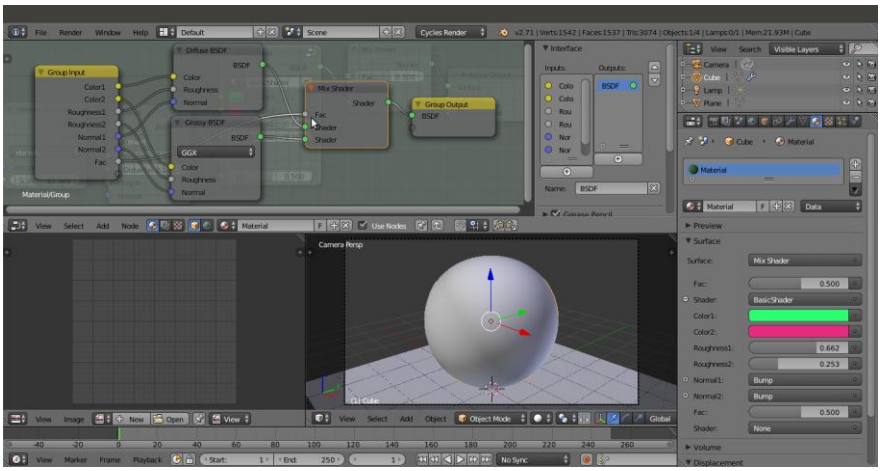

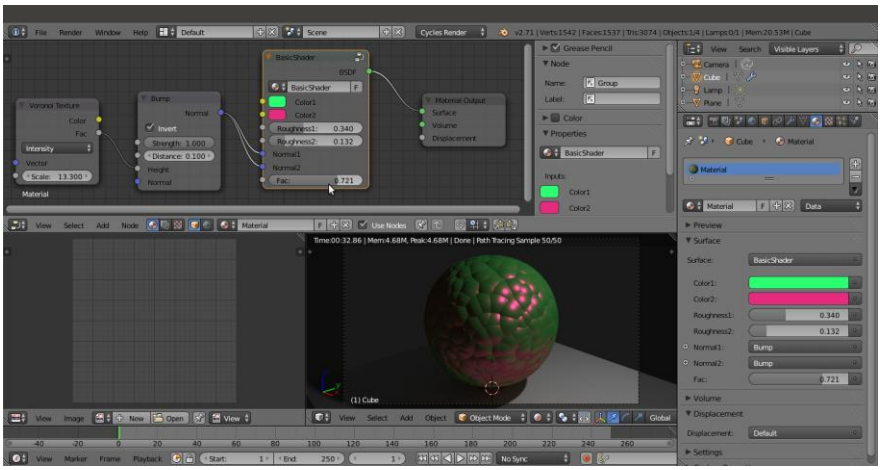

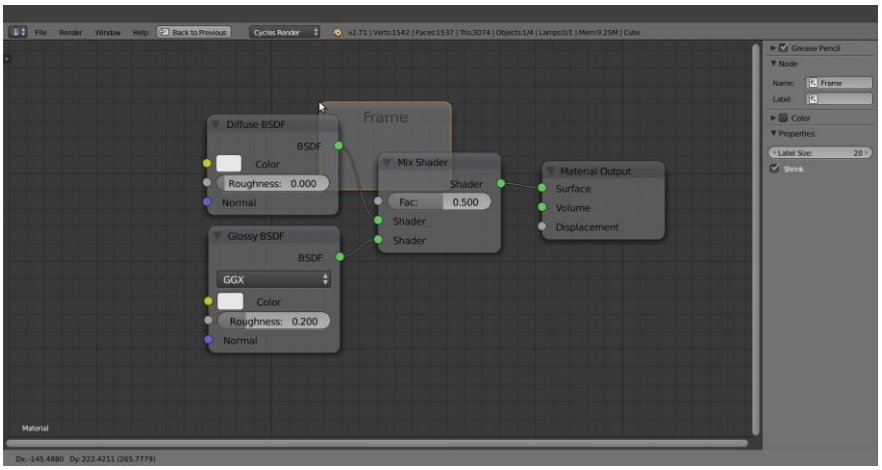
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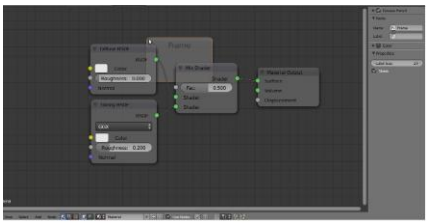
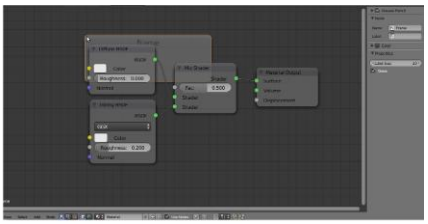
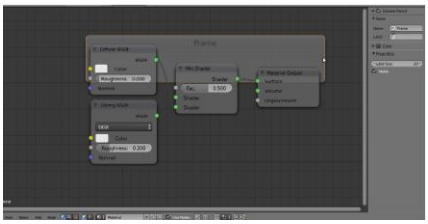
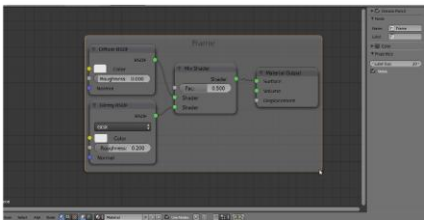
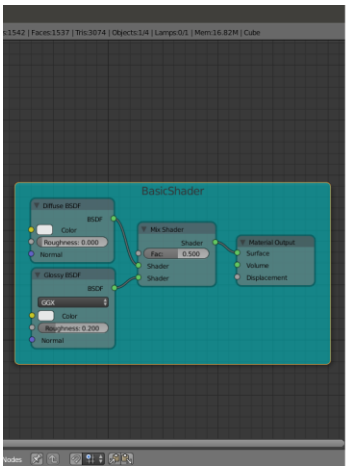
BSDF
Color
Roughness: 0.000
Normal
Mix Shader
Shader
Fac: 0.500
Shader
Shader
Material Output
Surface
Volume
Displacement
Glossy BSDF
BSDF
GGX
Color
Roughness: 0.200
Normal

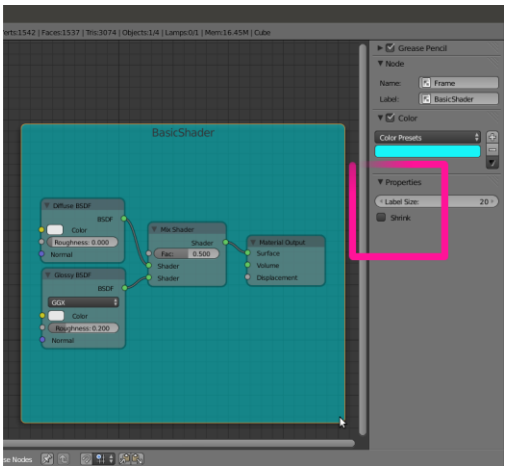


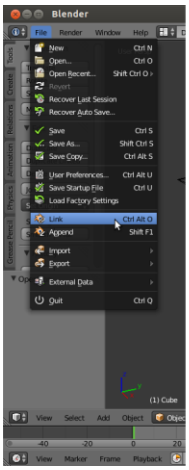


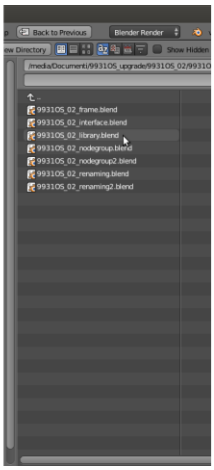


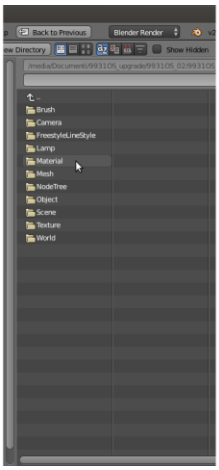




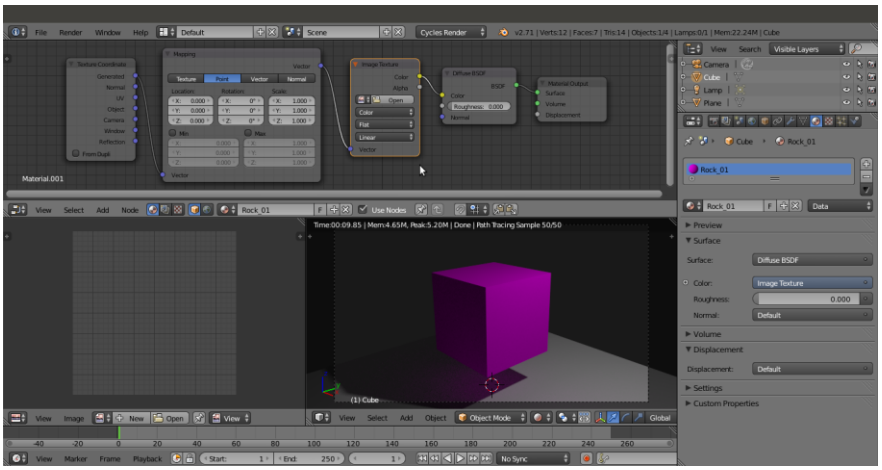


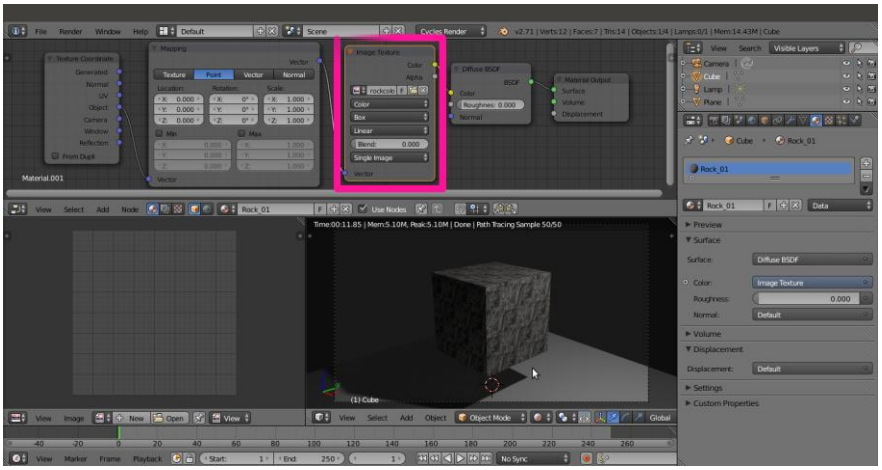






Chapter 3: Creating Natural Materials in Cycles


Material.001
Rock_01
Time:00:09.85 | Mem:4.65M, Peak:5.20M | Done | Path Tracing Sample 50/50
(1) Cube


Material.001
Rock_01
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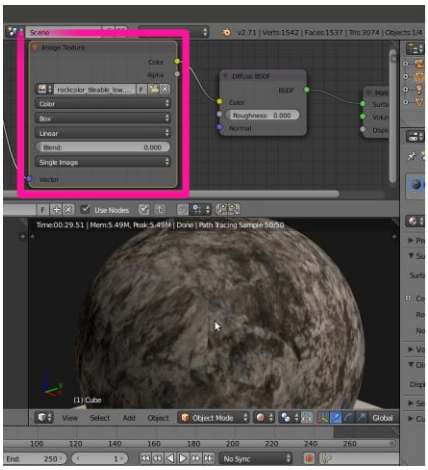
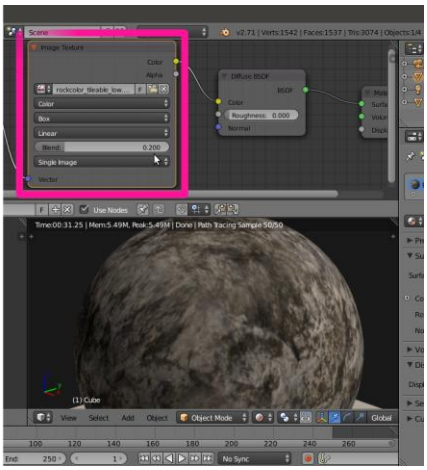
(1) Cube





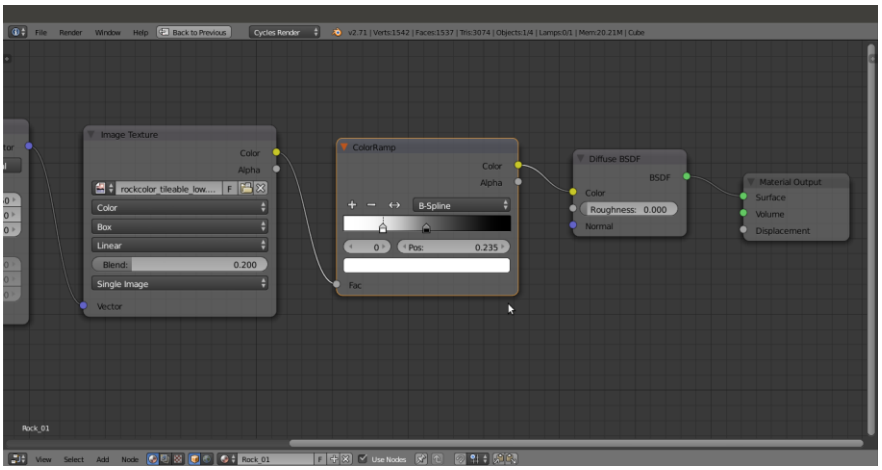


Image Texture
Color
Alpha
rockcolor_tileable_low....
Color
Box
Linear
Blend: 0.200
Single Image
Vector
ColorRamp
Color
Alpha
B-Spline
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Pos: 0.235
Fac
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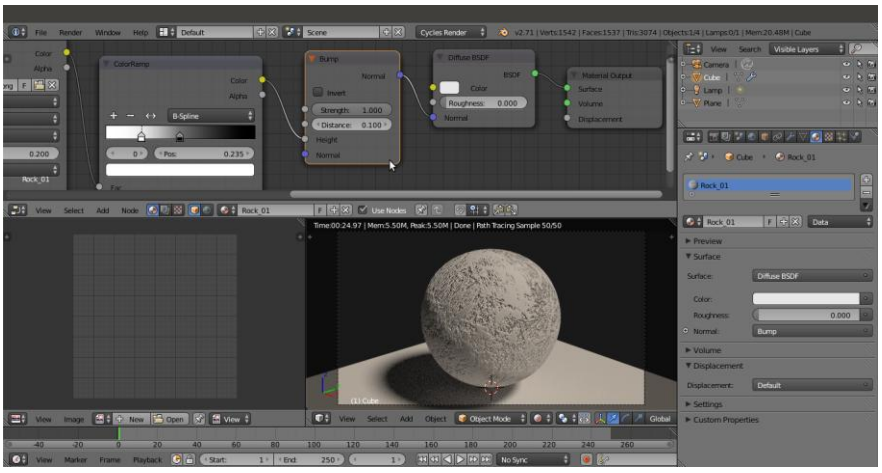
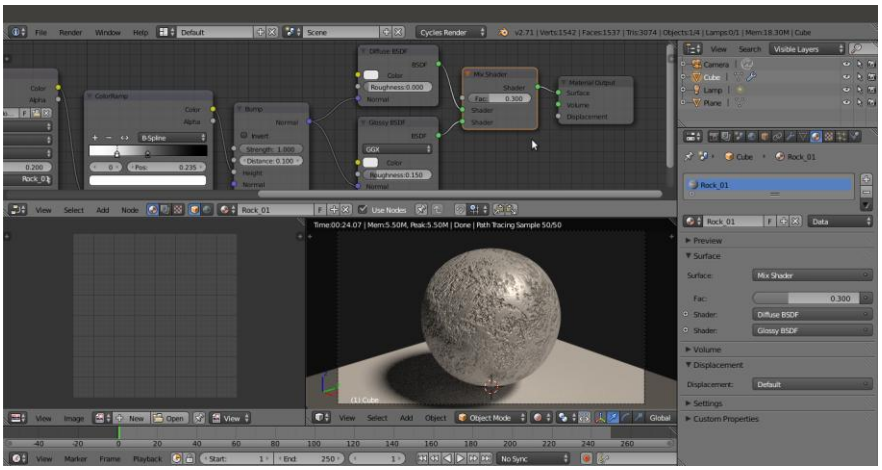
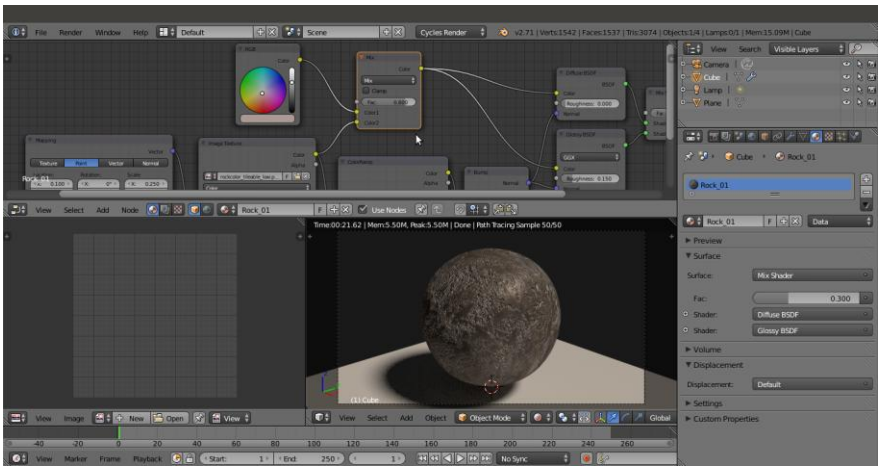
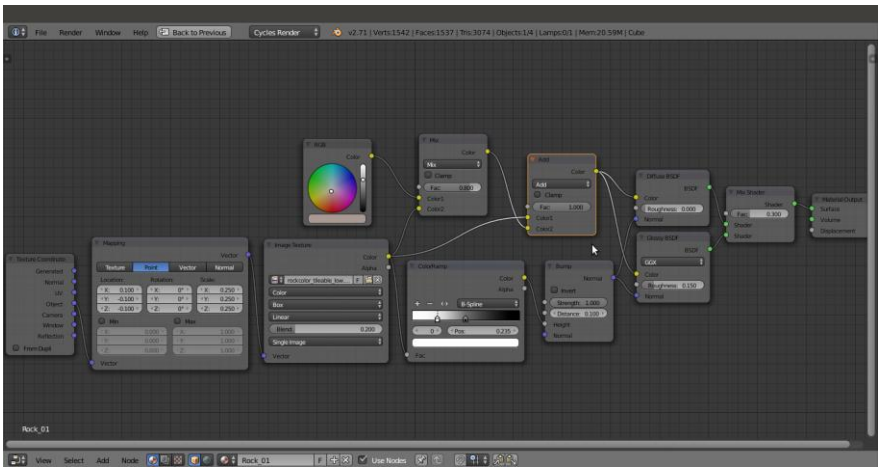
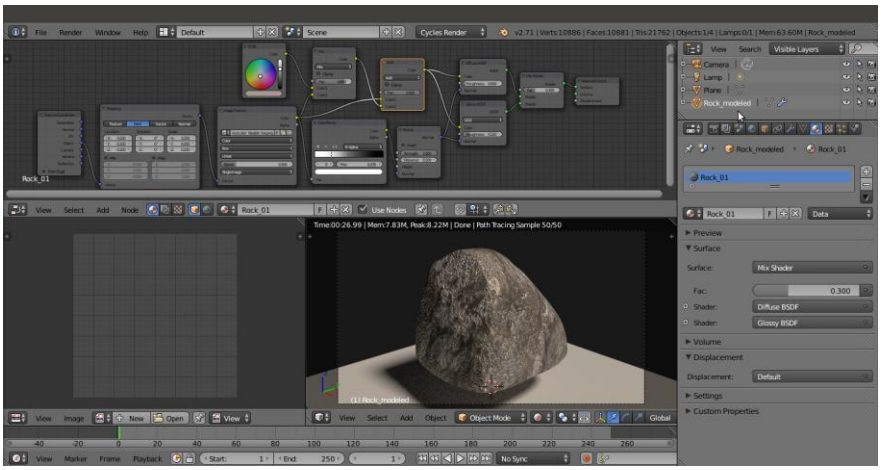
BSDF
Color
Roughness: 0.000
Normal
Material Output
Surface
Volume
Displacement

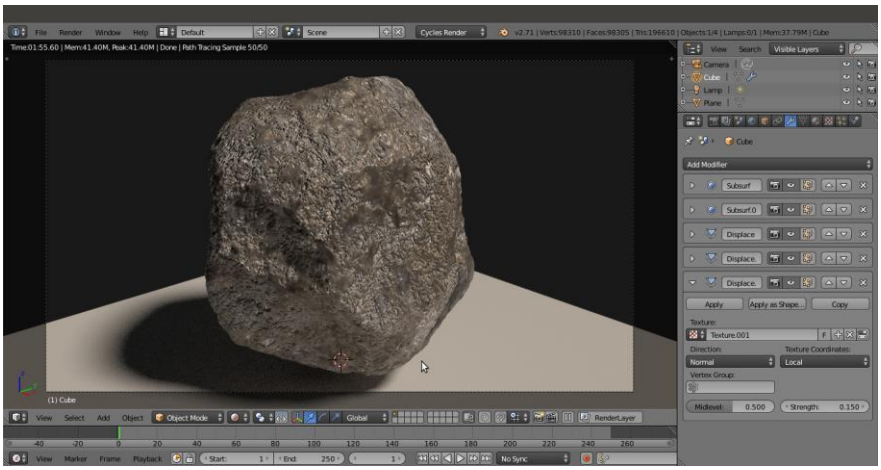


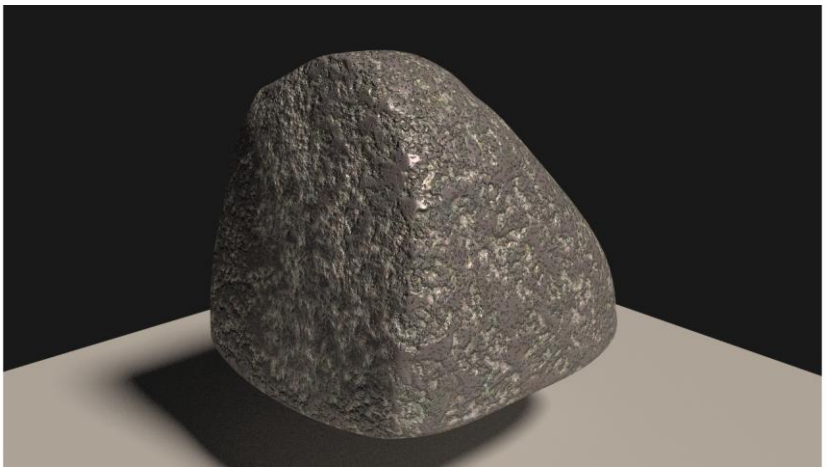


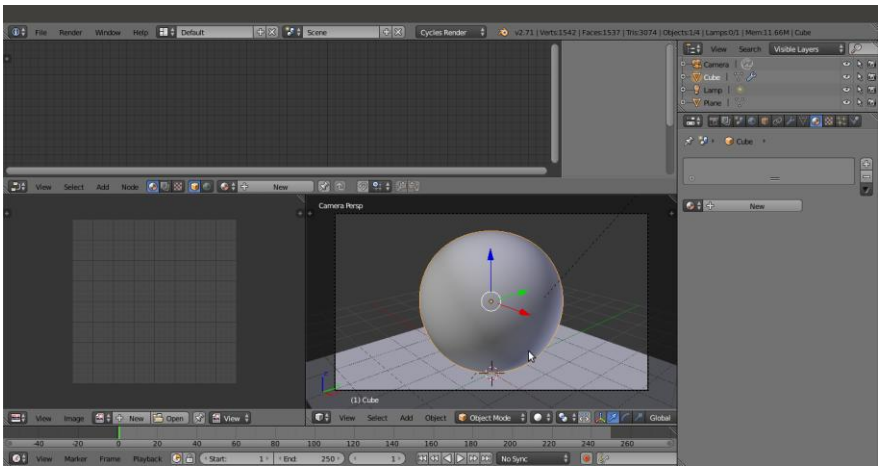


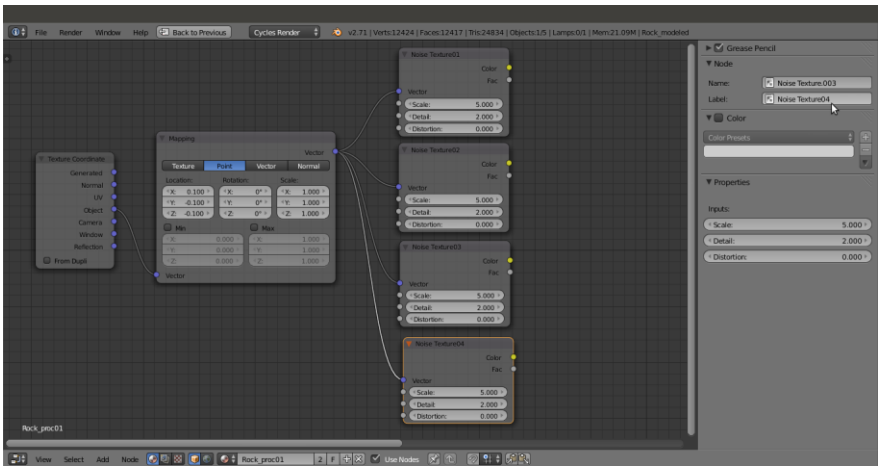


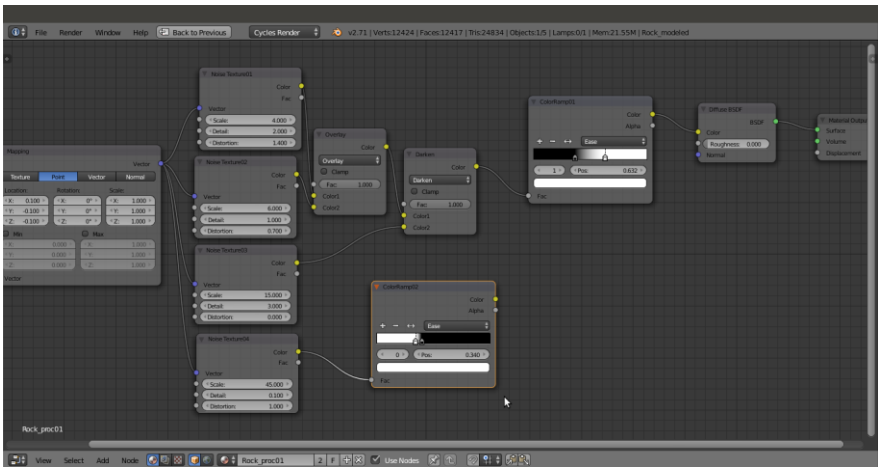


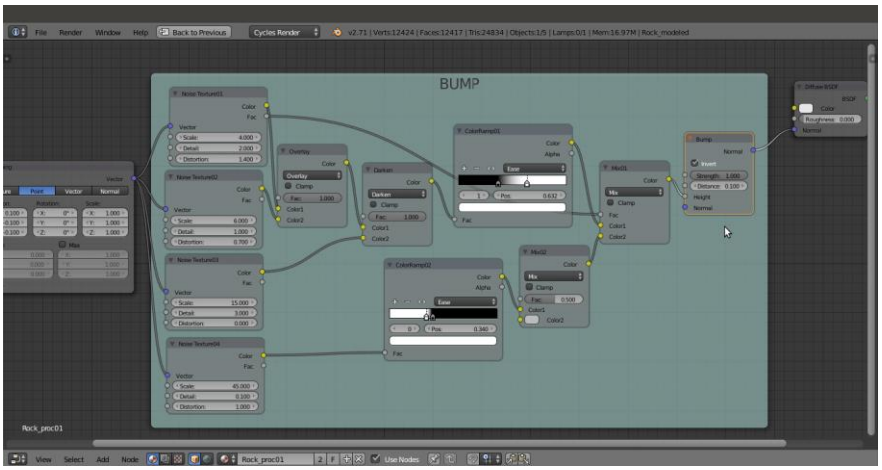








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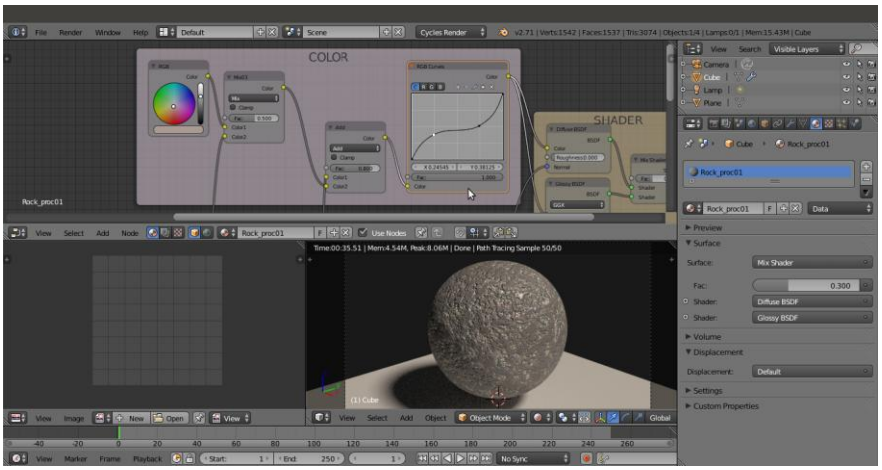
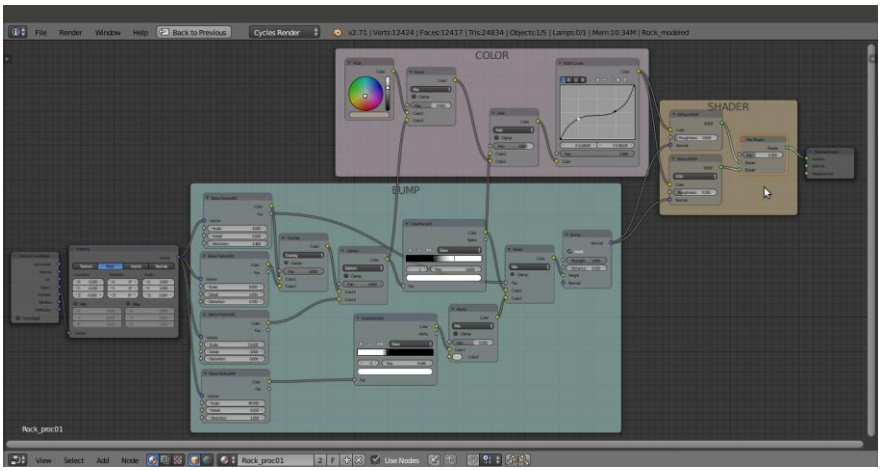
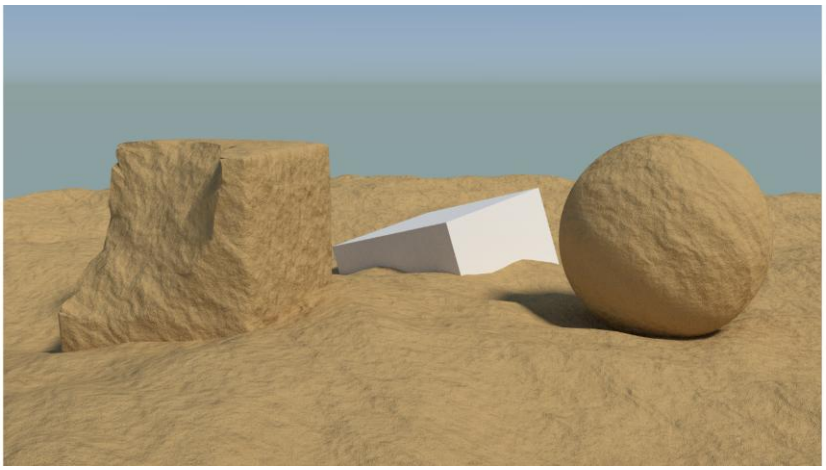
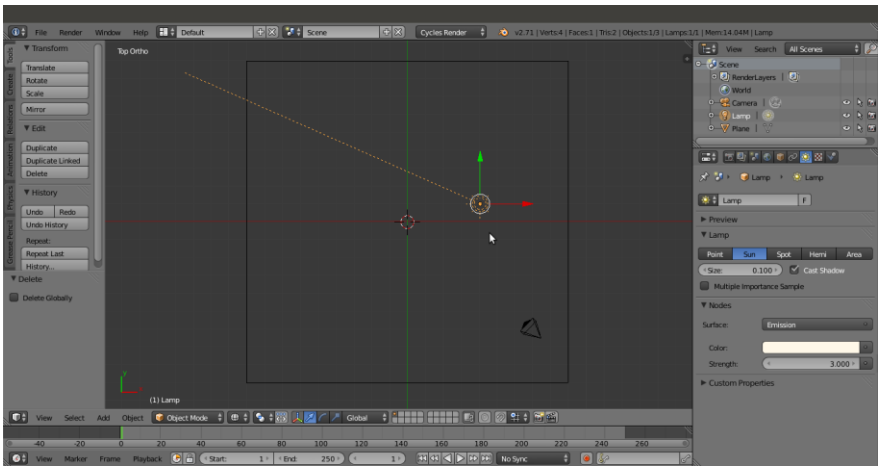
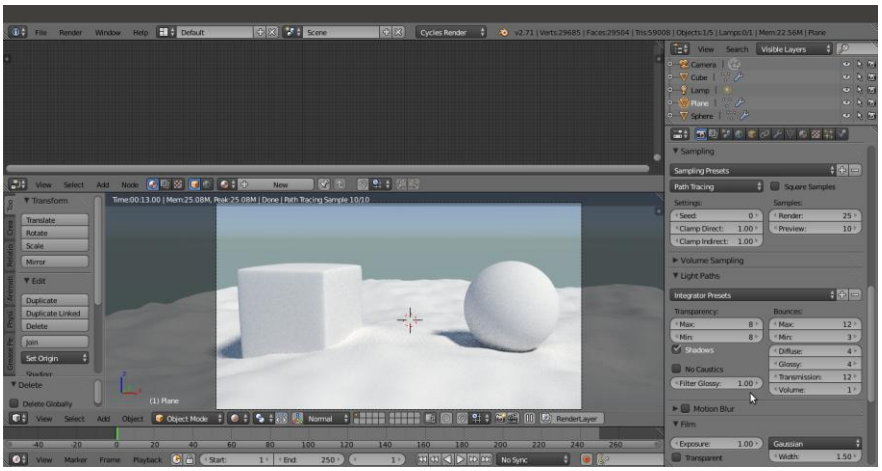
Rock_proc01


COLOR
SHADER
Rock_proc01


COLOR
SHADER
BUMP
Rock_proc01




Top Ortho
(1) Lamp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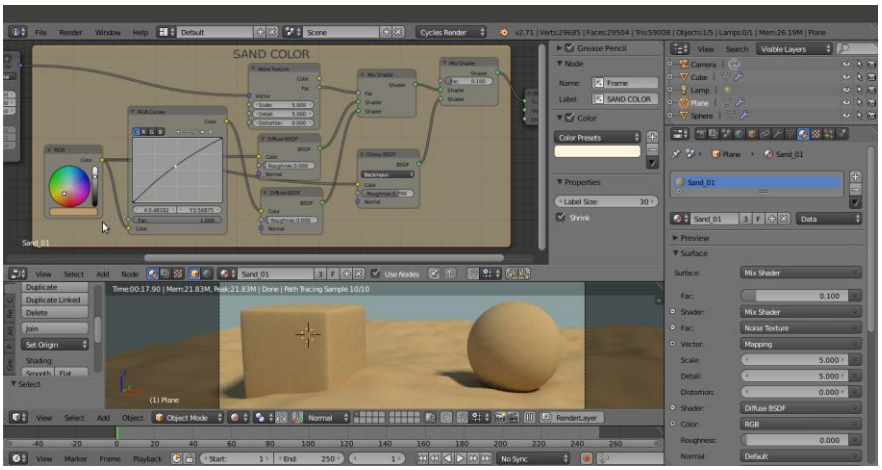
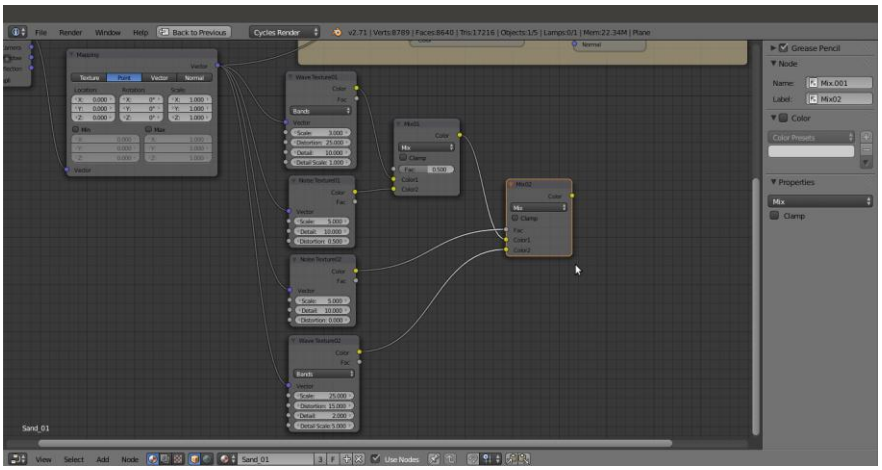
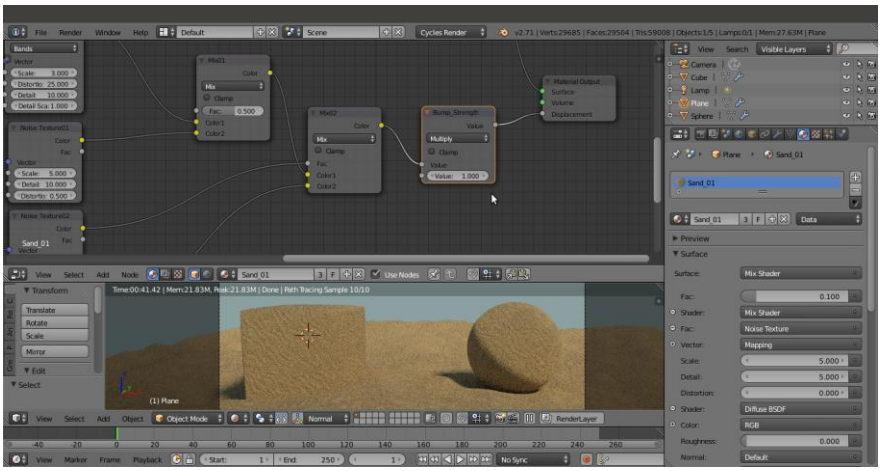
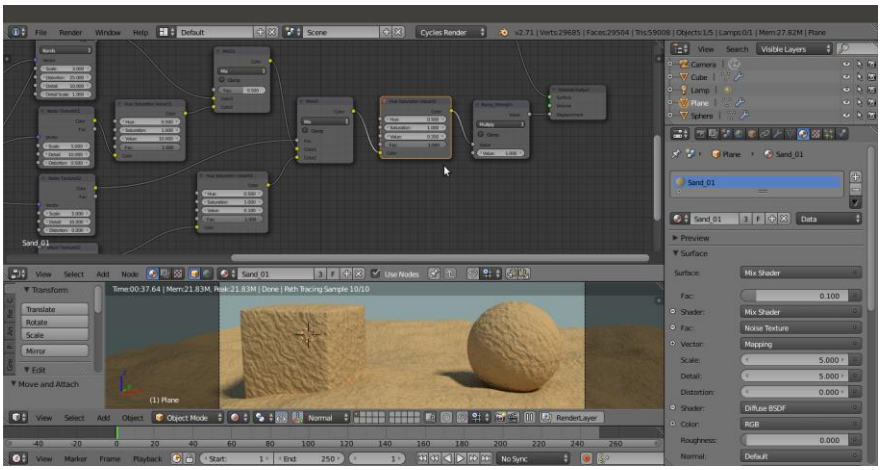
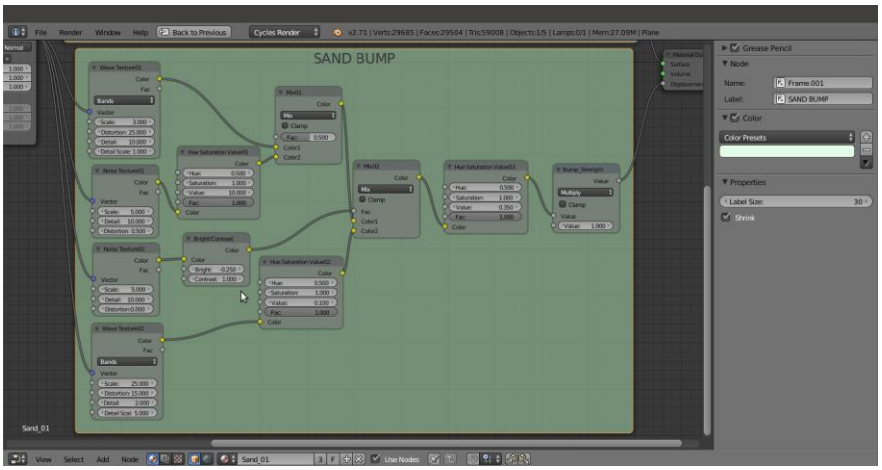
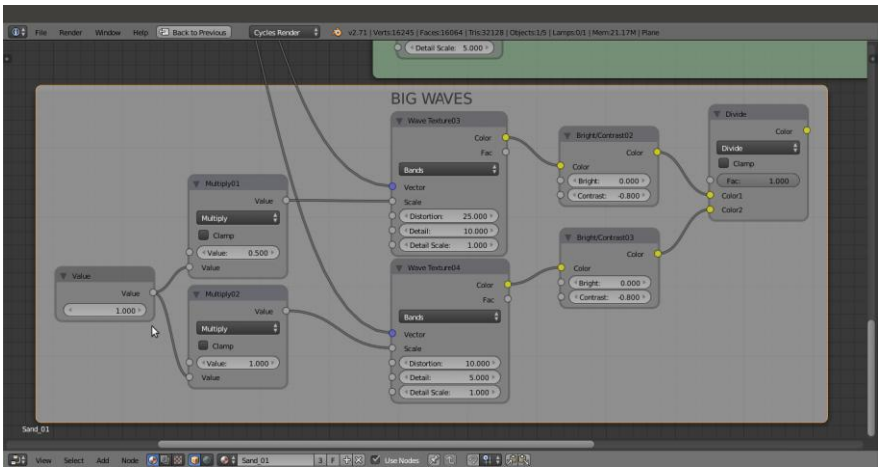

SAND COLOR

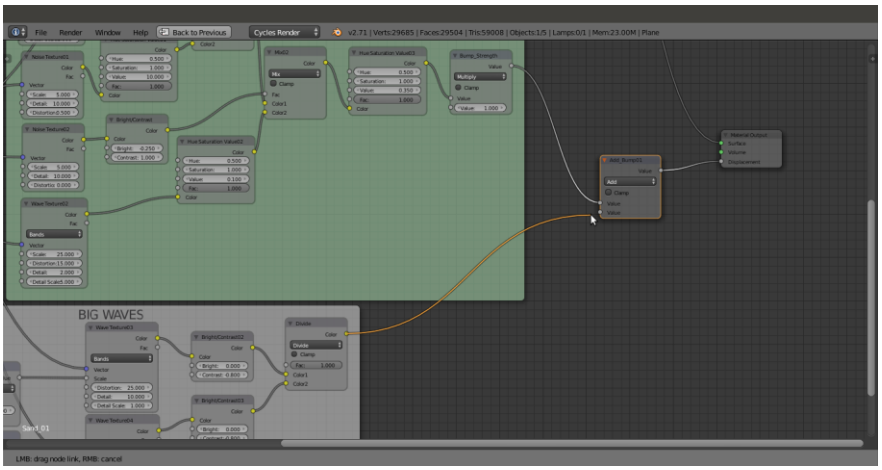


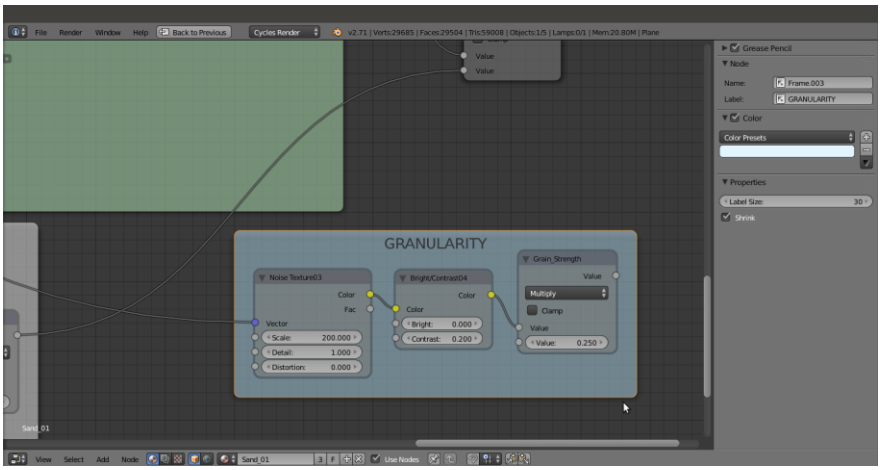


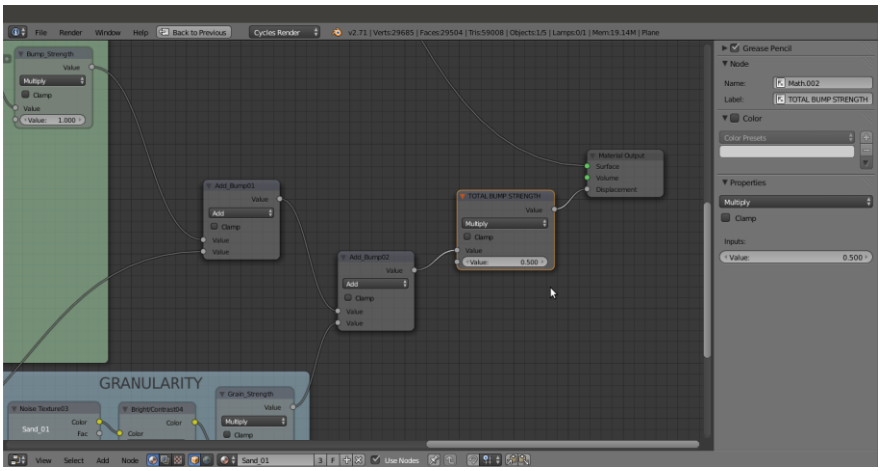


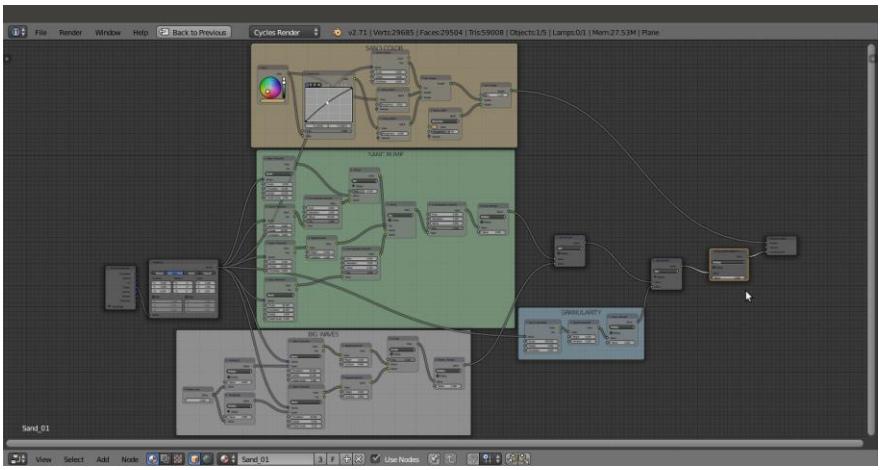

SAND BUMP

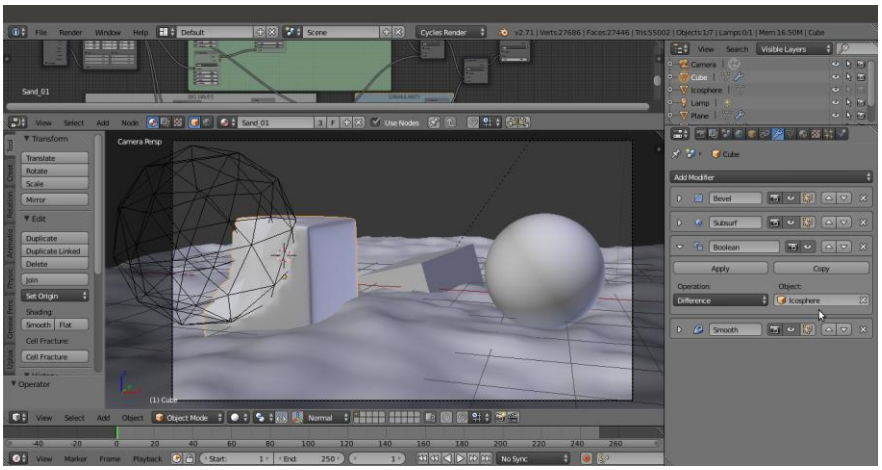

BIG WAVES

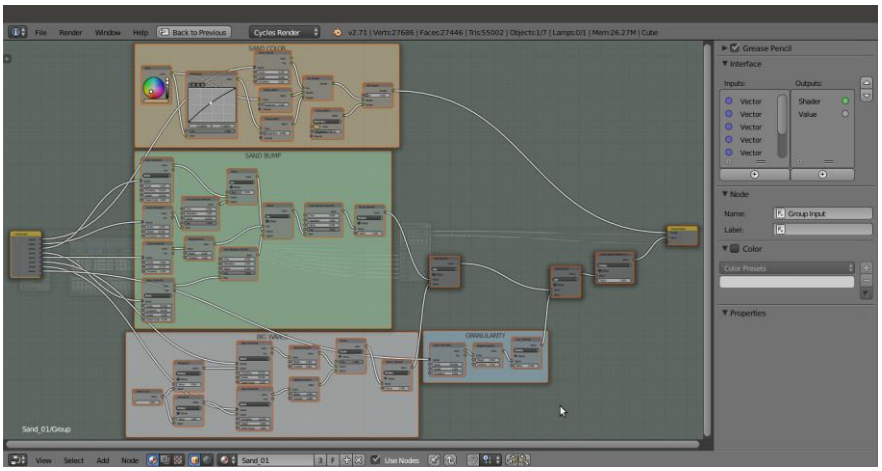

BIG WAVES

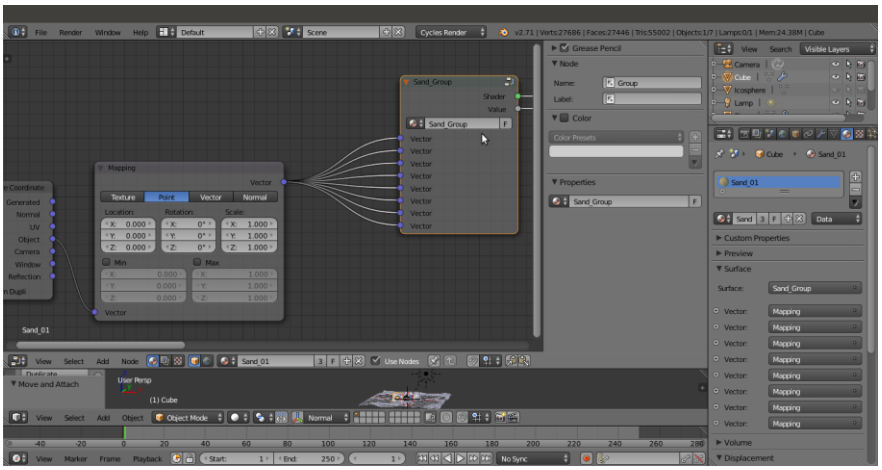

GRANULARITY

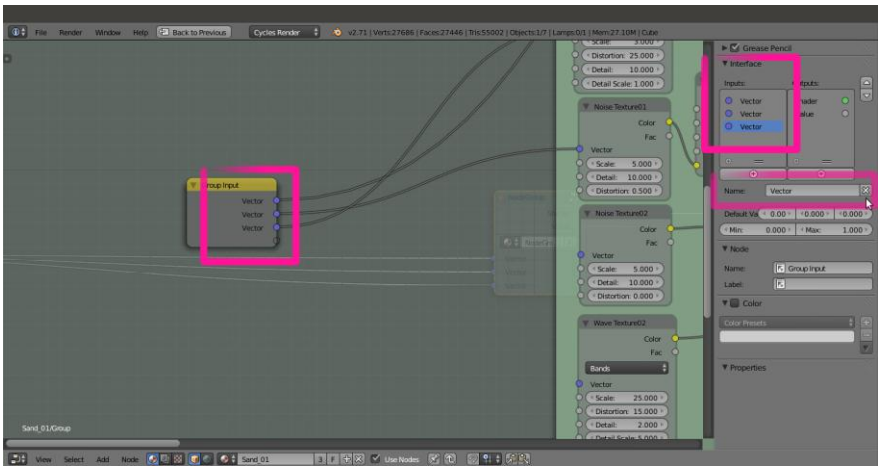

GRANULARITY

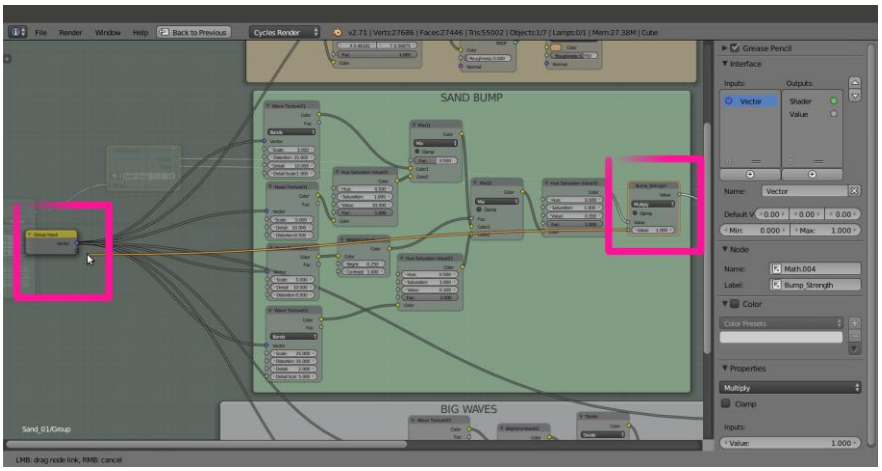

SAND COLOR
SAND BUMP
GRANULARITY
BIG WAVES
Sand_01

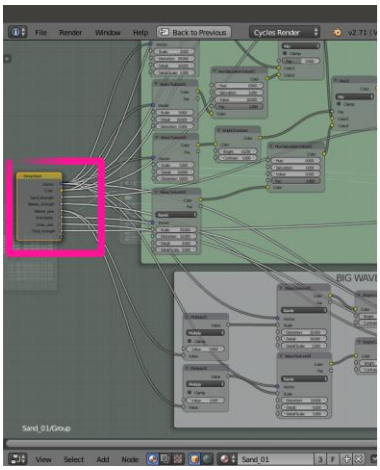

Sand_01
Camera Persp
Add Modifier
Bevel
Subsurf
Boolean
Apply
Copy
Operation:
Difference
Object:
Icosphere
Smooth

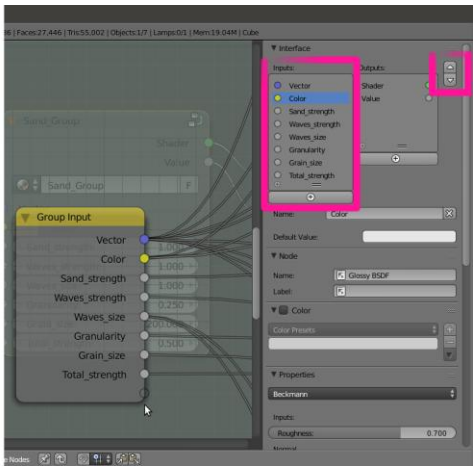

SAND COLOR
SAND BUMP
GRANULARITY
Sand_01/Group
Grease Pencil
Interface
Inputs:
Outputs:
Vector
Shader
Value
Node
Group Input
Color
Properties

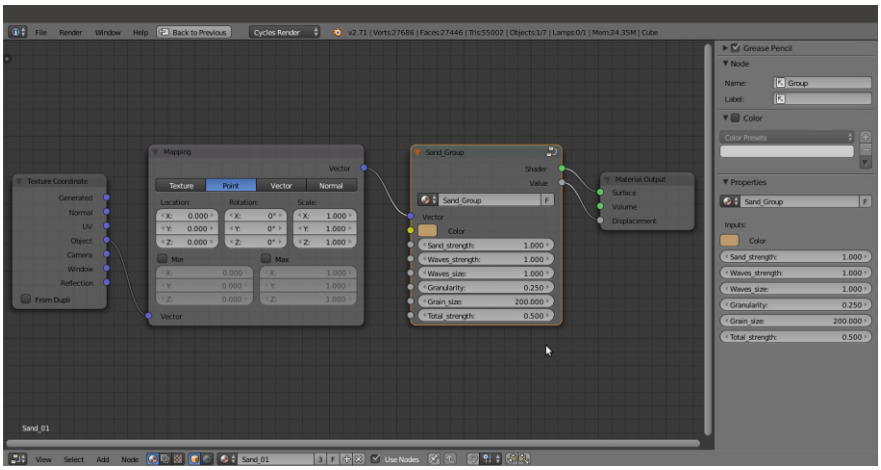


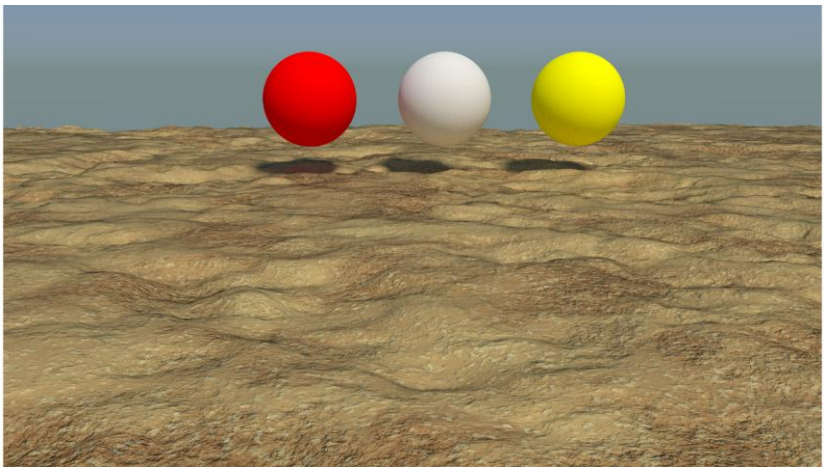


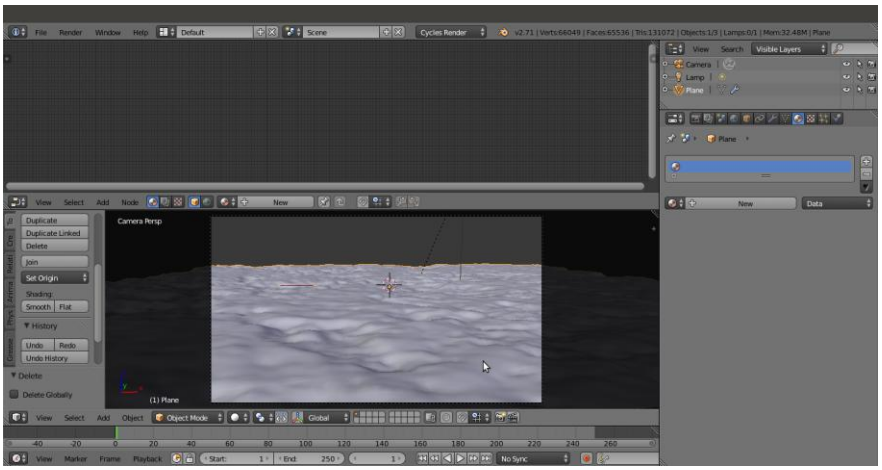

SAND BUMP
BIG WAVES

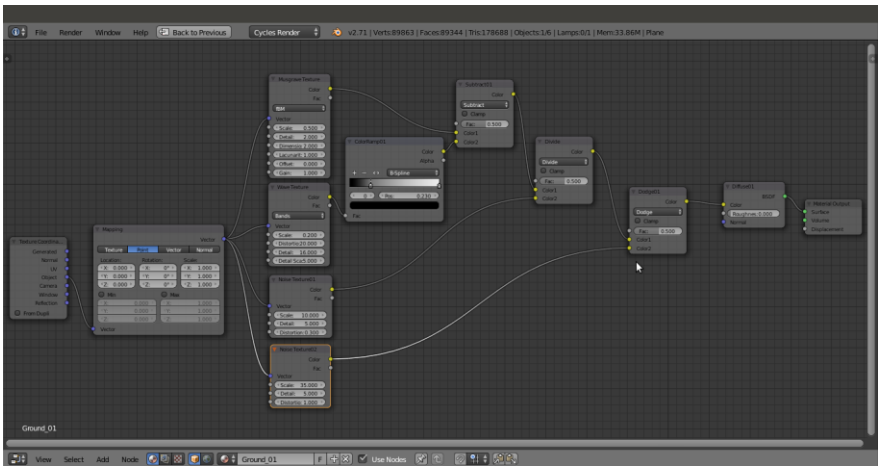


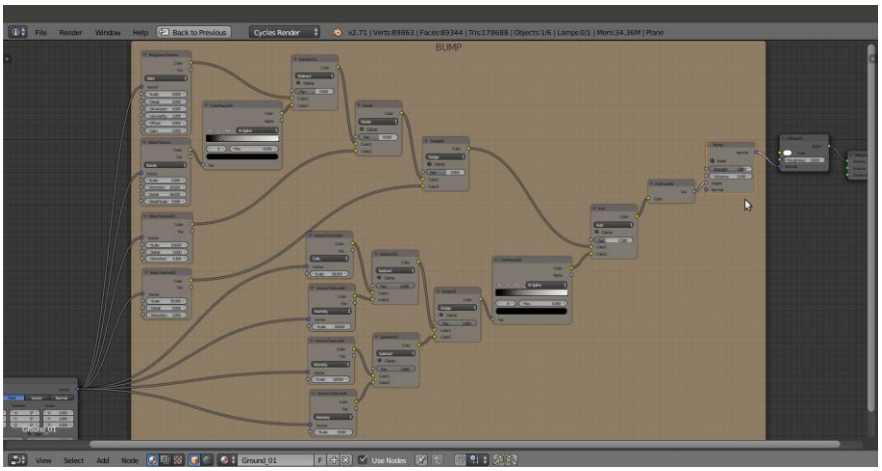

Group Input
Vector
Color
Sand_strength
Waves_strength
Waves_size
Granularity
Grain_size
Total_strength

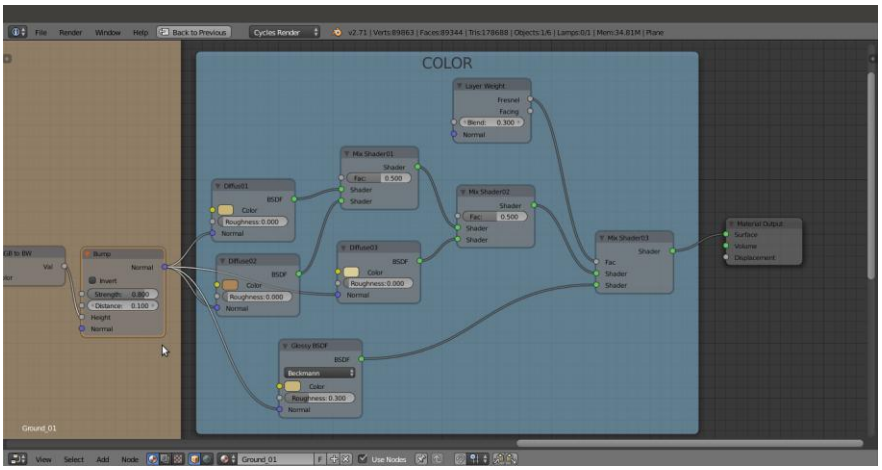


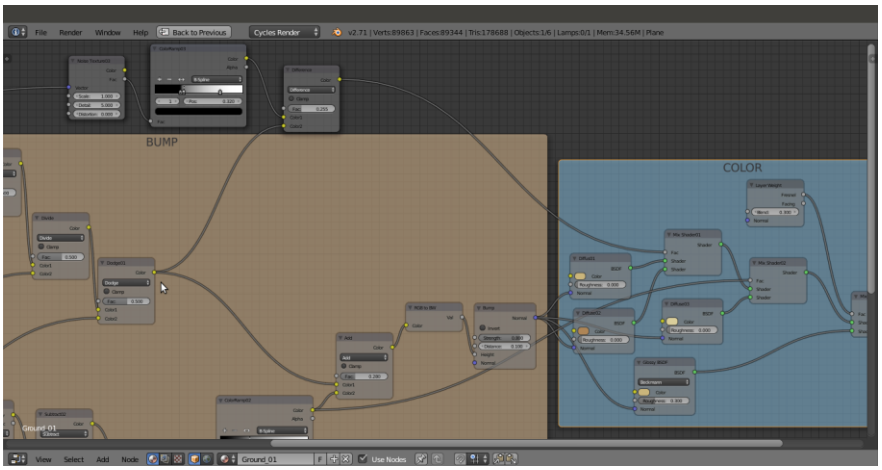


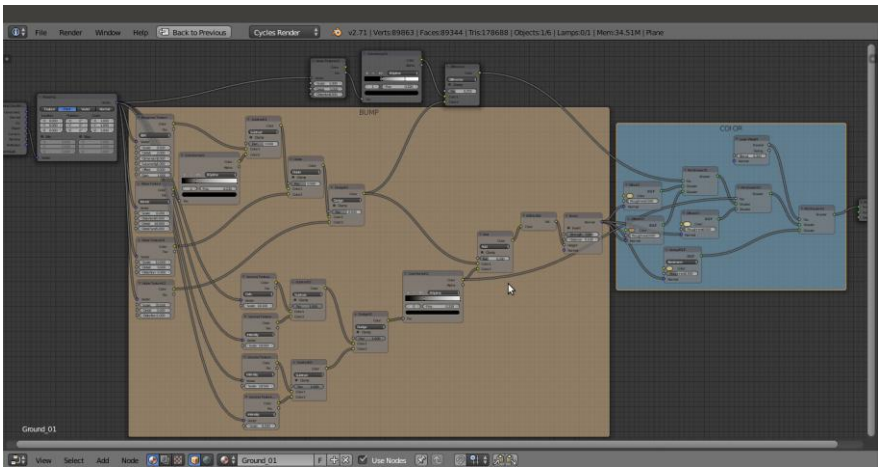


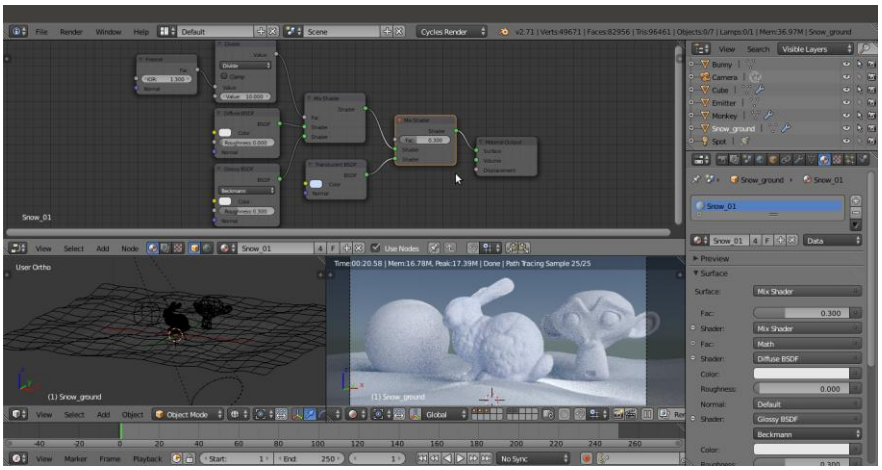


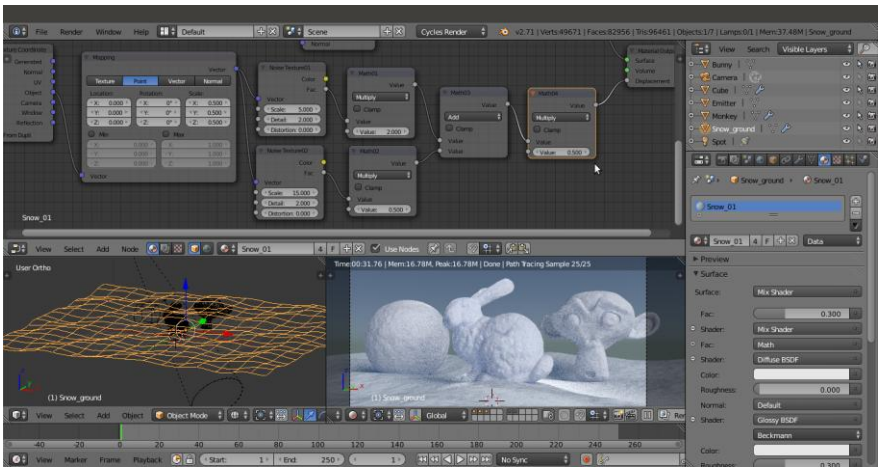

BUMP

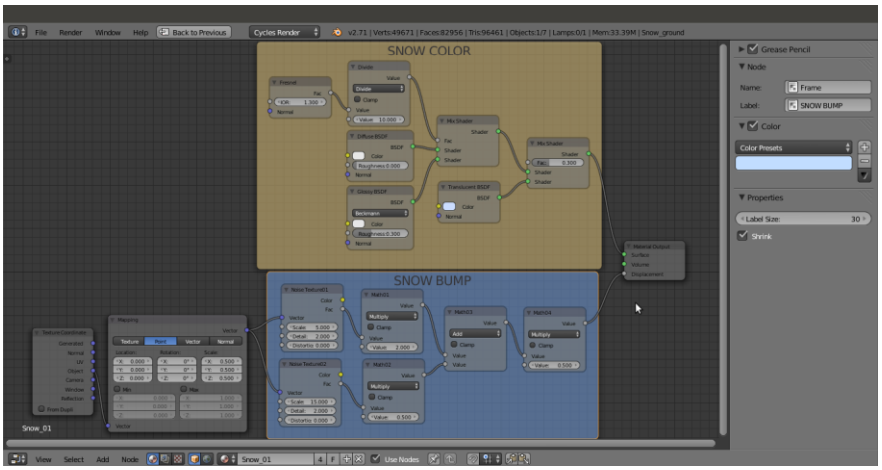

COLOR
Bump
Diffuse01
Diffuse02
Diffuse03
Mix Shader01
Mix Shader02
Mix Shader03
Layer Weight
Glossy BSDF
Material Output
Ground_01

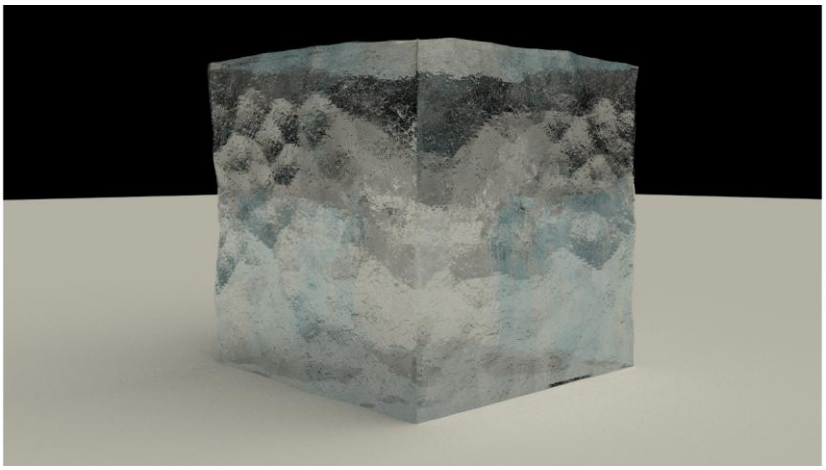

BUMP
COLOR
Ground_01

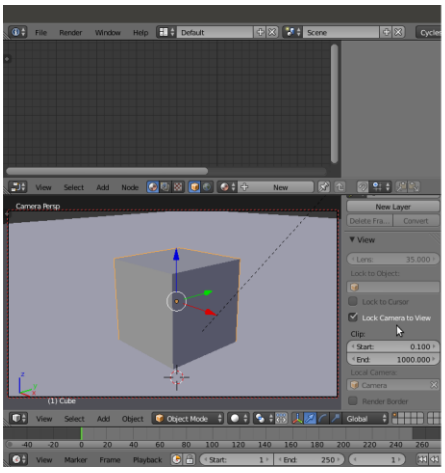

BUMP
COLOR
Ground_01

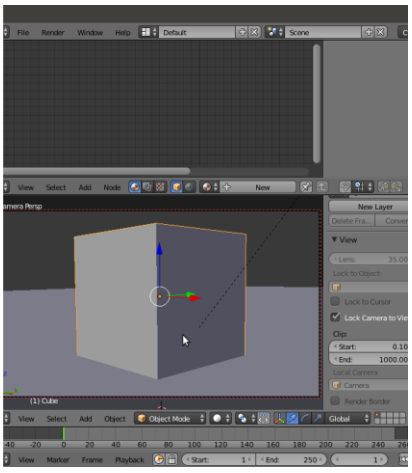


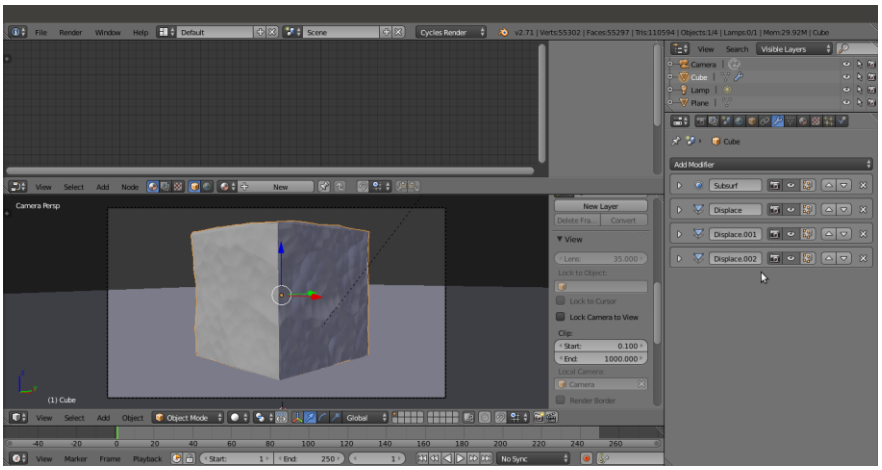


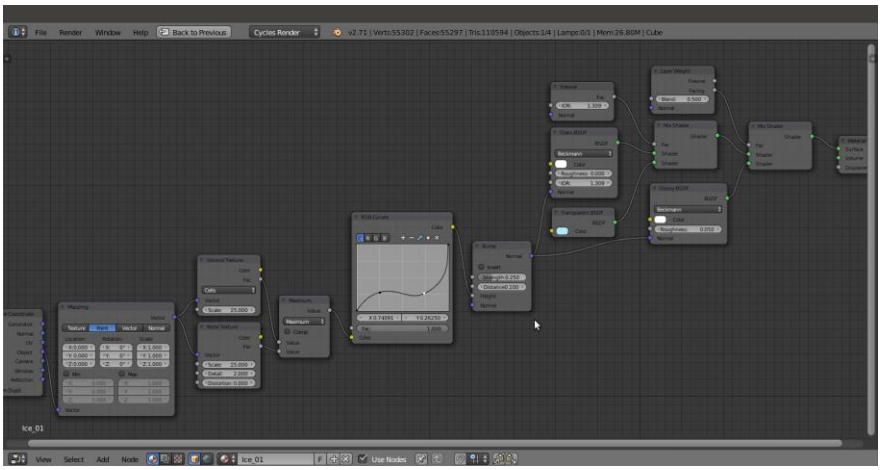

SNOW COLOR
SNOW BUMP

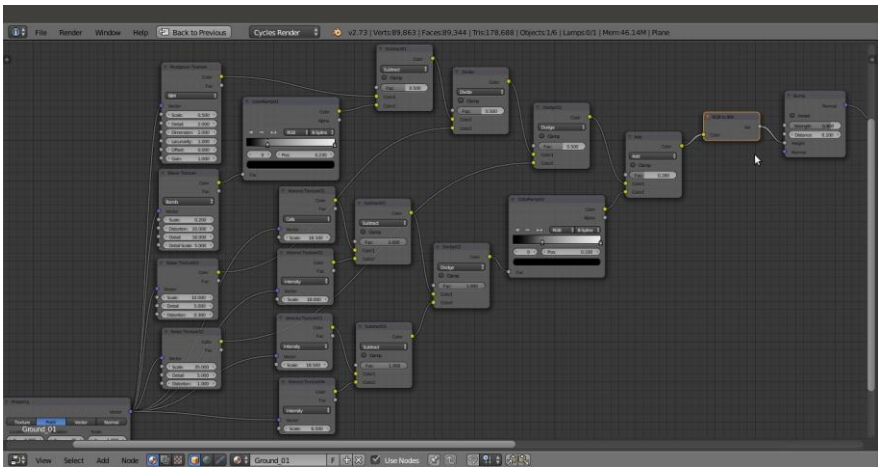




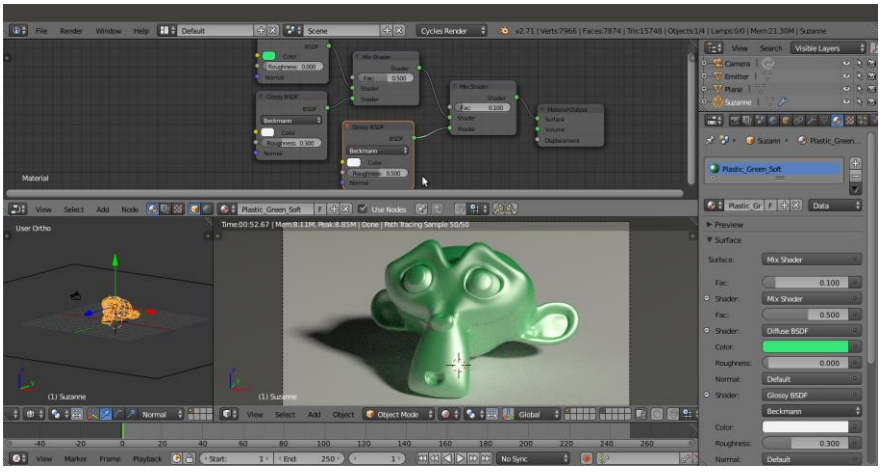


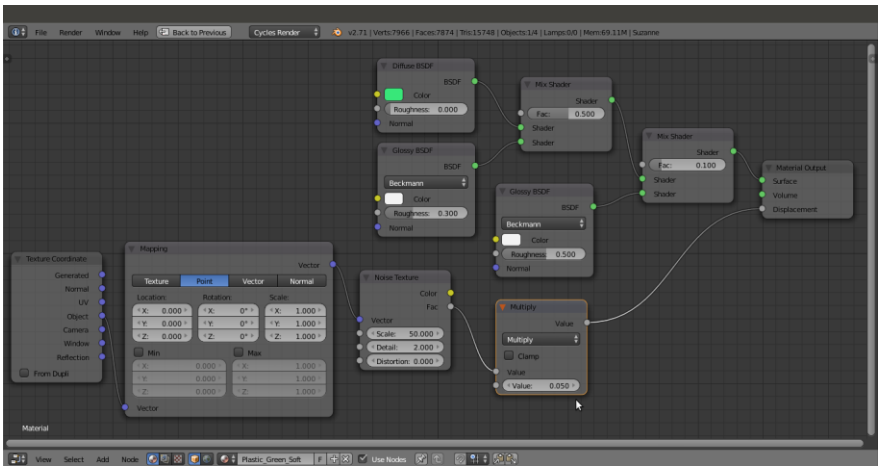


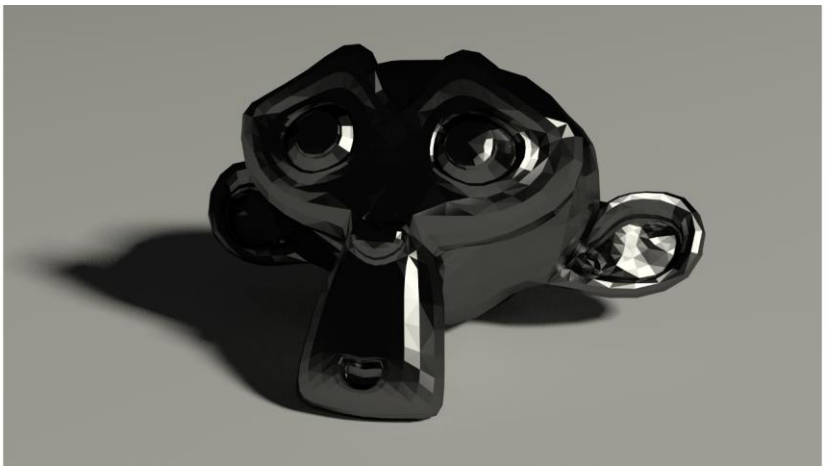


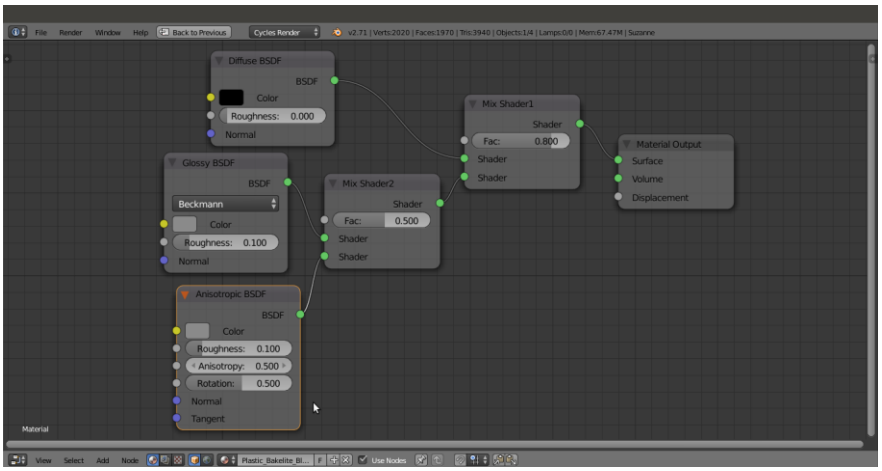


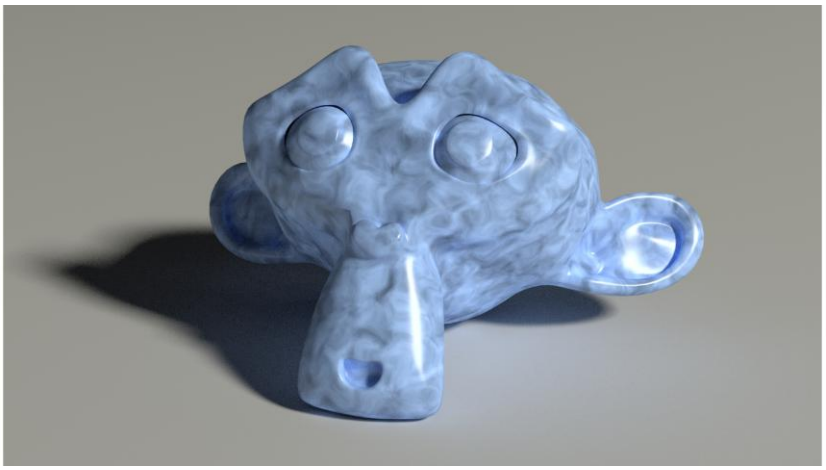
Chapter 4: Creating Man-made Materials in Cycles

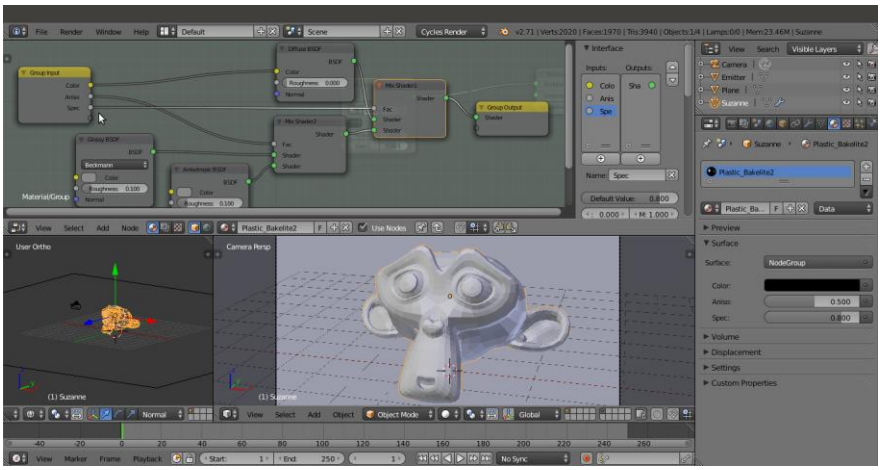


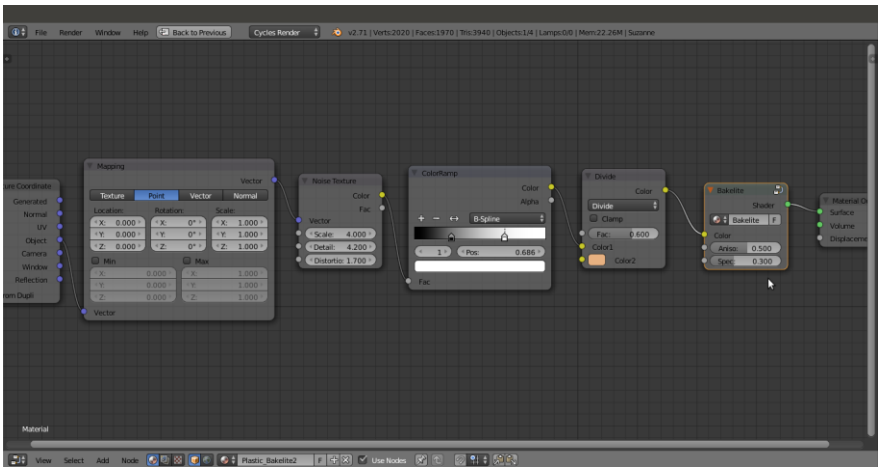

Diffuse BSDF
BSDF
Color
Roughness: 0.000
Normal
Mix Shader
Shader
Fac: 0.500
Shader
Shader
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.300
Normal
Mix Shader
Shader
Fac: 0.100
Shader
Shader
Material Output
Surface
Volume
Displacement
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.500
Normal
Texture Coordinate
Generated
Normal
UV
Object
Camera
Window
Reflection
From Dupli
Mapping
Vector
Texture
Point
Vector
Normal
Location:
Rotation:
Scale:
Min
Max
Vector
Noise Texture
Color
Fac:
Vector
Scale: 50.000
Detail: 2.000
Distortion: 0.000
Multiply
Value
Multiply
Clamp
Value
Value: 0.050
Material
View
Select
Add
Node
Use Nodes

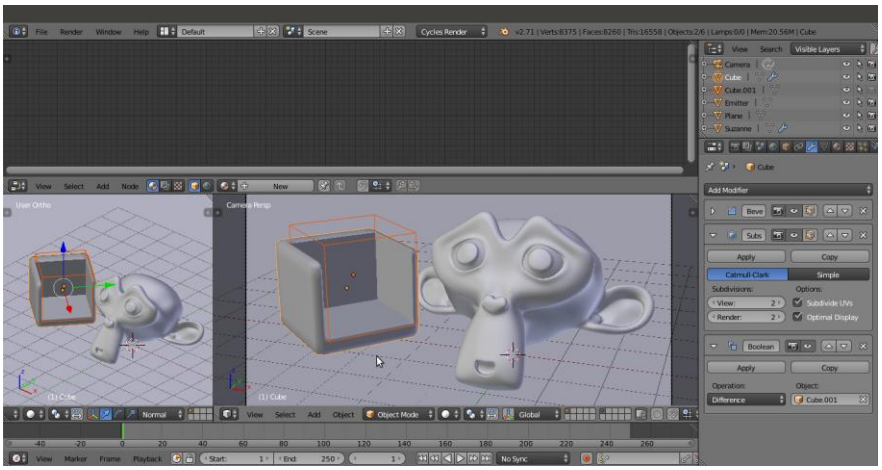


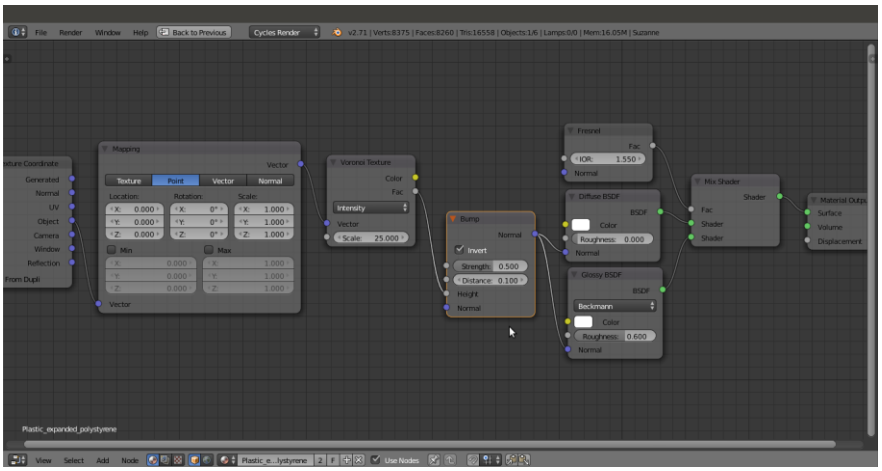

Diffuse BSDF
BSDF
Color
Roughness: 0.000
Normal
Mix Shader1
Shader
Fac: 0.800
Shader
Shader
Material Output
Surface
Volume
Displacement
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.100
Normal
Mix Shader2
Shader
Fac: 0.500
Shader
Shader
Anisotropic BSDF
BSDF
Color
Roughness: 0.100
Anisotropy: 0.500
Rotation: 0.500
Normal
Tangent
Material
View
Select
Add
Node
Use Nodes

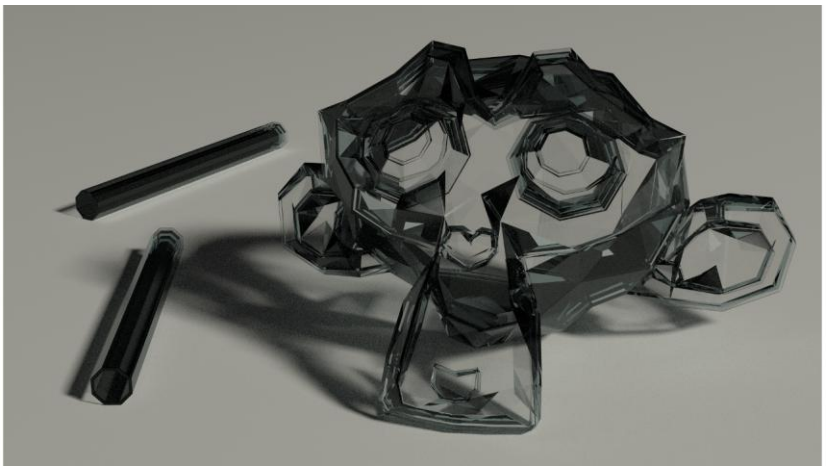


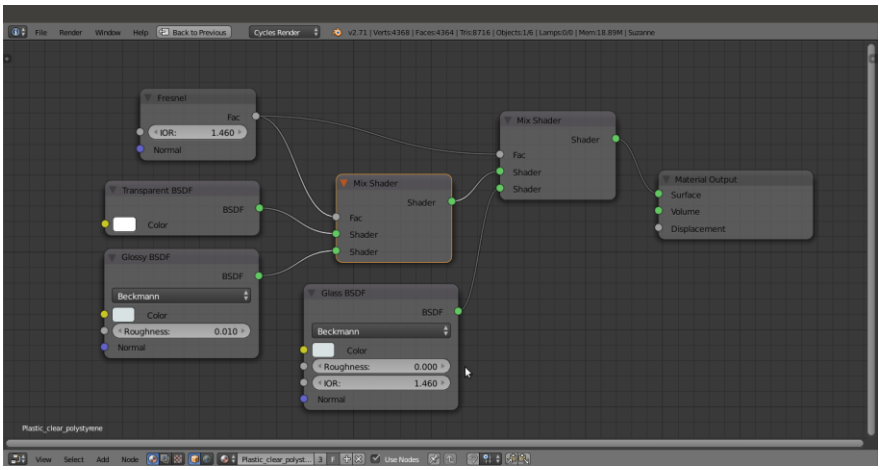


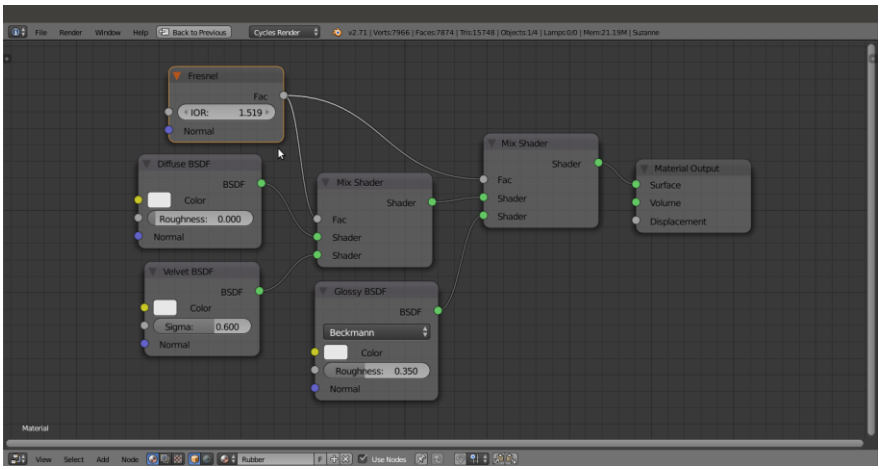


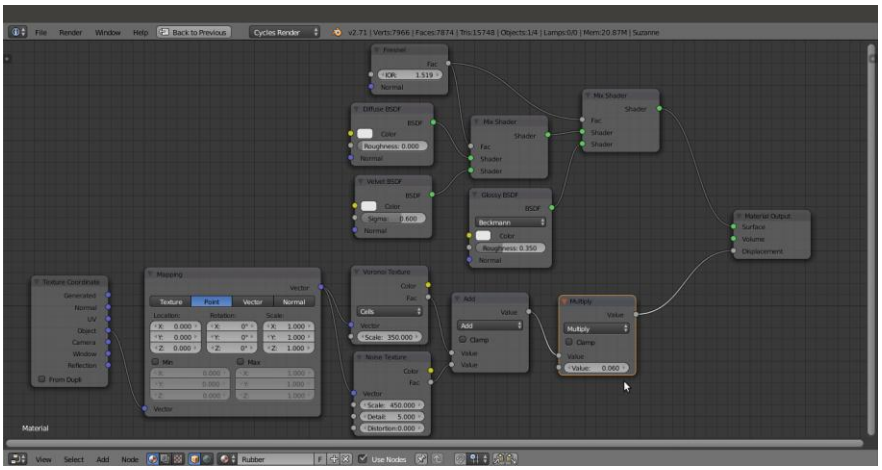


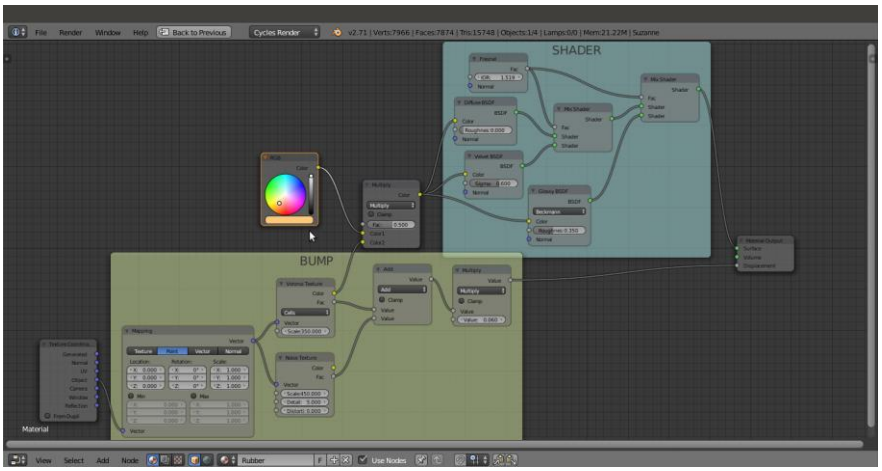


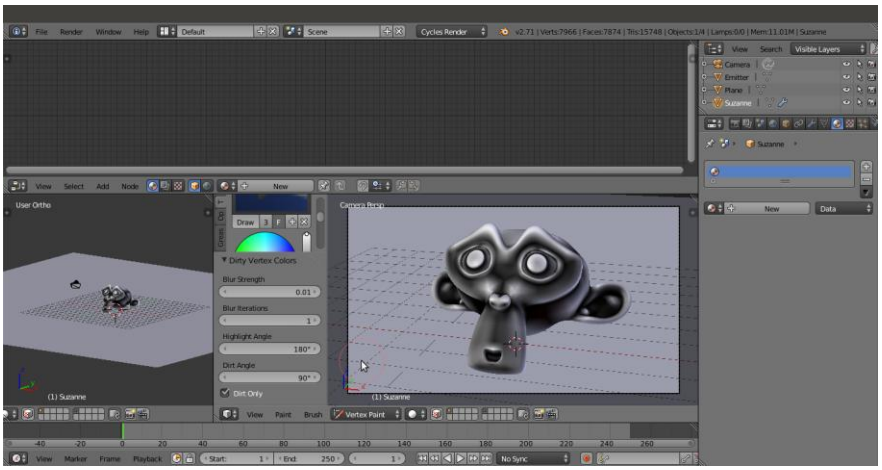



File
Render
Window
Help
Back to Previous
Cycles Render
Fresnel
Fac
IOR: 1.460
Normal
Transparent BSDF
BSDF
Color
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.010
Normal
Mix Shader
Shader
Fac
Shader
Shader
Glass BSDF
BSDF
Beckmann
Color
Roughness: 0.000
IOR: 1.460
Normal
Mix Shader
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Plastic_clear_polystyrene
View
Select
Add
Node
Use Nodes

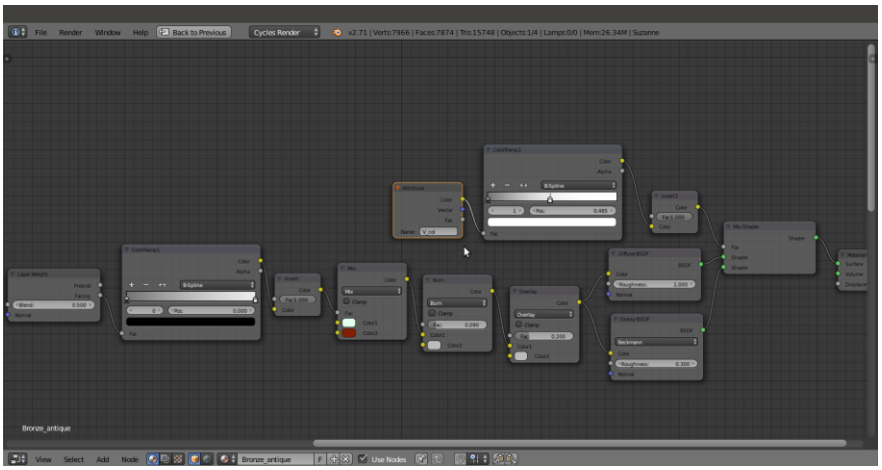

Fresnel
Fac
IOR: 1.519
Normal
Diffuse BSDF
BSDF
Color
Roughness: 0.000
Normal
Mix Shader
Shader
Fac
Shader
Shader
Mix Shader
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Velvet BSDF
BSDF
Color
Sigma: 0.600
Normal
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.350
Normal
Material

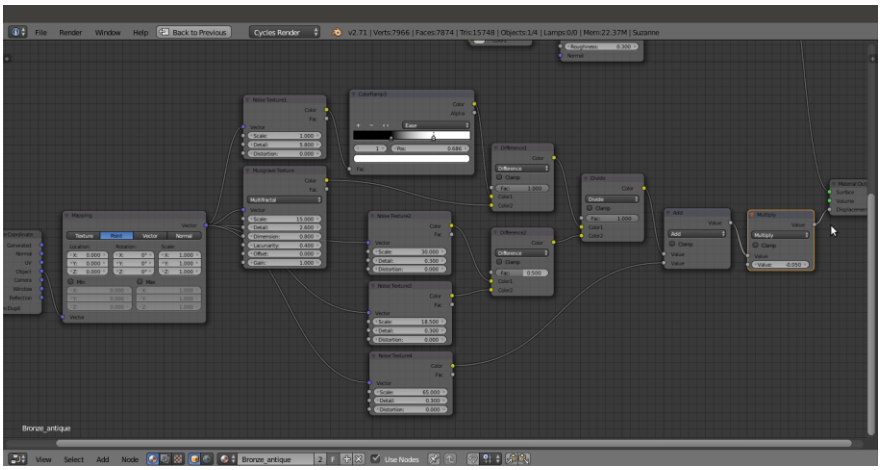

Material

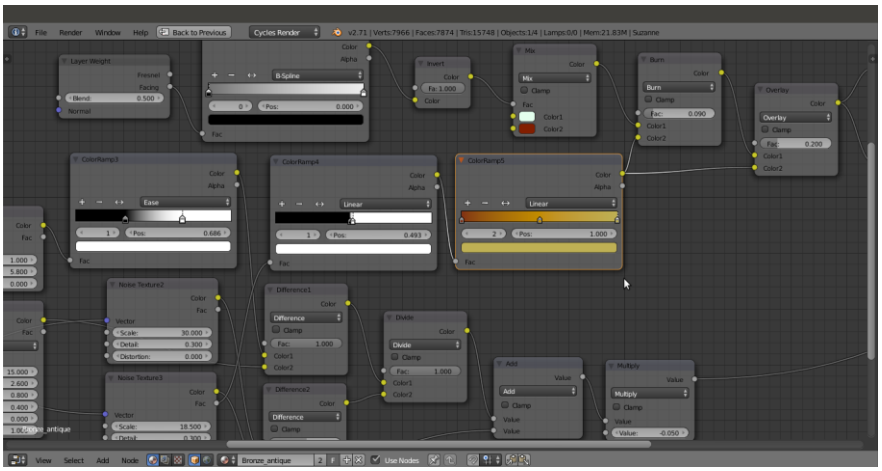

SHADER
BUMP
Material

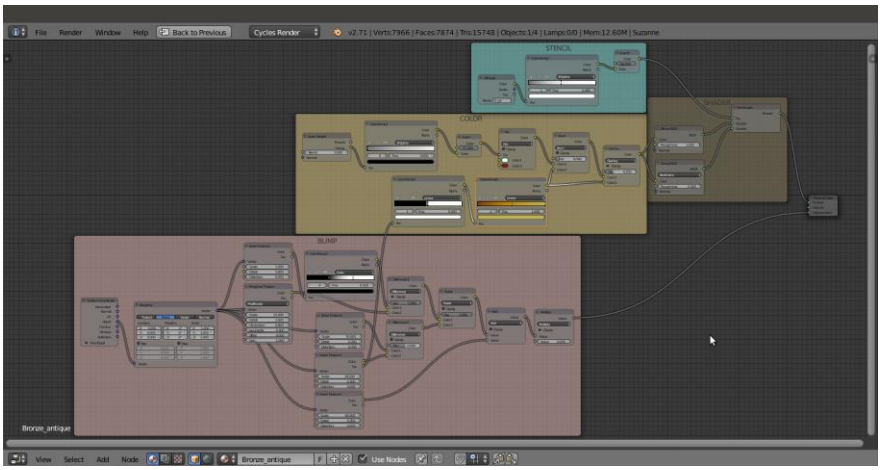

Dirty Vertex Colors
Blur Strength
Blur Iterations
Highlight Angle
Dirt Angle
Dirt Only

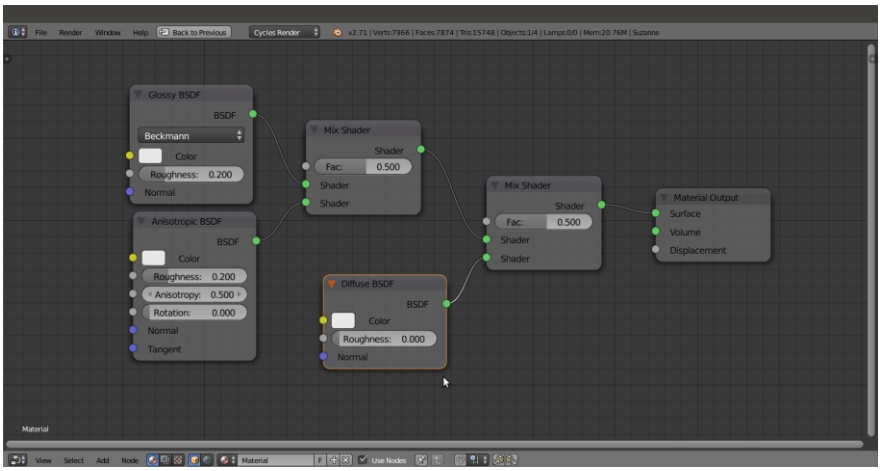
Bronze_antique
Surface
Mix Shader
Diffuse BSDF
Glossy BSDF

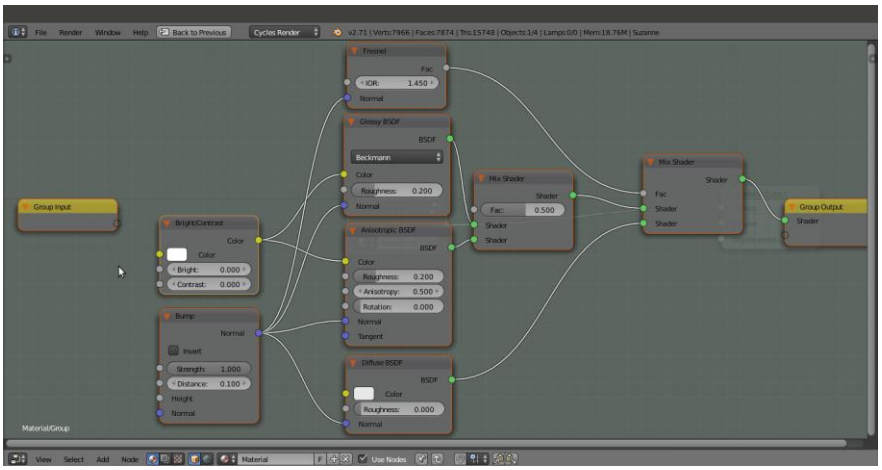

File Render Window Help Back to Previous Cycles Render v2.71 | Verts:7966 | Faces:7874 | Tris:15748 | Objects:1/4 | Lamps:0/0 | Mem:26.34M | Suzanne
Bronze_antique
View Select Add Node Bronze_antique Use Nodes

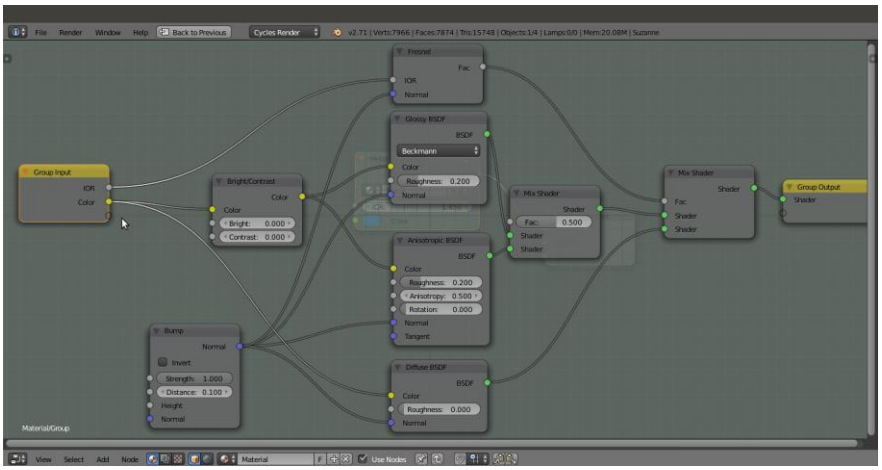

File Render Window Help Back to Previous Cycles Render v2.71 | Verts:7966 | Faces:7874 | Tris:15748 | Objects:1/4 | Lamps:0/0 | Mem:22.37M | Suzanne
Bronze_antique
View Select Add Node Bronze_antique Use Nodes

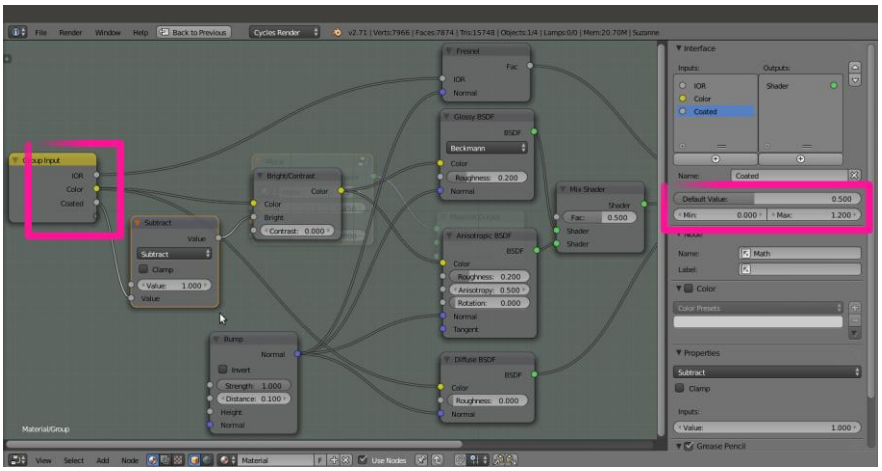

File Render Window Help Back to Previous Cycles Render v2.71 | Verts:7966 | Faces:7874 | Tris:15748 | Objects:1/4 | Lamps:0/0 | Mem:21.83M | Suzanne
View Select Add Node Bronze_antique Use Nodes

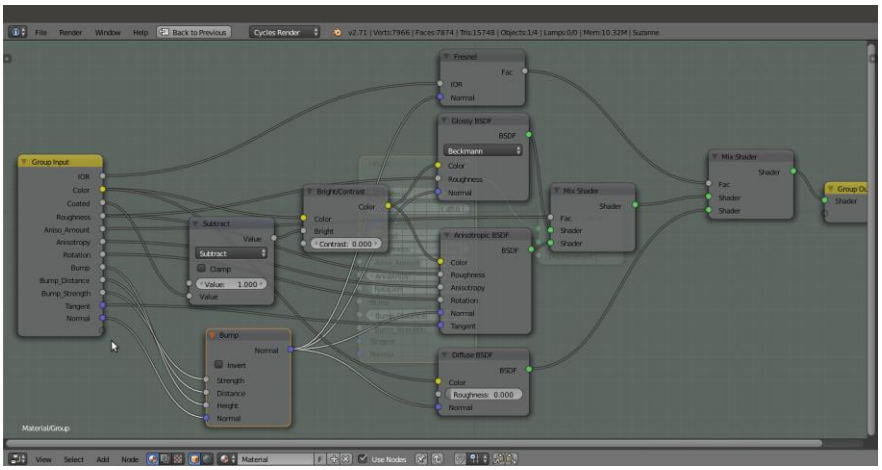

File Render Window Help Back to Previous Cycles Render
STENCIL
COLOR
BUMP
Bronze_antique
View Select Add Node Bronze_antique Use Nodes

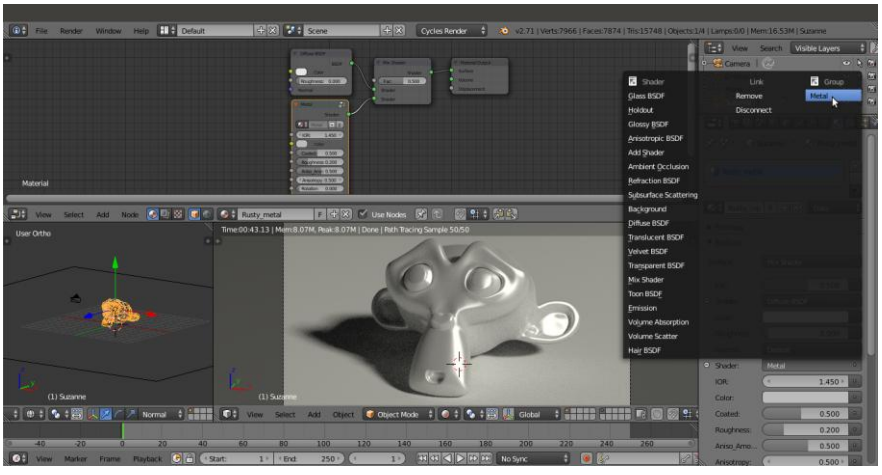

File Render Window Help Back to Previous Cycles Render
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.200
Normal
Anisotropic BSDF
BSDF
Color
Roughness: 0.200
Anisotropy: 0.500
Rotation: 0.000
Normal
Tangent
Mix Shader
Shader
Fac: 0.500
Shader
Shader
Mix Shader
Shader
Fac: 0.500
Shader
Shader
Diffuse BSDF
BSDF
Color
Roughness: 0.000
Normal
Material Output
Surface
Volume
Displacement
Material
View Select Add Node Material Use Nodes

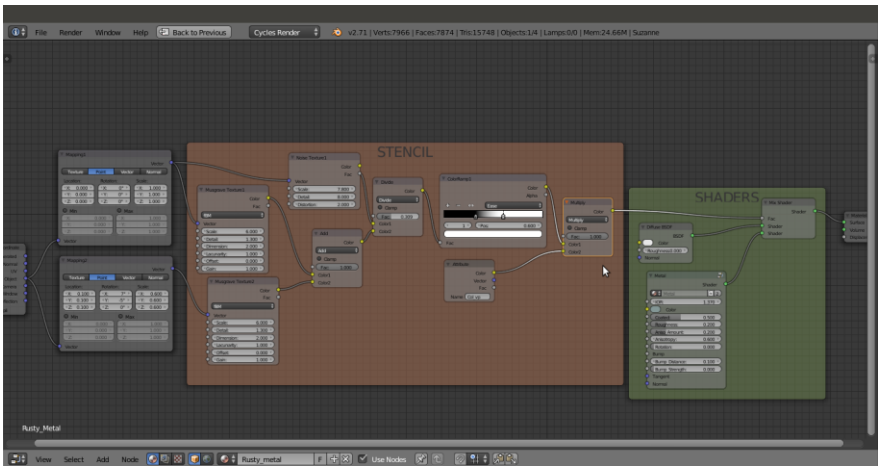

Fresnel
IOR: 1.450
Glossy BSDF
Beckmann
Roughness: 0.200
Mix Shader
Fac: 0.500
Group Input
Bright/Contrast
Anisotropic BSDF
Anisotropy: 0.500
Rotation: 0.000
Bump
Strength: 1.000
Distance: 0.100
Diffuse BSDF
Group Output
Material/Group

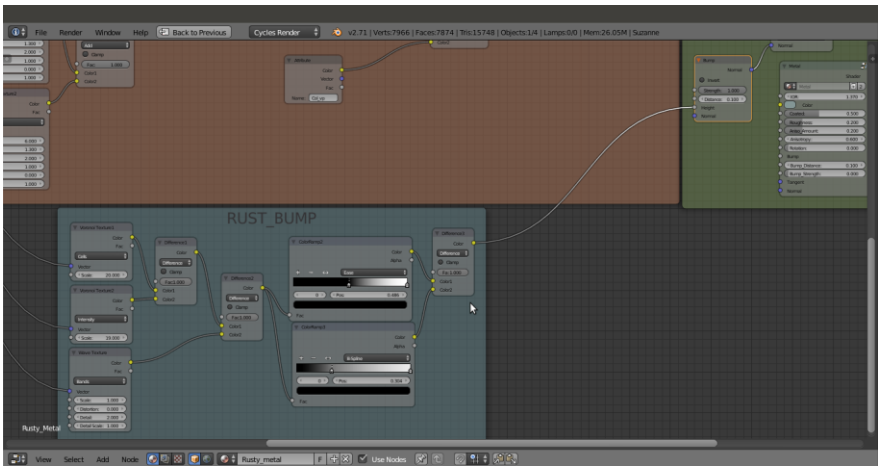

Fresnel
Glossy BSDF
Beckmann
Roughness: 0.200
Mix Shader
Fac: 0.500
Group Input
Bright/Contrast
Anisotropic BSDF
Anisotropy: 0.500
Rotation: 0.000
Bump
Strength: 1.000
Distance: 0.100
Diffuse BSDF
Group Output
Material/Group

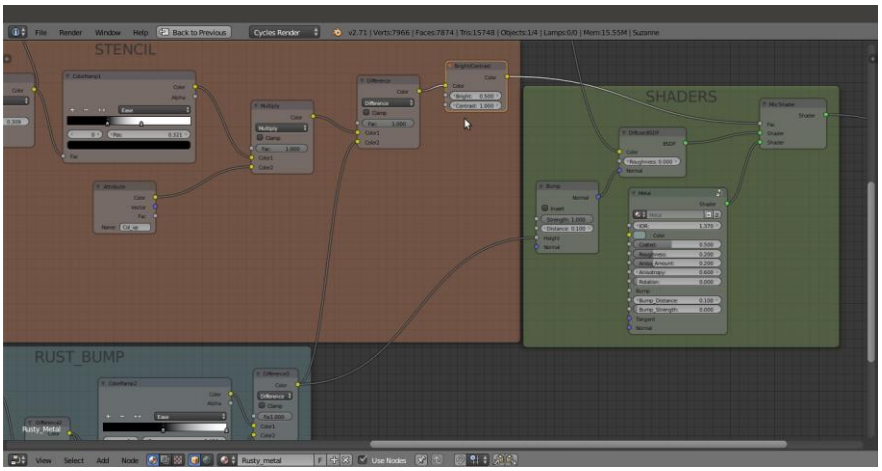

Fresnel
Glossy BSDF
Beckmann
Roughness: 0.200
Mix Shader
Fac: 0.500
Group Input
Coated
Subtract
Value: 1.000
Bright/Contrast
Anisotropic BSDF
Anisotropy: 0.500
Rotation: 0.000
Bump
Strength: 1.000
Distance: 0.100
Diffuse BSDF
Interface
Inputs:
Outputs:
Default Value: 0.500
Min: 0.000
Max: 1.200
Properties
Material/Group

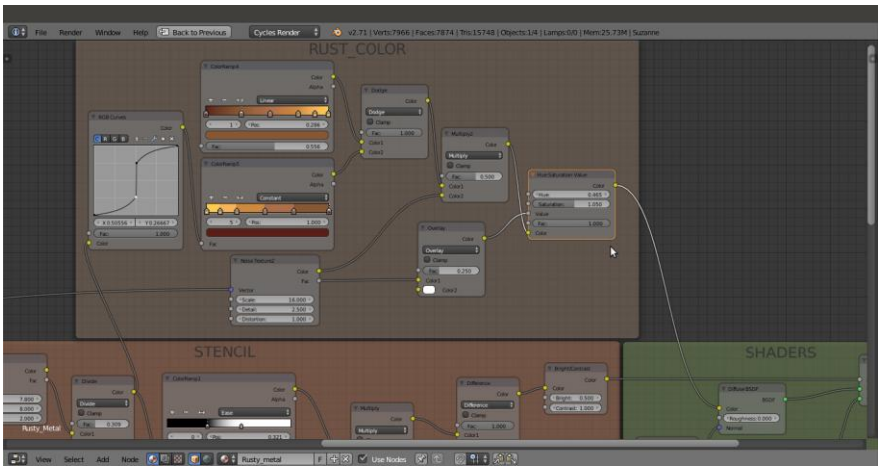

Group Input
Fresnel
Glossy BSDF
Beckmann
Bright/Contrast
Subtract
Anisotropic BSDF
Mix Shader
Bump
Diffuse BSDF
Material/Group

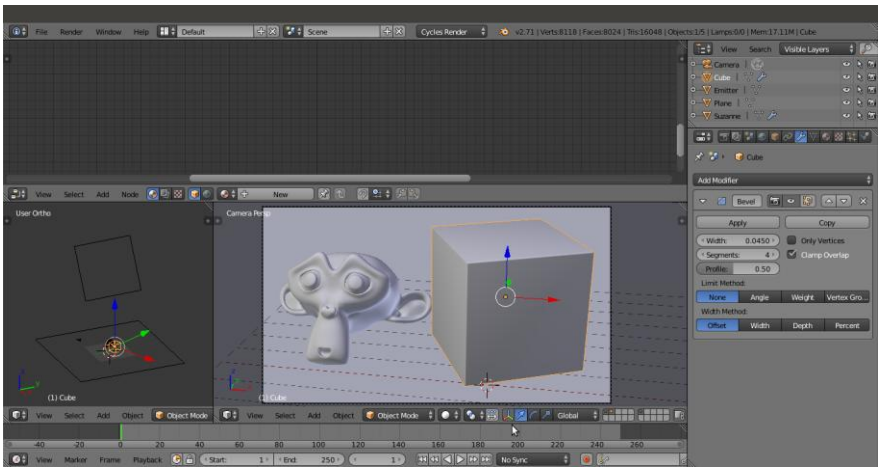

Material
Rusty metal
User Ortho
(1) Suzanne
Glass BSDF
Holdout
Glossy BSDF
Anisotropic BSDF
Add Shader
Ambient Occlusion
Refraction BSDF
Subsurface Scattering
Background
Diffuse BSDF
Translucent BSDF
Velvet BSDF
Transparent BSDF
Mix Shader
Toon BSDF
Emission
Volume Absorption
Volume Scatter
Hair BSDF

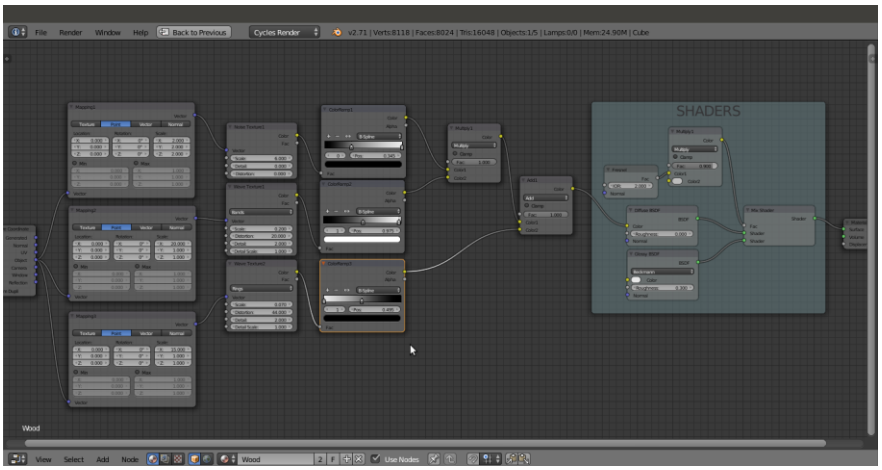

STENCIL
SHADERS
Rusty_Metal

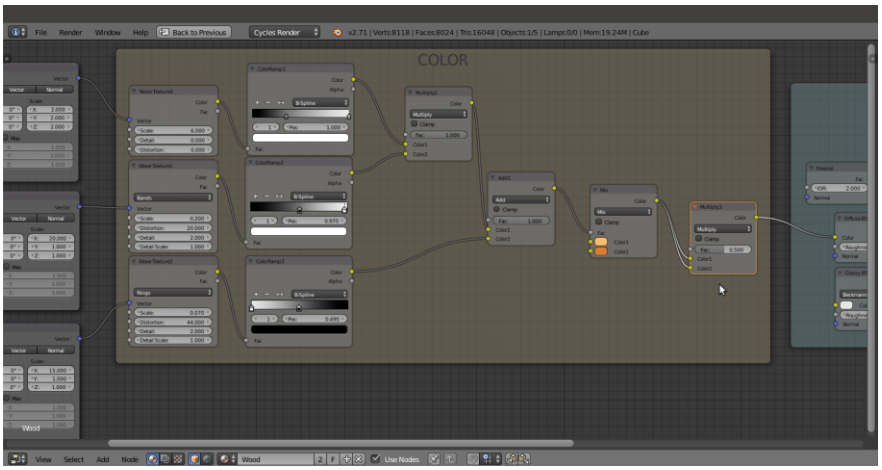

RUST_BUMP
Rusty_Metal

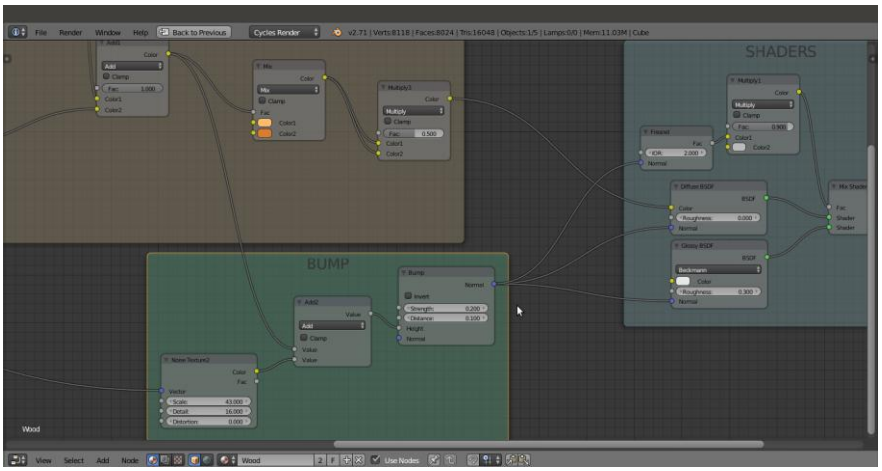

STENCIL
SHADERS
RUST_BUMP
Rusty_Metal


RUST_COLOR
STENCIL
SHADERS

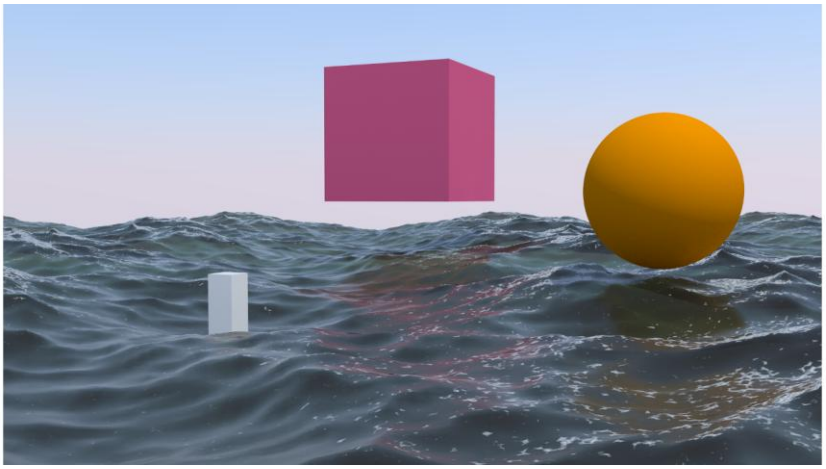


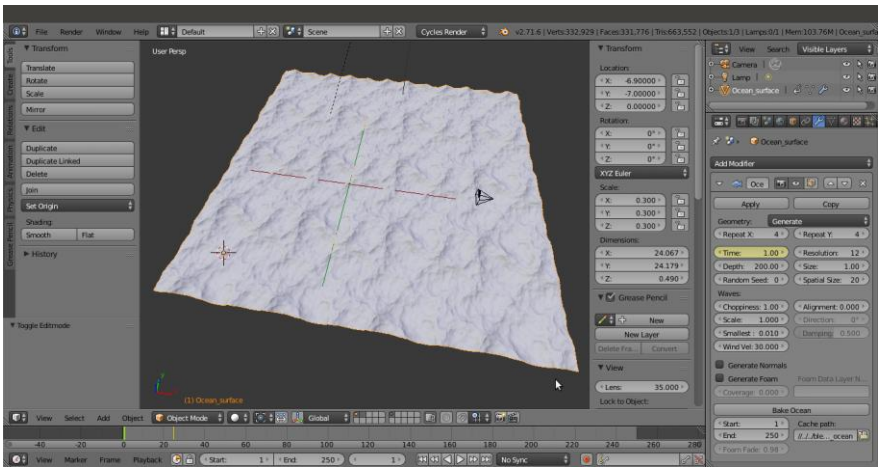

SHADERS
Wood

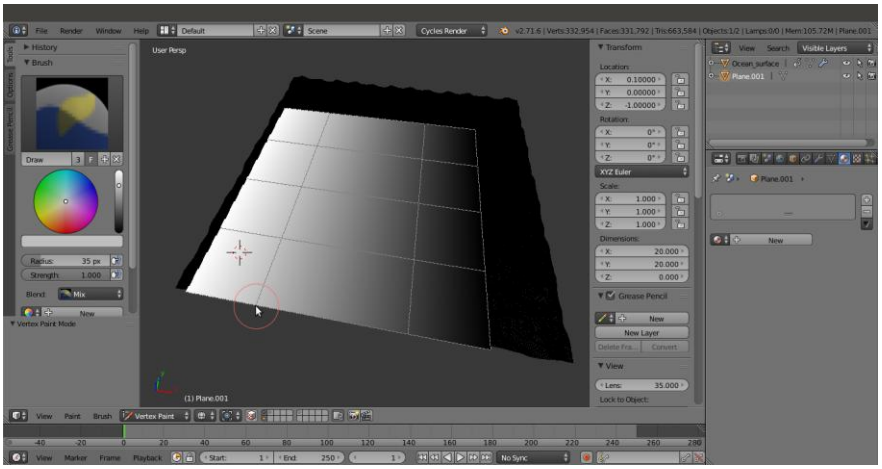

COLOR
Wood

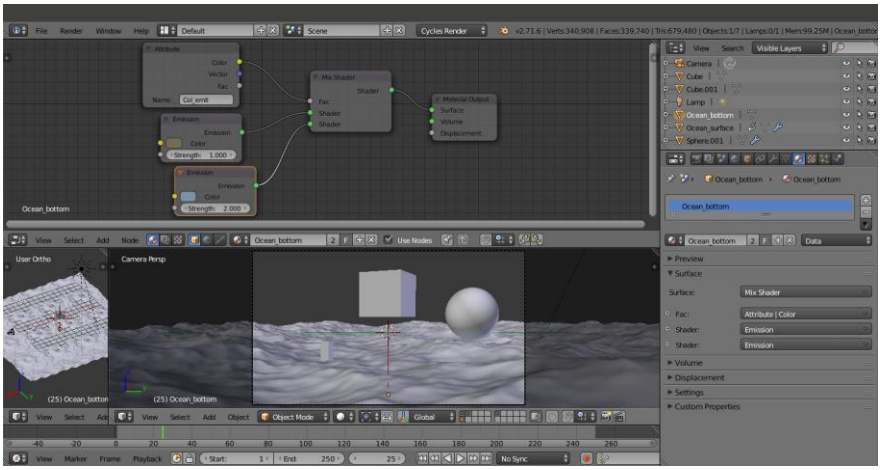

SHADERS
BUMP
Wood

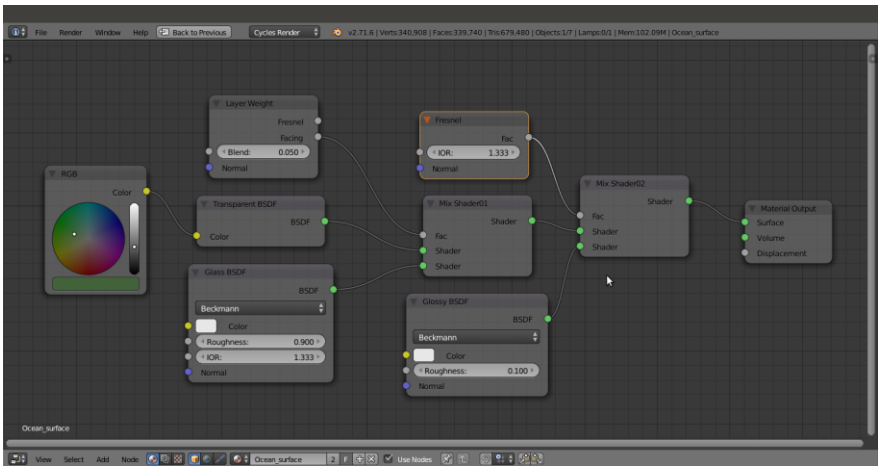
Chapter 5: Creating Complex Natural Materials in Cycles

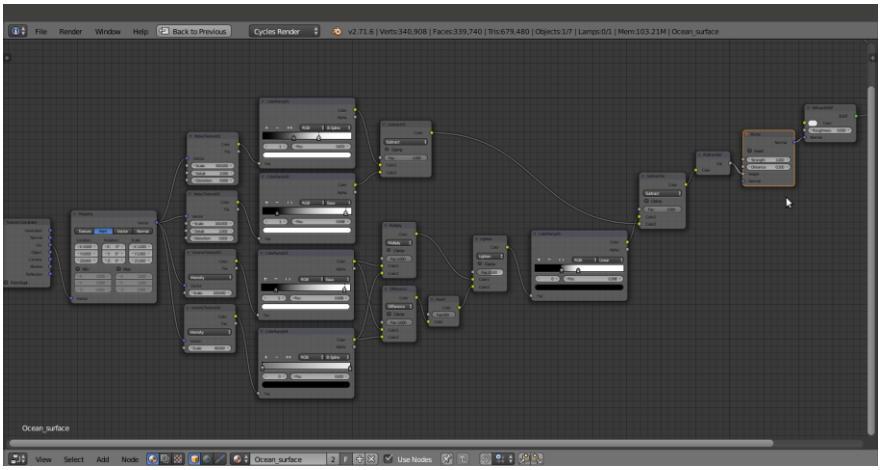


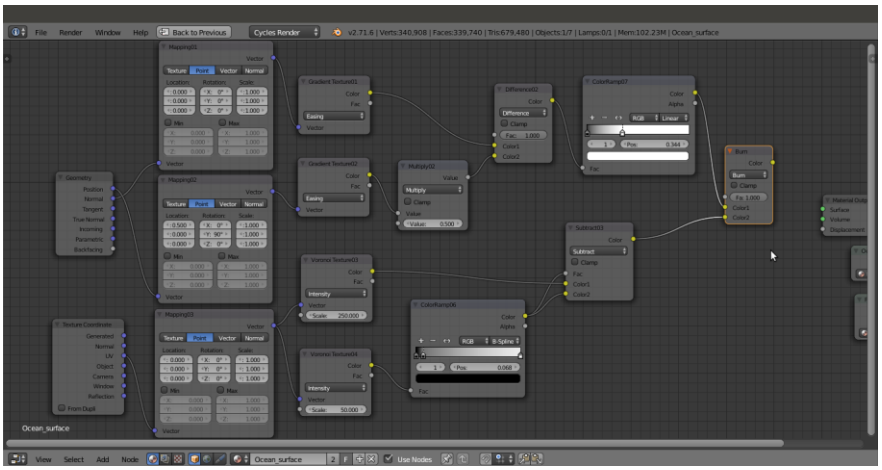


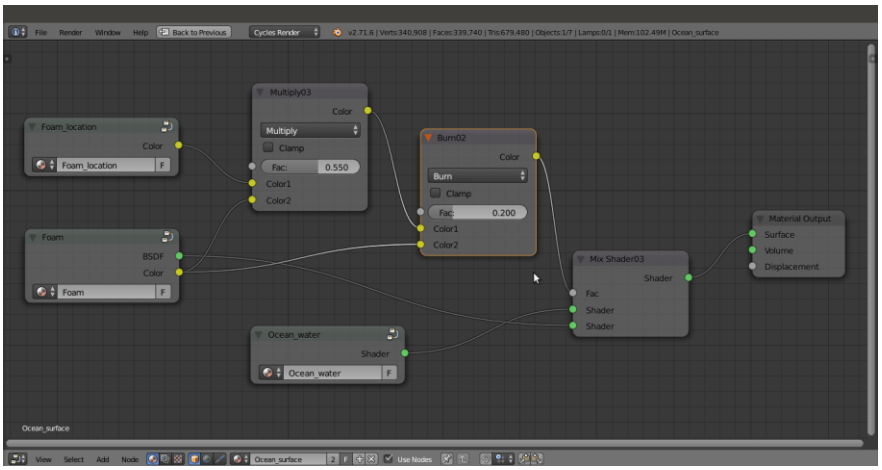


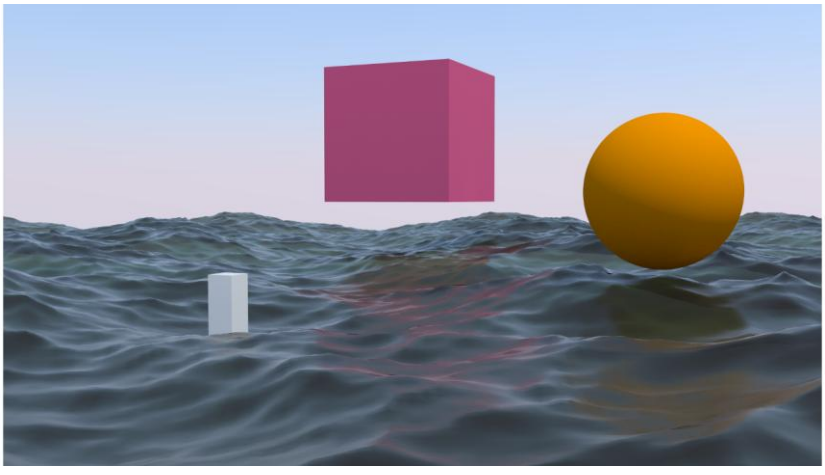

File Render Window Help
Default
Scene
Cycles Render
Attribute
Color
Vector
Fac
Name: Col_emit
Emission
Strength: 1.000
Strength: 2.000
Mix Shader
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Ocean_bottom
View Select Add Node
Use Nodes
User Ortho
Camera Persp
(25) Ocean_bottom
Object Mode
Global
View Marker Frame Playback
Start: 1
End: 250
No Sync
View Search
Visible Layers
Camera
Cube
Cube.001
Lamp
Ocean_bottom
Ocean_surface
Sphere.001
Data
Preview
Surface
Surface: Mix Shader
Fac: Attribute | Color
Shader: Emission
Shader: Emission
Volume
Displacement
Settings
Custom Properties

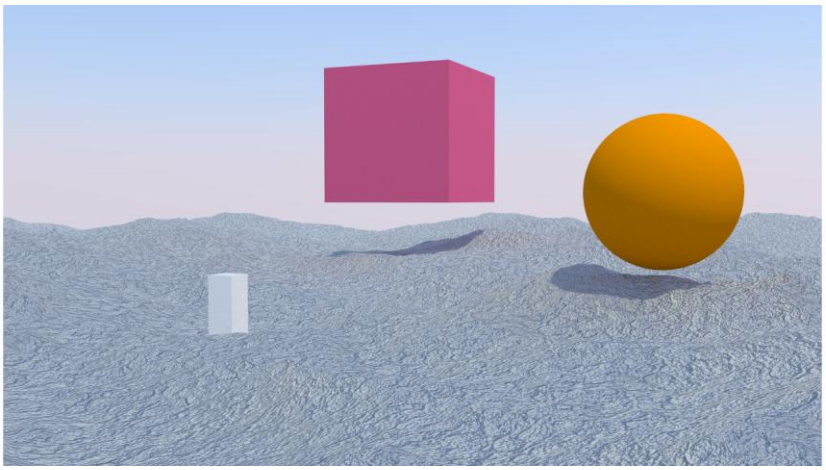

File Render Window Help
Back to Previous
Cycles Render
v2.71.6 | Verts:340,908 | Faces:339,740 | Tris:679,480 | Objects:1/7 | Lamps:0/1 | Mem:102.09M | Ocean_surface
Layer Weight
Fresnel
Facing
Blend: 0.050
Normal
Fresnel
Fac
IOR: 1.333
Normal
RGB
Color
Transparent BSDF
BSDF
Color
Mix Shader01
Shader
Fac
Shader
Shader
Mix Shader02
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Glass BSDF
BSDF
Beckmann
Color
Roughness: 0.900
IOR: 1.333
Normal
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.100
Normal
Ocean_surface
View Select Add Node
Use Nodes

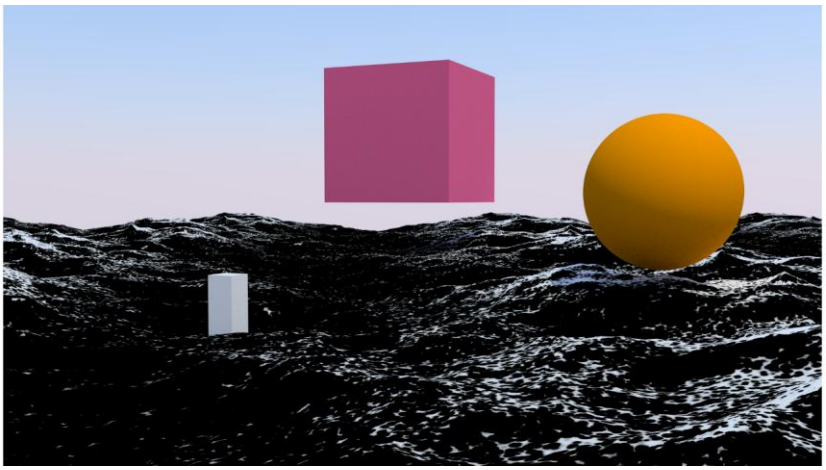

File Render Window Help
Back to Previous
Cycles Render
v2.71.6 | Verts:340,908 | Faces:339,740 | Tris:679,480 | Objects:1/7 | Lamps:0/1 | Mem:103.21M | Ocean_surface
Ocean_surface
View Select Add Node
Use Nodes

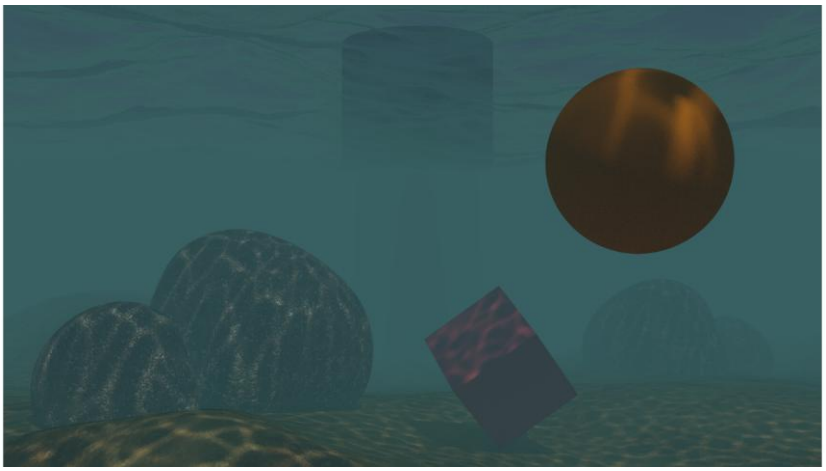

File Render Window Help Back to Previous Cycles Render
Ocean_surface
View Select Add Node Ocean_surface Use Nodes

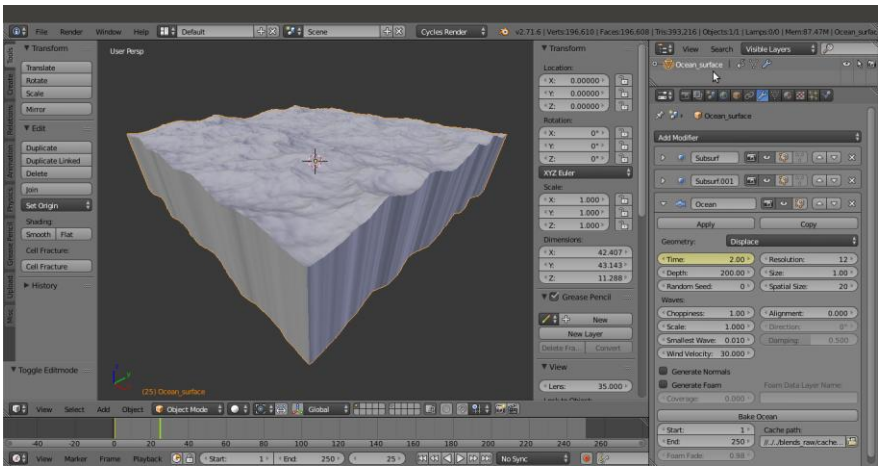

File Render Window Help Back to Previous Cycles Render
Multiply03
Color
Multiply
Clamp
Fac: 0.550
Color1
Color2
Foam_location
Color
Foam_location
Burn02
Color
Burn
Clamp
Fac: 0.200
Color1
Color2
Foam
BSDF
Color
Foam
Material Output
Surface
Volume
Displacement
Mix Shader03
Shader
Fac
Shader
Shader
Ocean_water
Shader
Ocean_water
Ocean_surface
View Select Add Node Ocean_surface Use Nodes

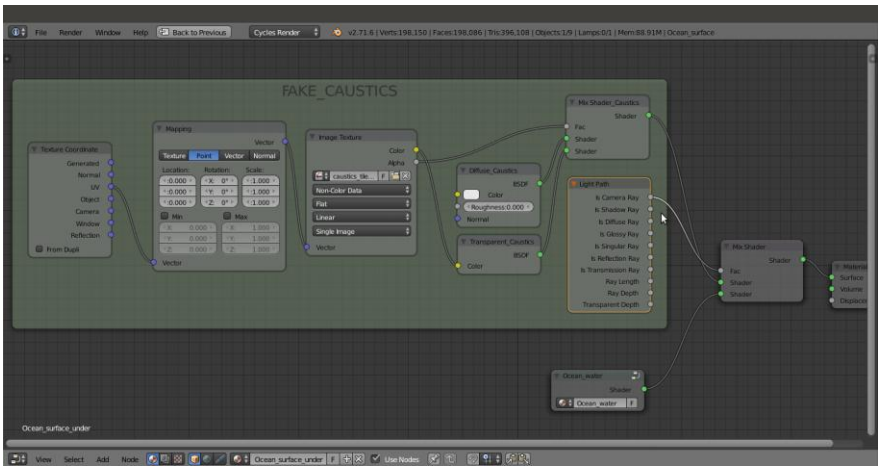


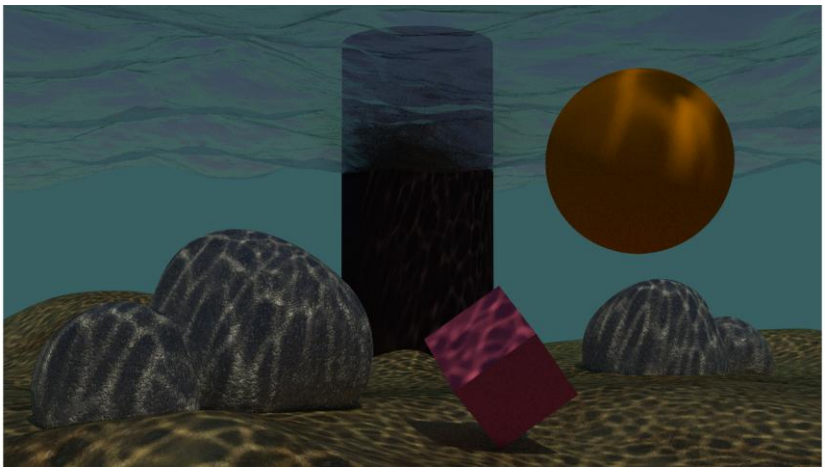


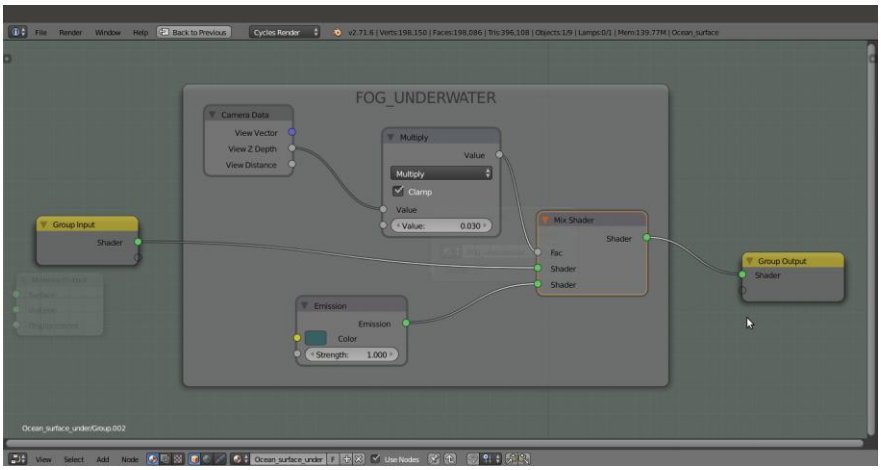


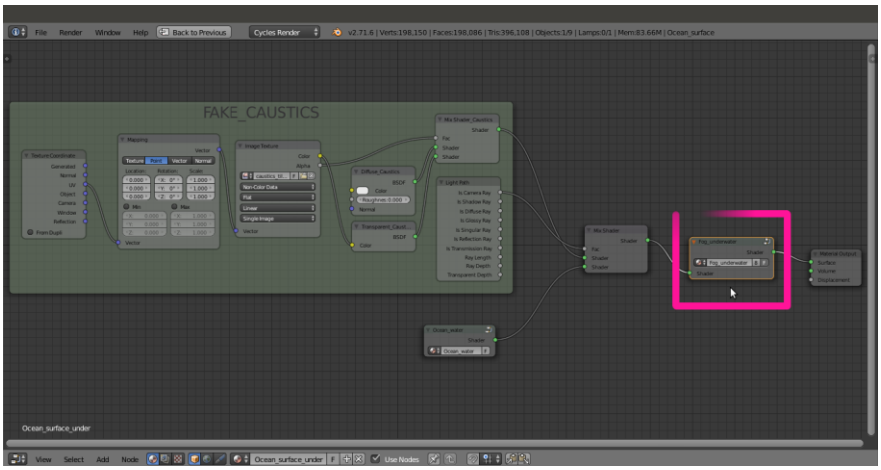


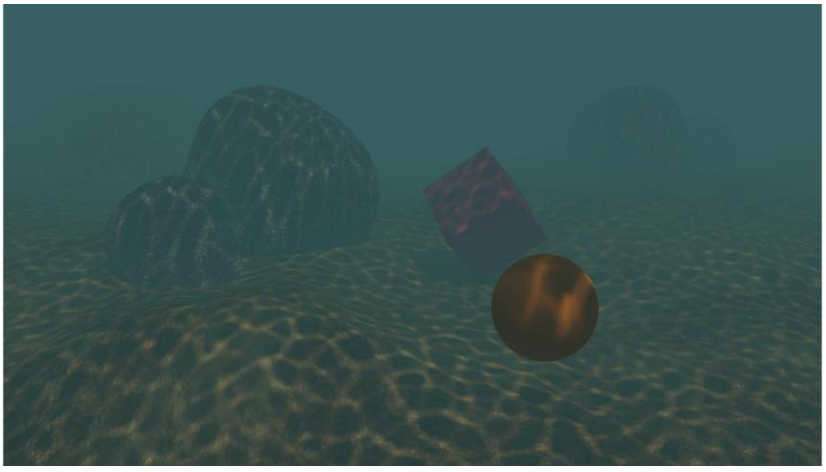


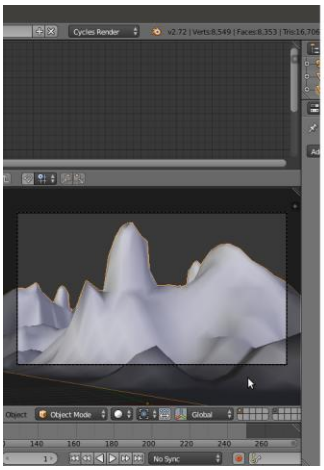

FAKE_CAUSTICS
Ocean_surface_under

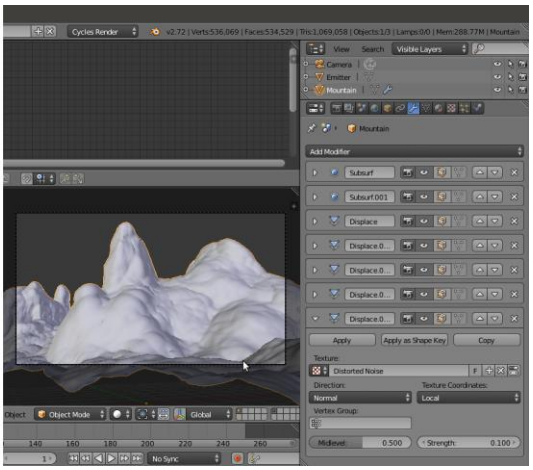


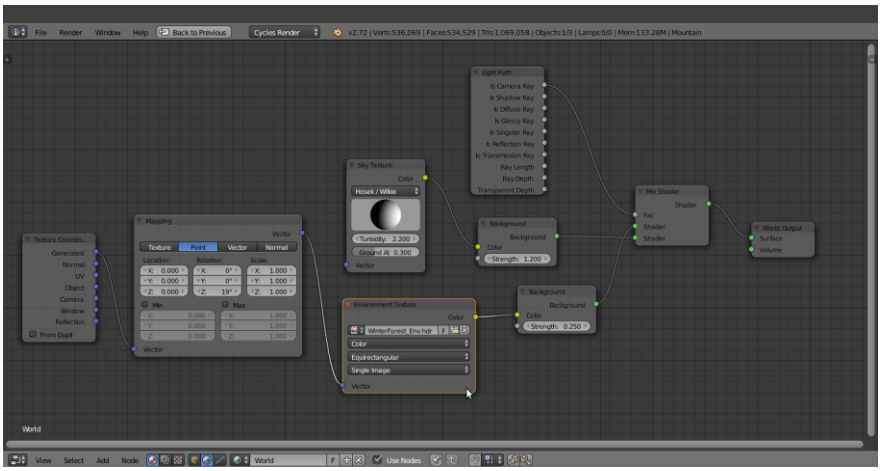

FOG_UNDERWATER
Camera Data
View Vector
View Z Depth
View Distance
Multiply
Value
Multiply
Clamp
Value
Value: 0.030
Group Input
Shader
Mix Shader
Shader
Fac
Shader
Shader
Group Output
Shader
Emission
Emission
Color
Strength: 1.000
Ocean_surface_under/Group.002

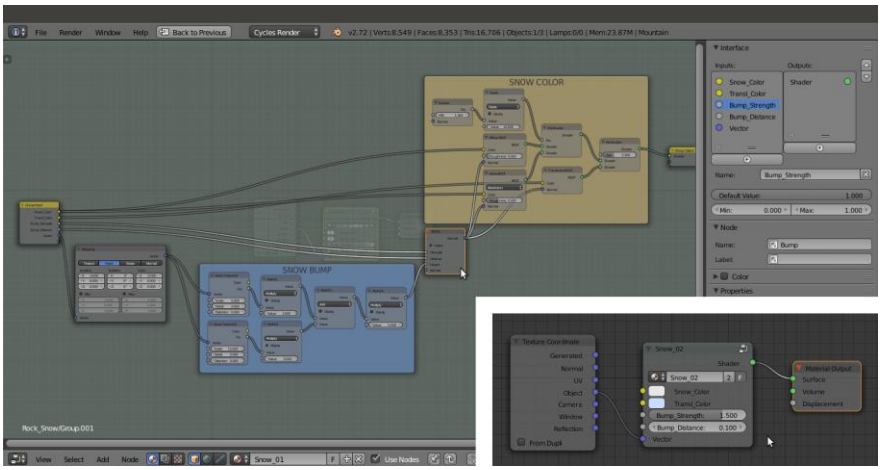

FAKE_CAUSTICS
Ocean_surface_under

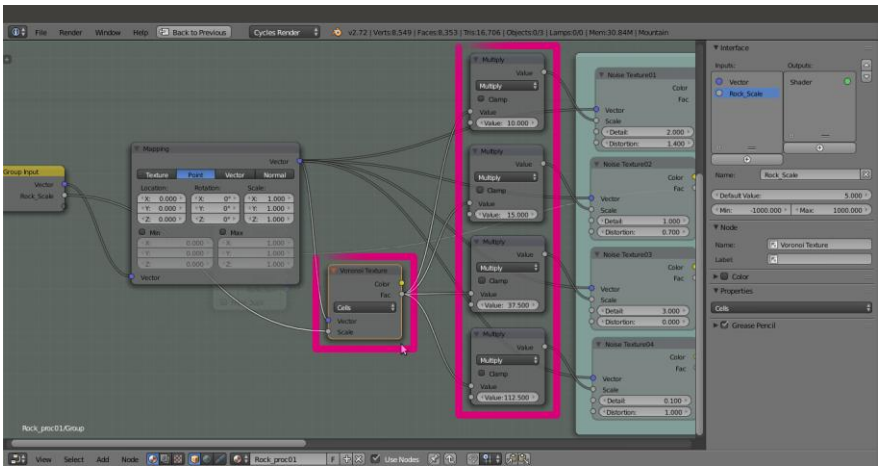


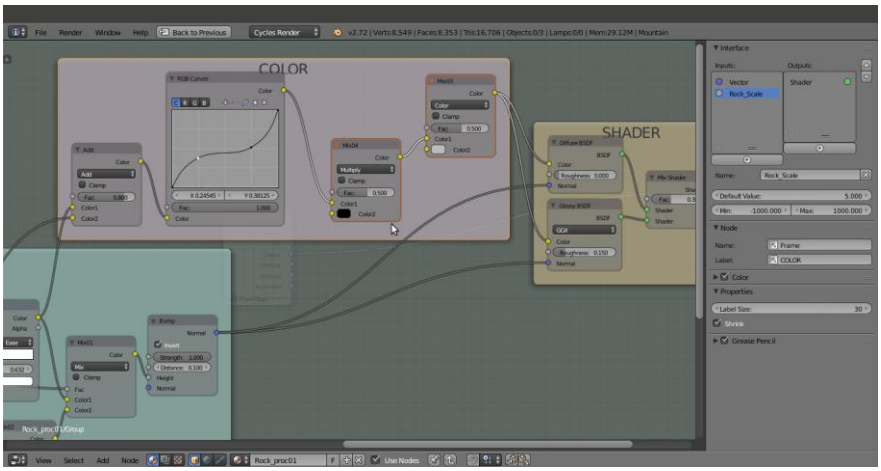


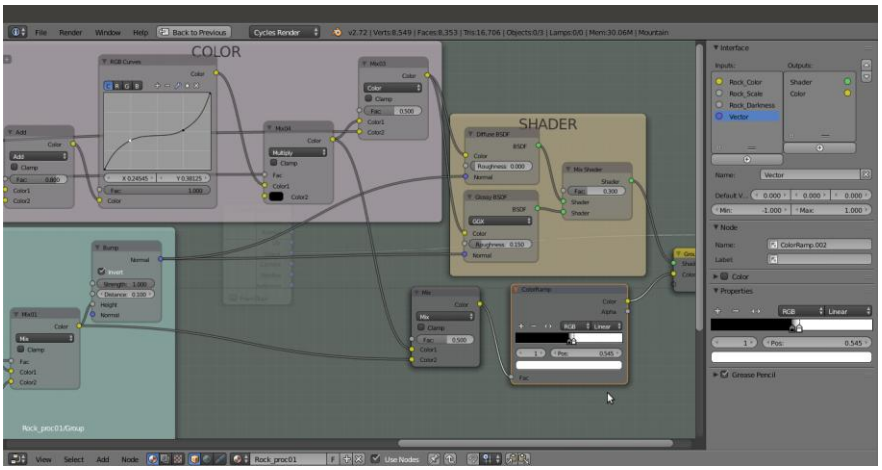


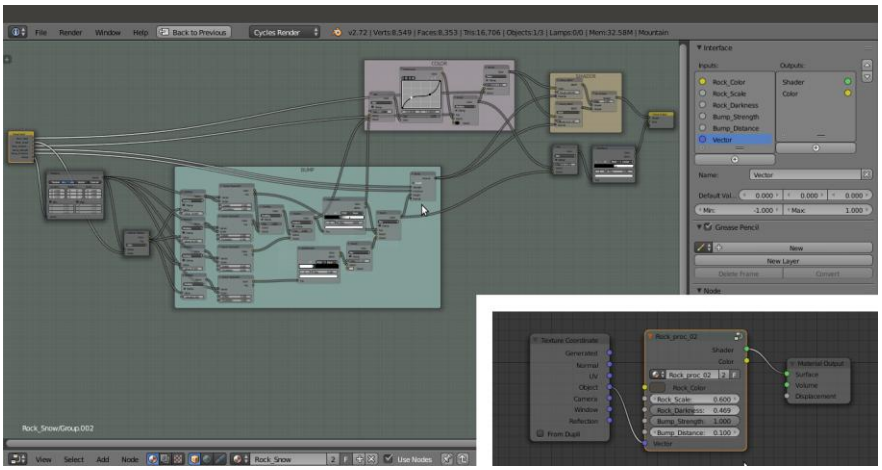


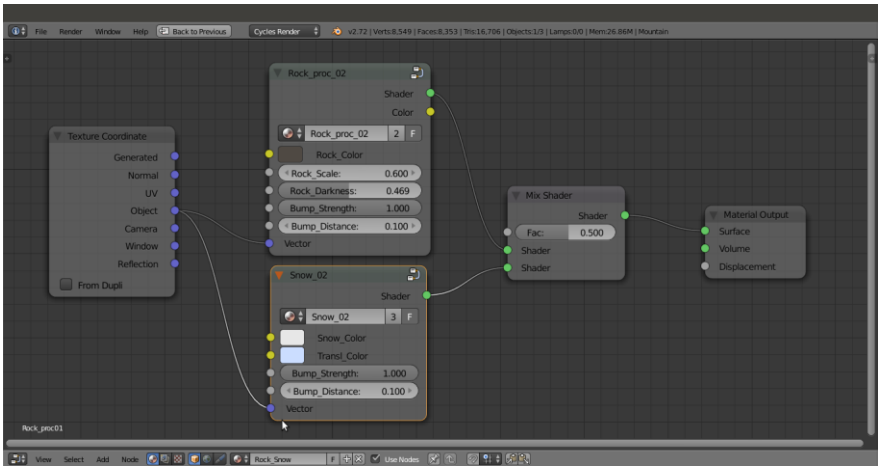

SNOW COLOR
SNOW BUMP

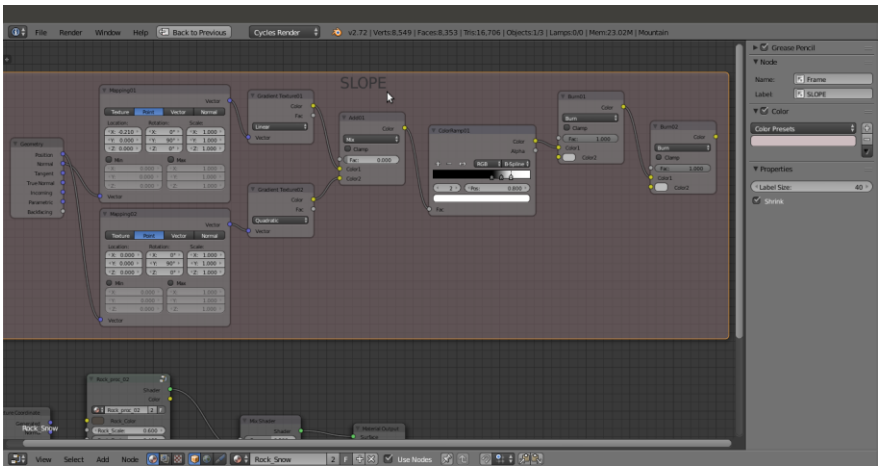


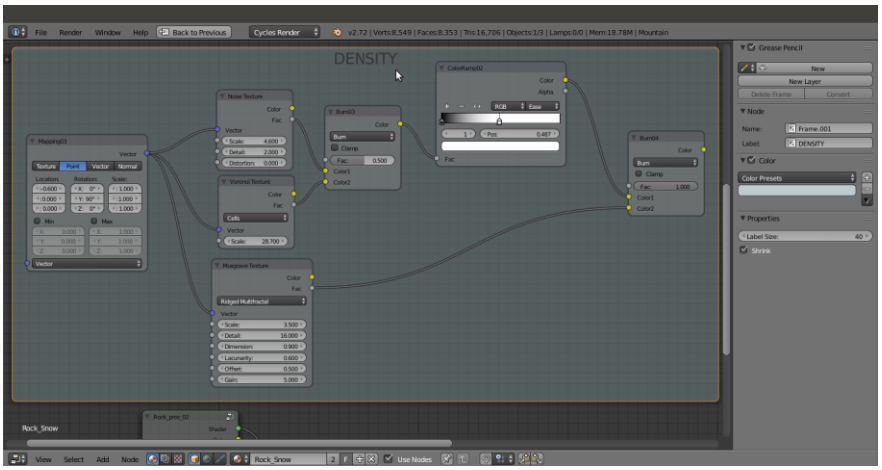

COLOR
SHADER

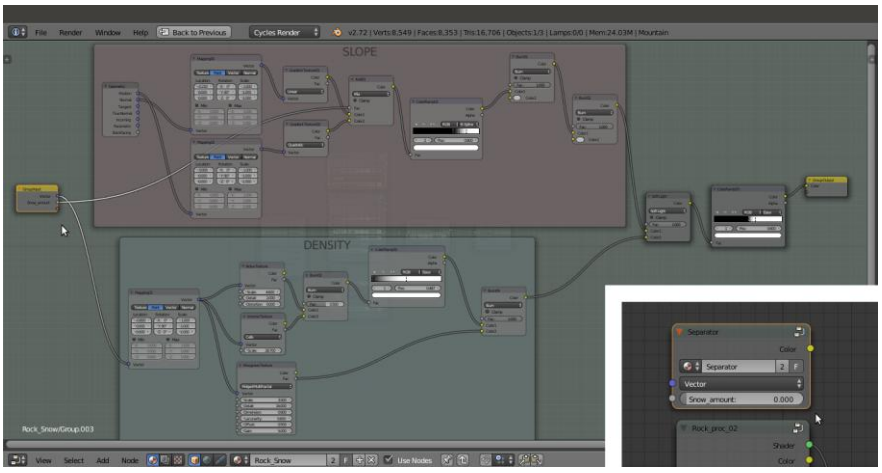

COLOR
SHADER

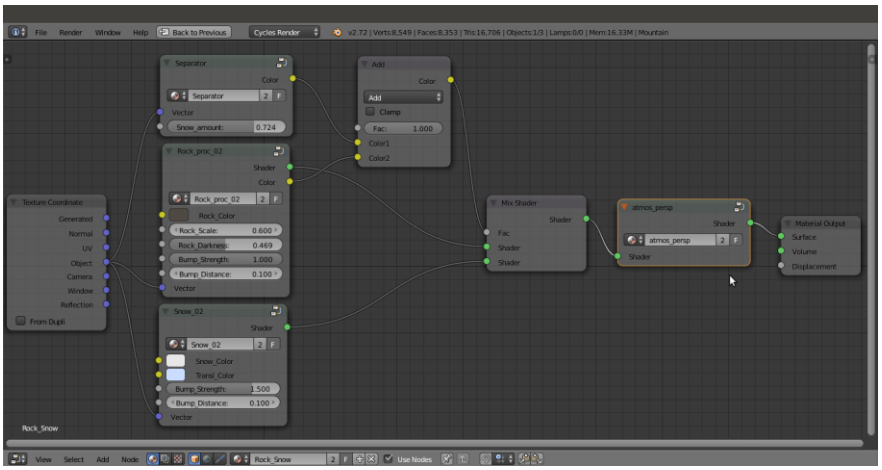


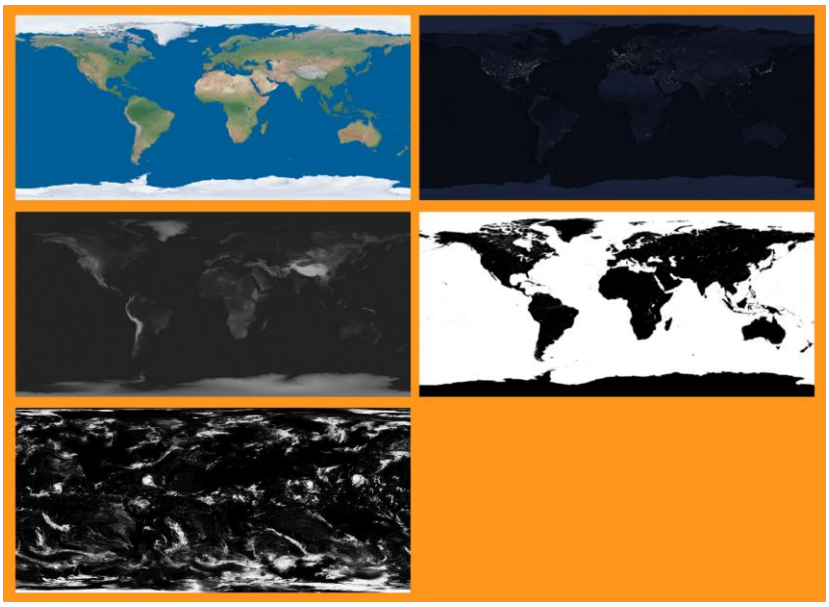

Texture Coordinate
Generated
Normal
UV
Object
Camera
Window
Reflection
From Dupli
Rock_proc_02
Shader
Color
Rock_proc_02
Rock_Color
Rock_Scale: 0.600
Rock_Darkness: 0.469
Bump_Strength: 1.000
Bump_Distance: 0.100
Vector
Snow_02
Shader
Snow_02
Snow_Color
Transl_Color
Bump_Strength: 1.000
Bump_Distance: 0.100
Vector
Mix Shader
Shader
Fac: 0.500
Shader
Shader
Material Output
Surface
Volume
Displacement
Rock_proc01

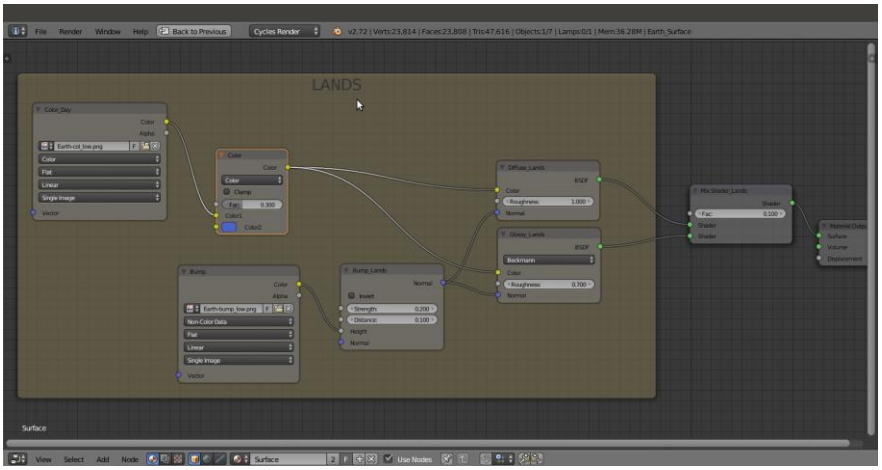

SLOPE
Rock_Snow

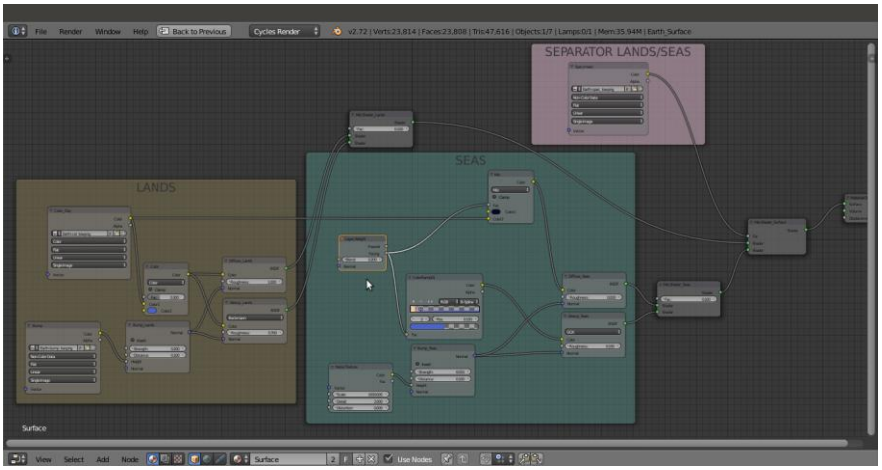

DENSITY
Rock_Snow

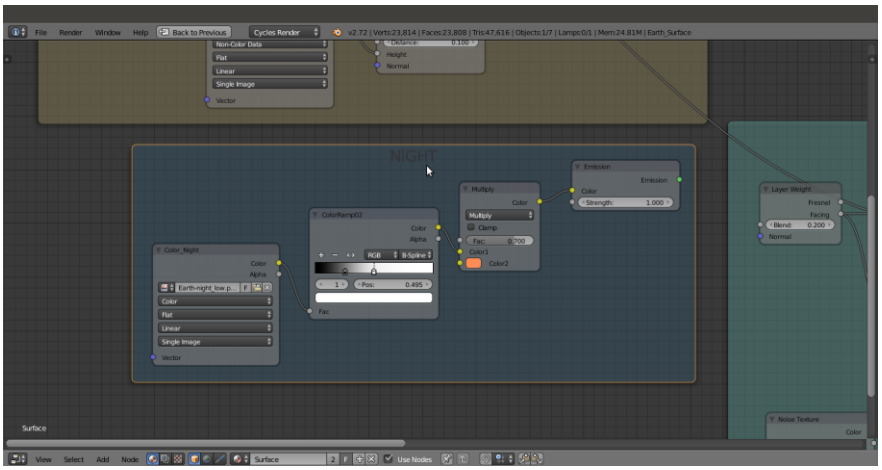

SLOPE
DENSITY
Rock_Snow/Group.003
Separator
Vector
Snow amount: 0.000
Rock_proc_02

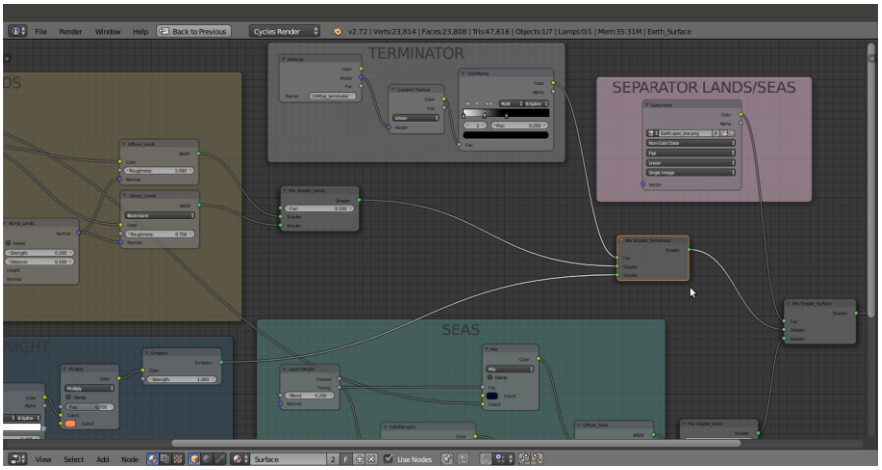

File
Render
Window
Help
Back to Previous
Cycles Render
Separator
Color
Separator
Vector
Snow_amount: 0.724
Add
Color
Add
Clamp
Fac: 1.000
Color1
Color2
Rock_proc_02
Shader
Color
Rock_proc_02
Rock_Color
Rock_Scale: 0.600
Rock_Darkness: 0.469
Bump_Strength: 1.000
Bump_Distance: 0.100
Vector
Texture Coordinate
Generated
Normal
UV
Object
Camera
Window
Reflection
From Dupli
Snow_02
Shader
Snow_02
Snow_Color
Transl_Color
Bump_Strength: 1.500
Bump_Distance: 0.100
Vector
Mix Shader
Shader
Fac
Shader
Shader
atmos_persp
Shader
atmos_persp
Shader
Material Output
Surface
Volume
Displacement
Rock_Snow
View
Select
Add
Node
Rock_Snow
Use Nodes

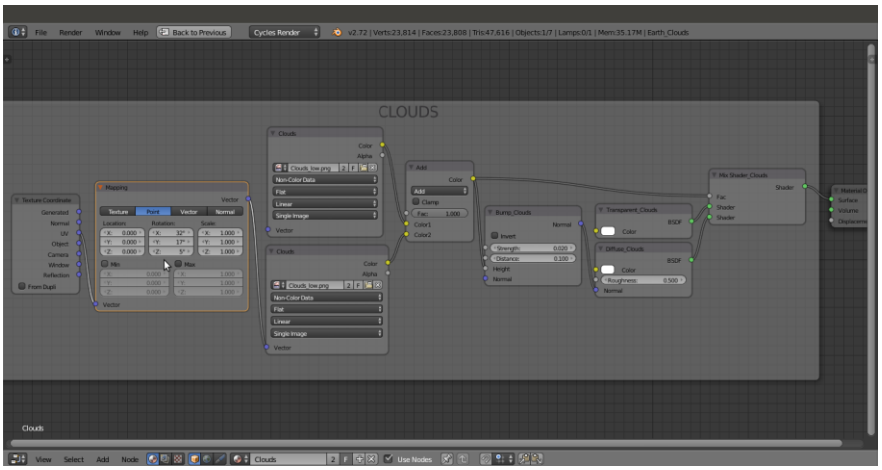


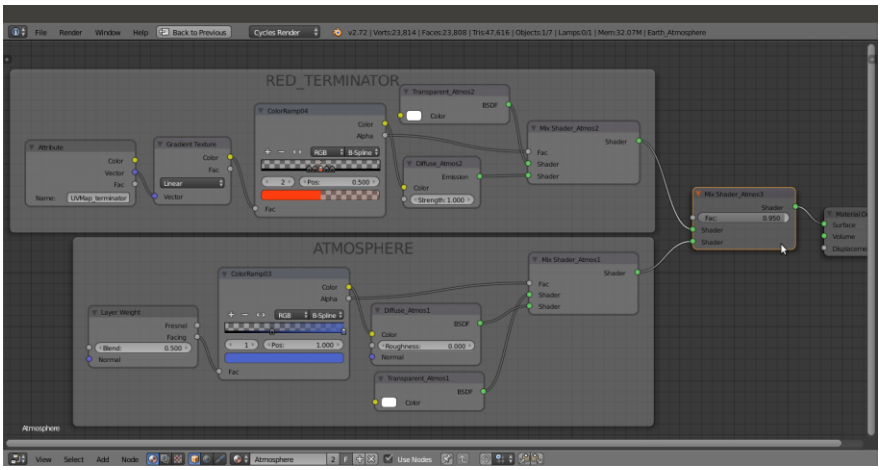

LANDS
Surface


SEPARATOR LANDS/SEAS
SEAS
LANDS
Surface

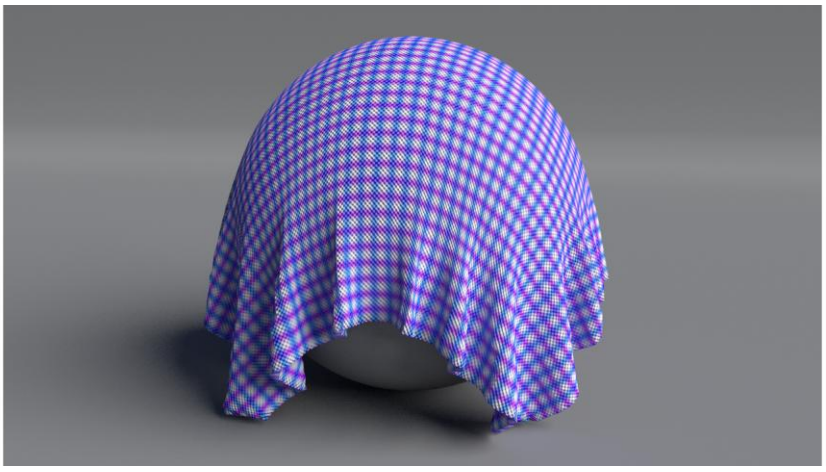

NIGHT
Surface

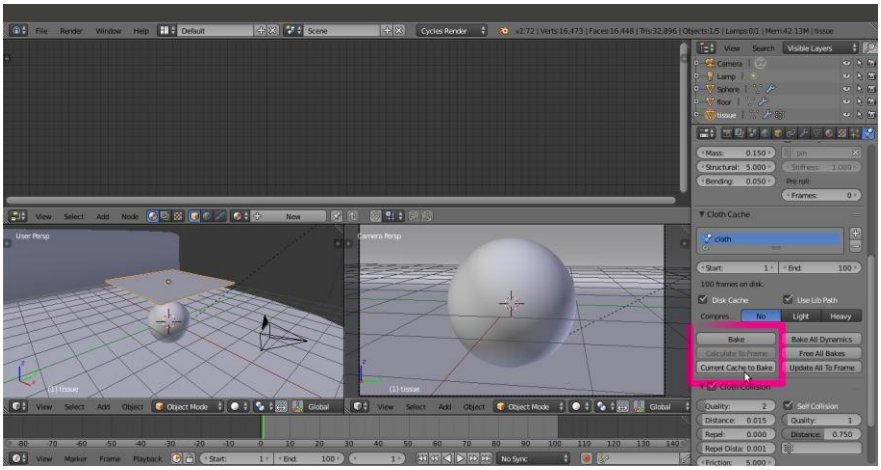

TERMINATOR
SEPARATOR LANDS/SEAS
SEAS





Chapter 6: Creating More Complex Man-made Materials

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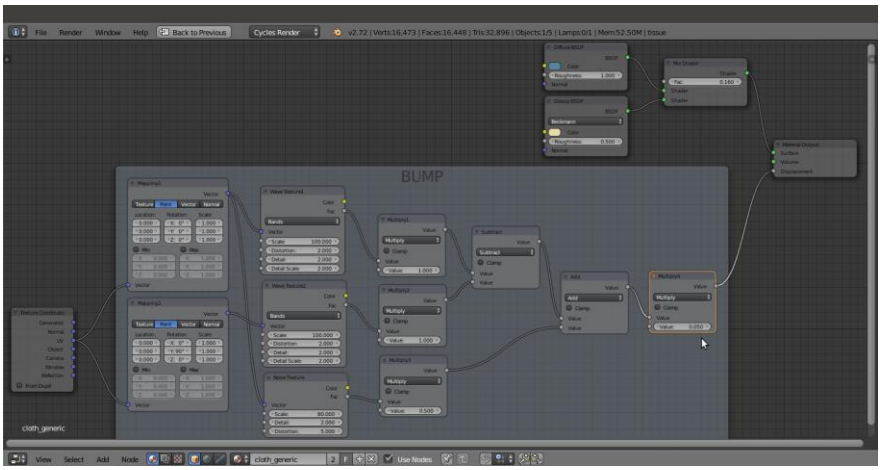
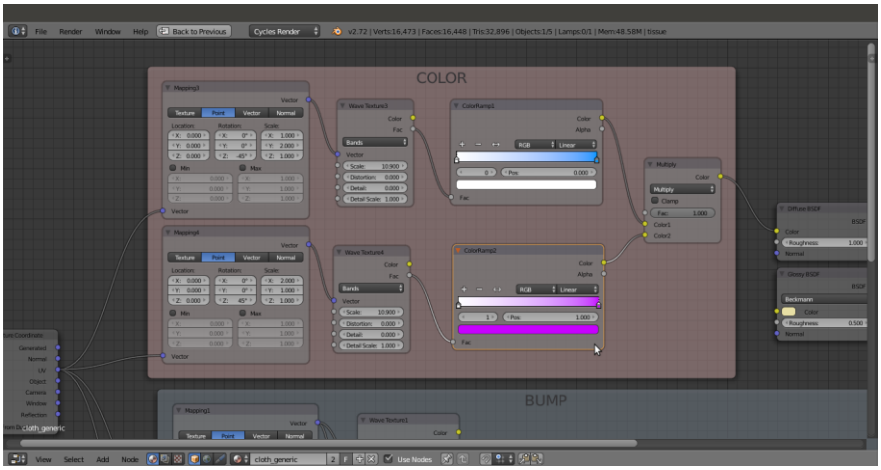
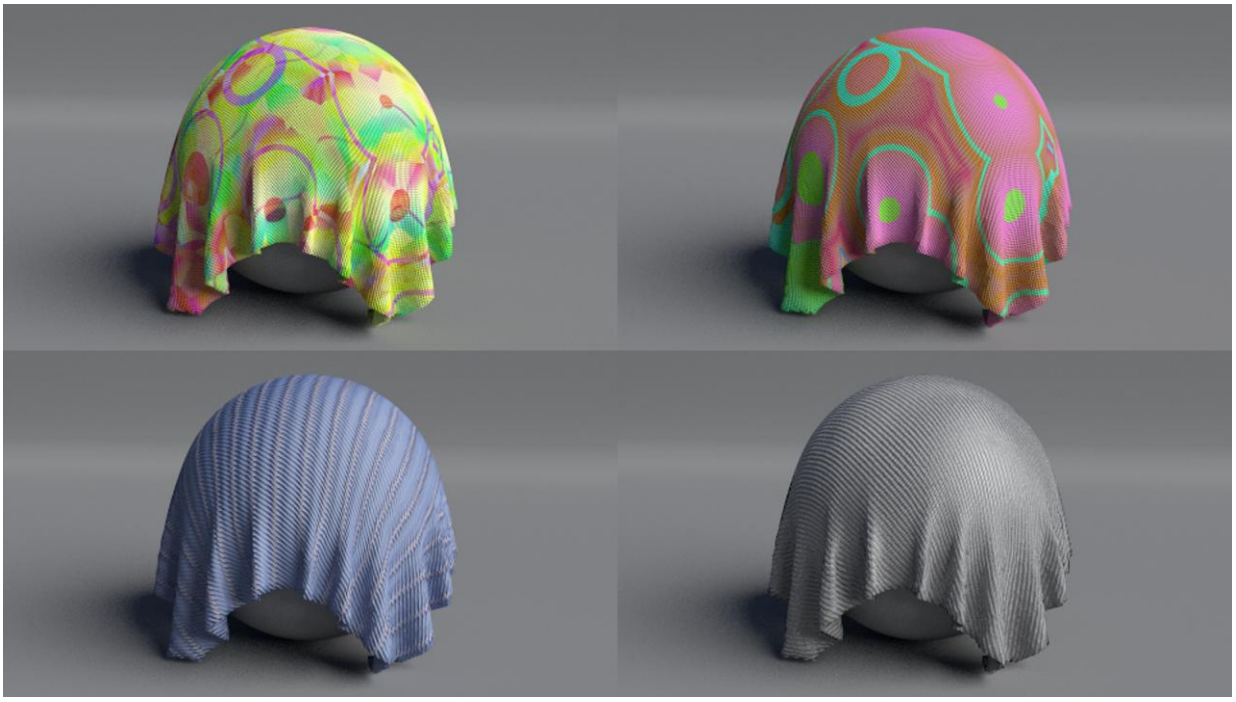
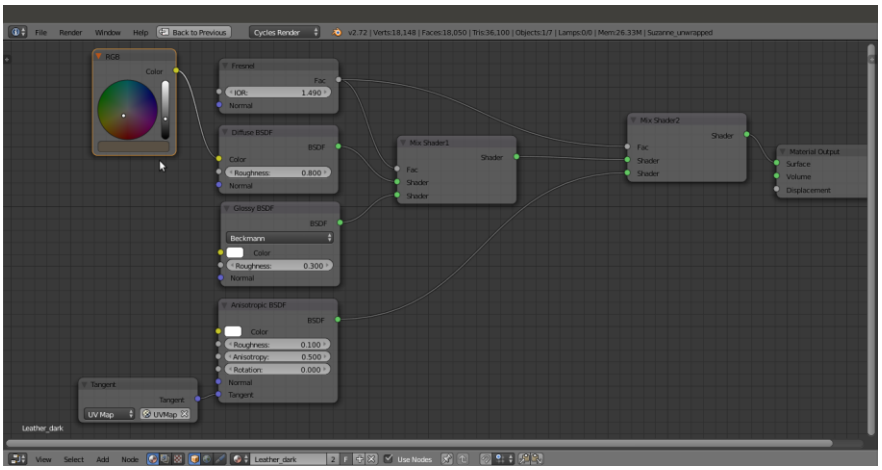
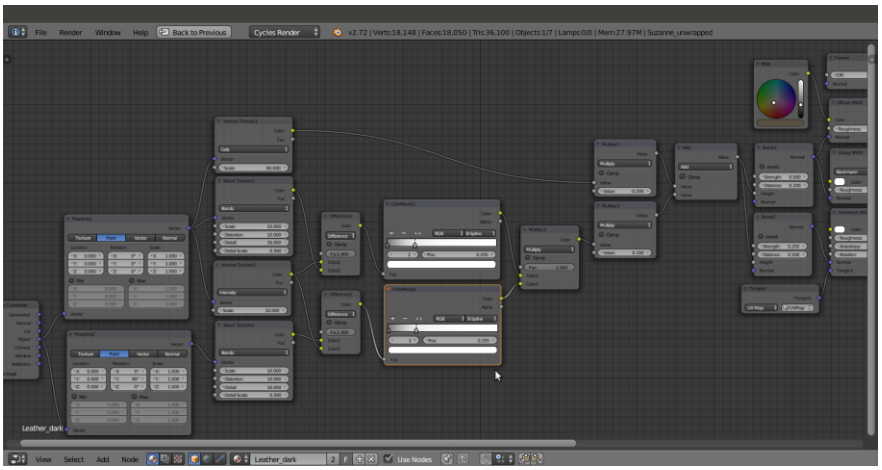
Cloth Cache
Bake
Calculate To Frame
Current Cache to Bake
Free All Bakes
Update All To Frame
Bake All Dynamics

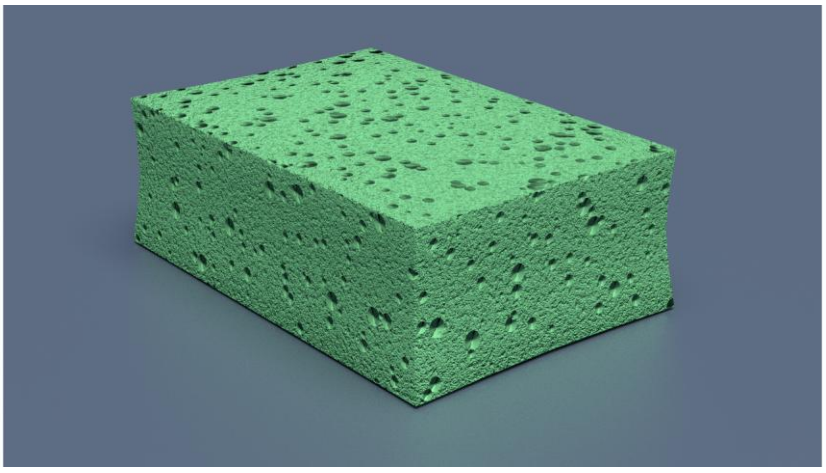

BUMP
cloth_generic

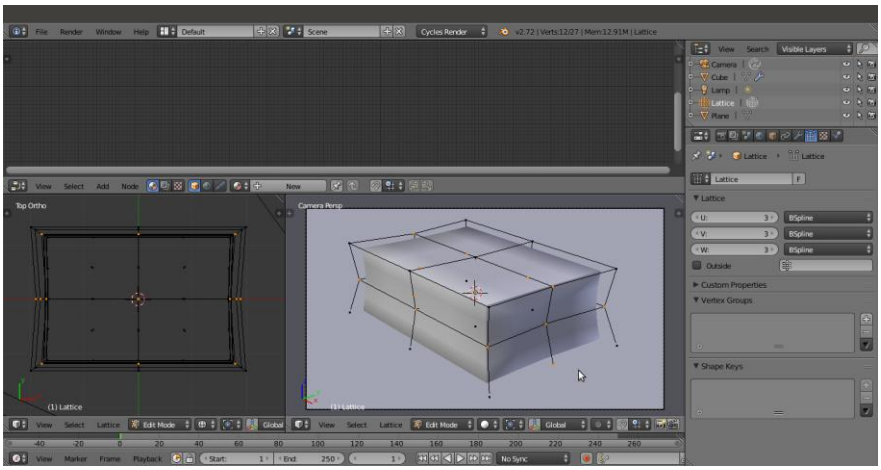

COLOR
BUMP
cloth_generic

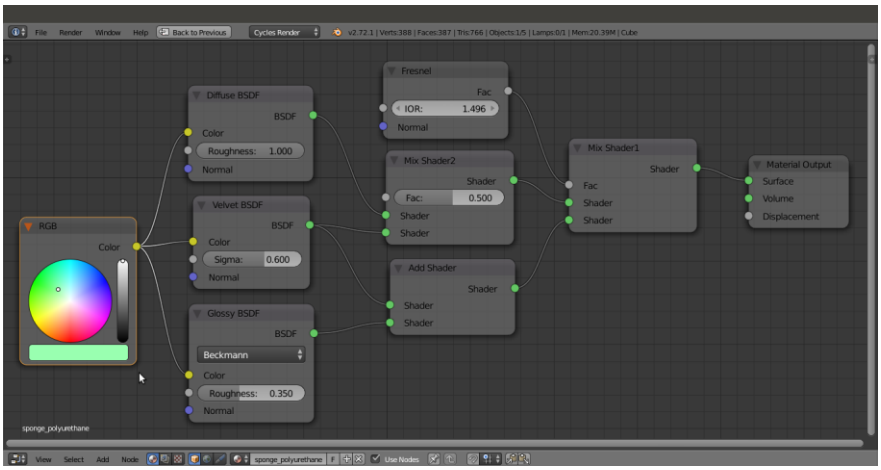


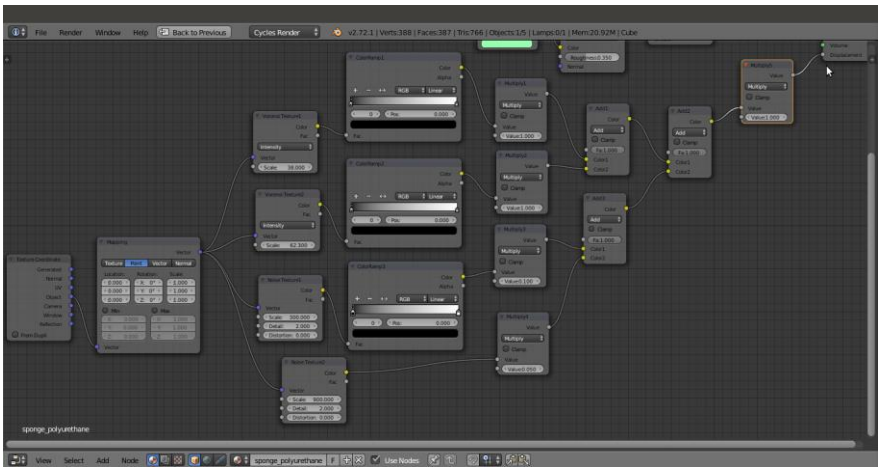

File Render Window Help Back to Previous Cycles Render
RGB
Color
Fresnel
Fac
IOR: 1.490
Normal
Diffuse BSDF
BSDF
Color
Roughness: 0.800
Normal
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.300
Normal
Anisotropic BSDF
BSDF
Color
Roughness: 0.100
Anisotropy: 0.500
Rotation: 0.000
Normal
Tangent
Tangent
UV Map
UVMap
Mix Shader1
Shader
Fac
Shader
Shader
Mix Shader2
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Leather_dark
View Select Add Node
Leather_dark
Use Nodes

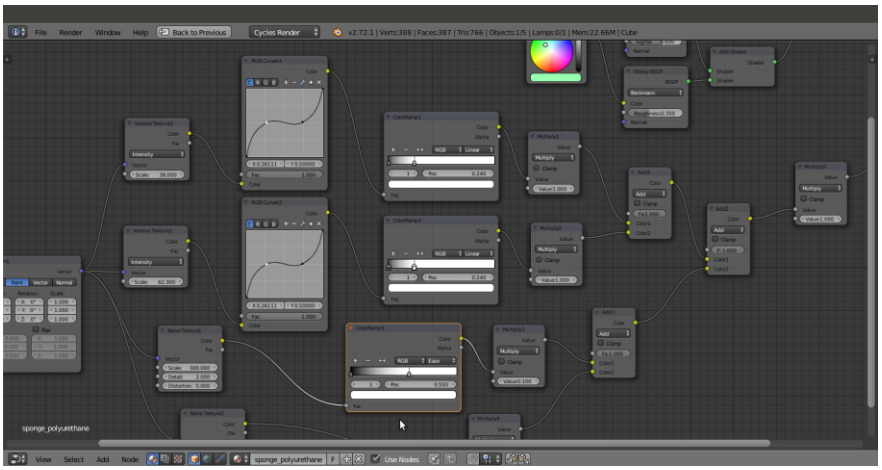

File Render Window Help Back to Previous Cycles Render
Leather_dark
View Select Add Node
Leather_dark
Use Nodes




Top Ortho
Camera Persp
(1) Lattice

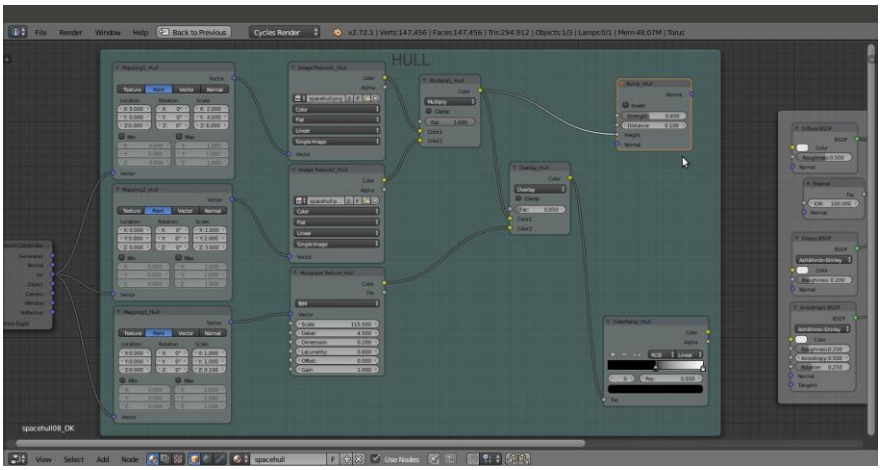

Diffuse BSDF
Color
Roughness: 1.000
Normal
Fresnel
Fac
IOR: 1.496
Normal
Mix Shader2
Shader
Fac: 0.500
Shader
Shader
Mix Shader1
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Velvet BSDF
Color
Sigma: 0.600
Normal
RGB
Color
Add Shader
Shader
Shader
Shader
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.350
Normal
sponge_polyurethane

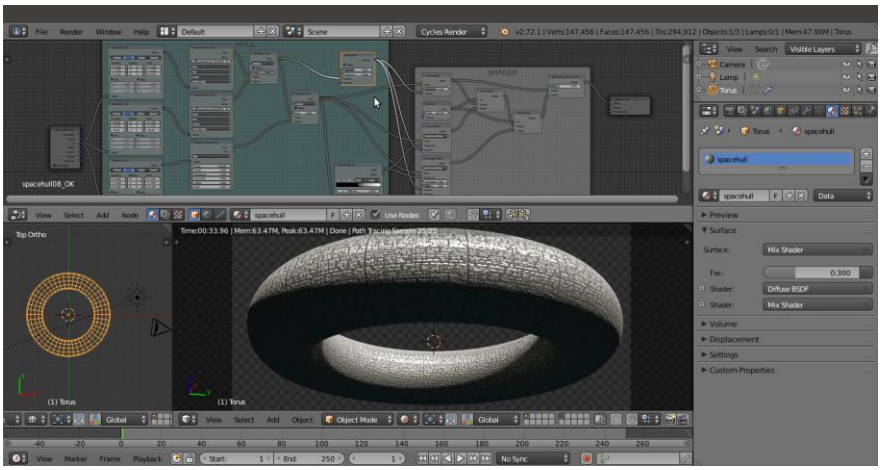

sponge_polyurethane



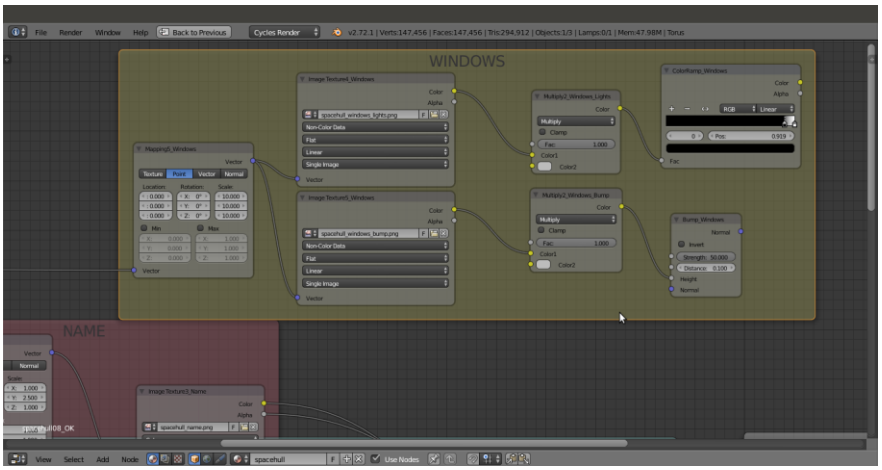
ARGUS

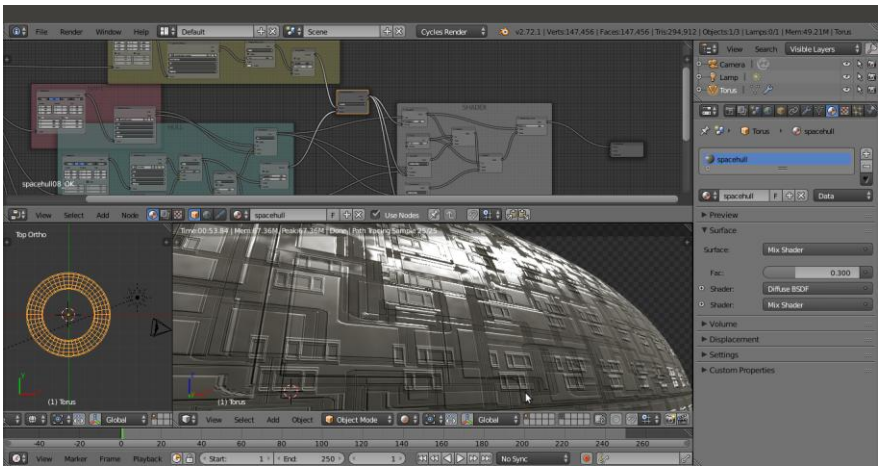
SHADER

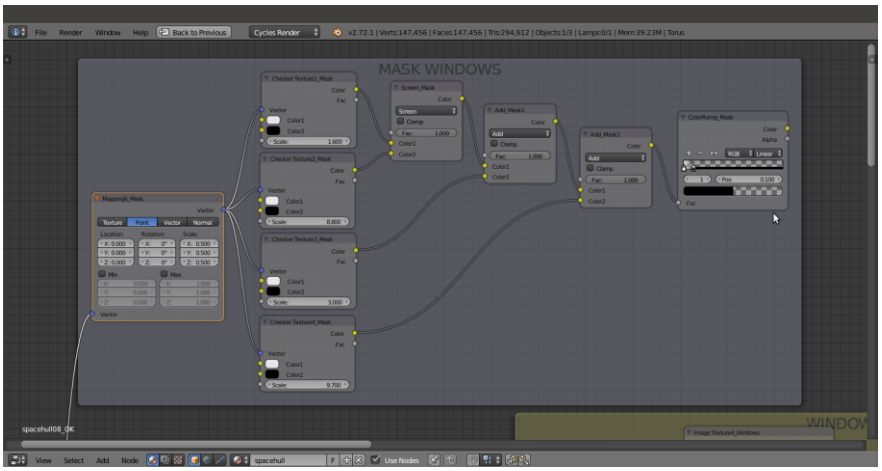

HULL
spacehull08_OK

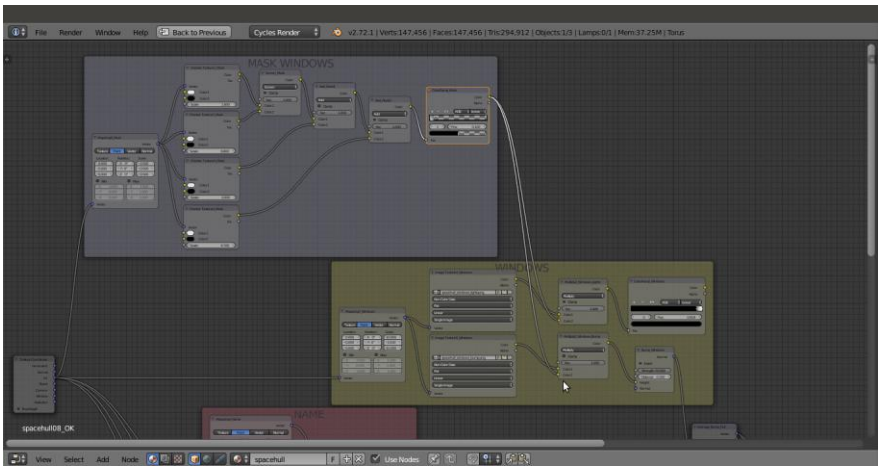

spacehull08_OK
Top Ortho
(1) Torus

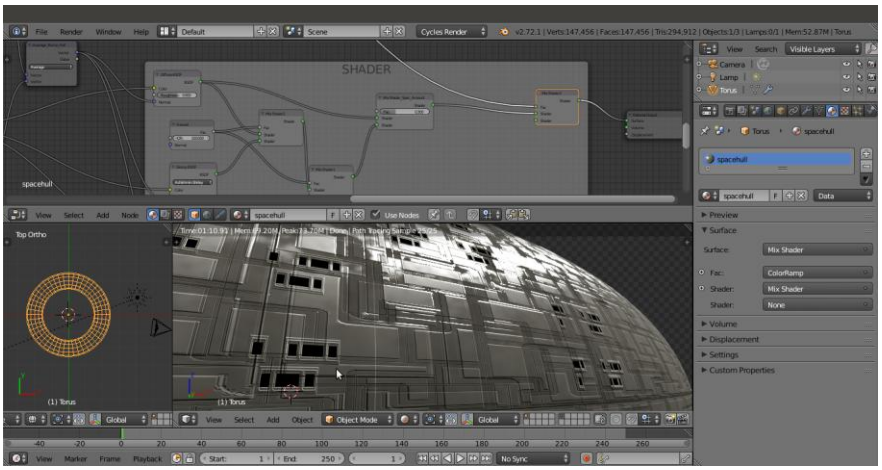
spacehull08_OK
Top Ortho
ARGUS
(1) Torus

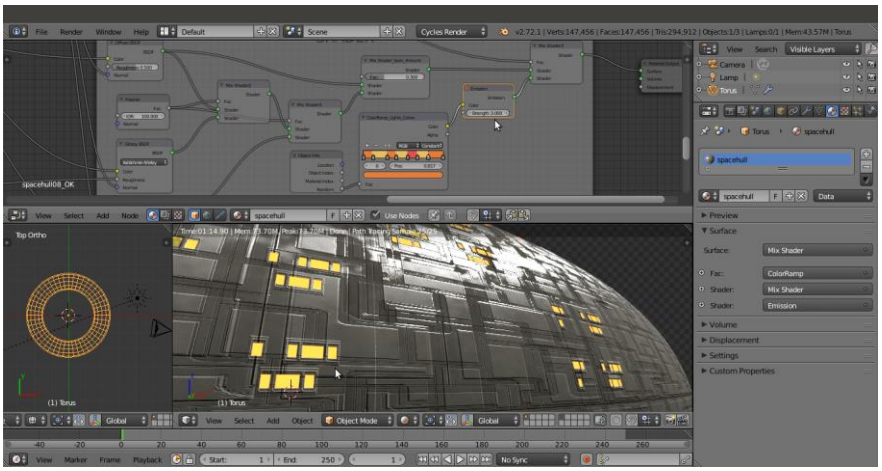

WINDOWS
NAME

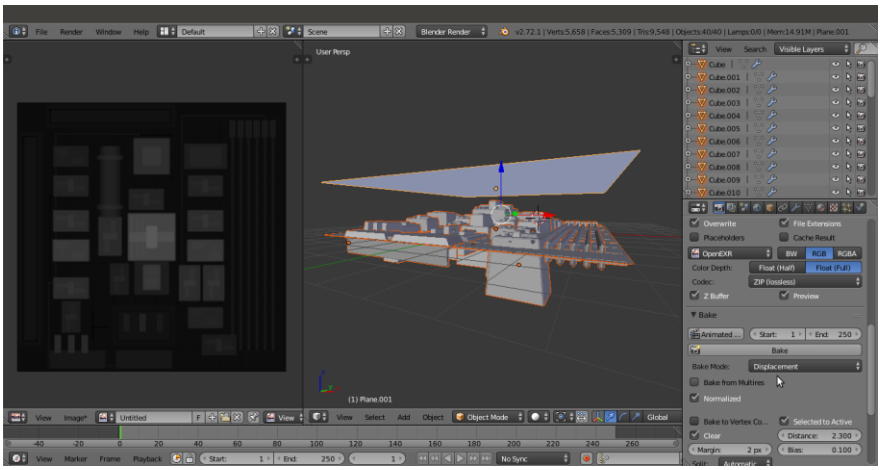

Top Ortho
(1) Torus

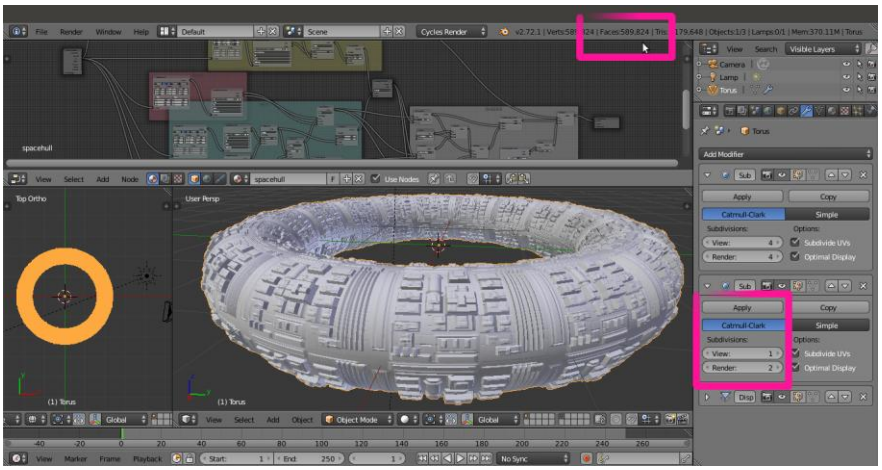

MASK WINDOWS


MASK WINDOWS
WINDOWS
NAME
spacehull08_OK

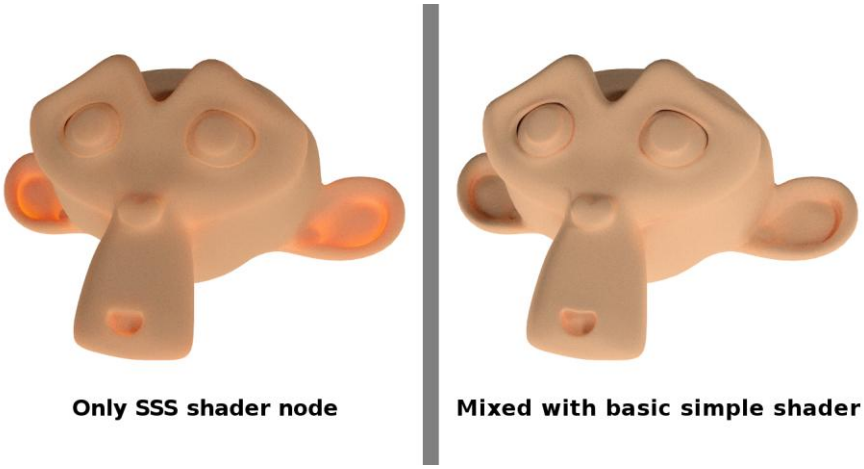

SHADER
spacehull
Top Ortho
(1) Torus

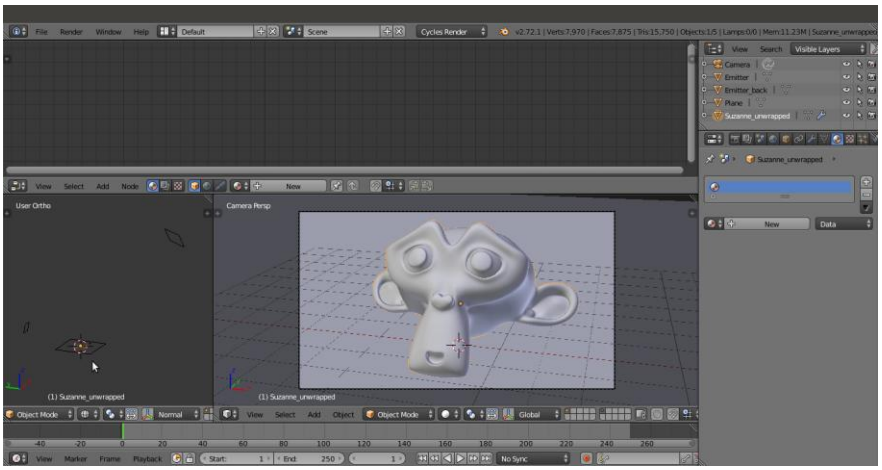

spacehull08_OK
Top Ortho
(1) Torus

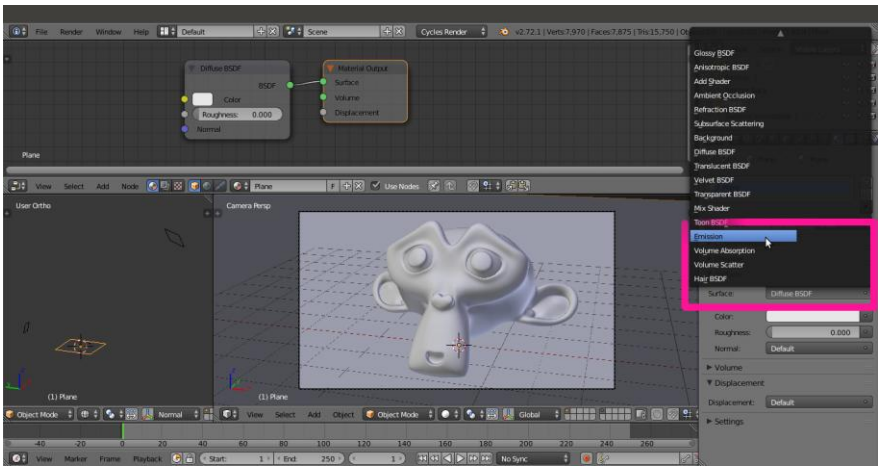


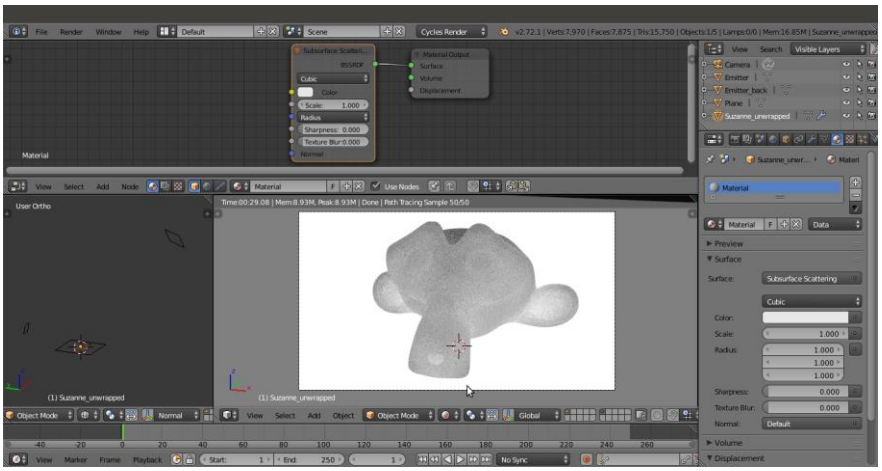


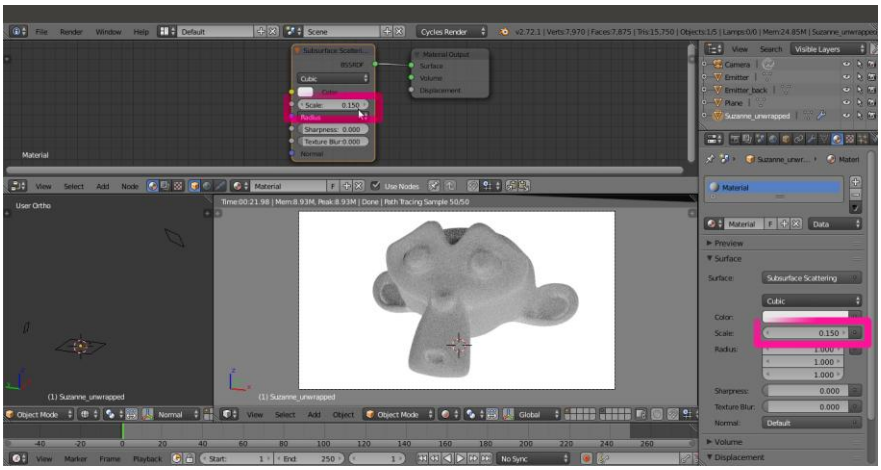
Chapter 7: Subsurface Scattering in Cycles

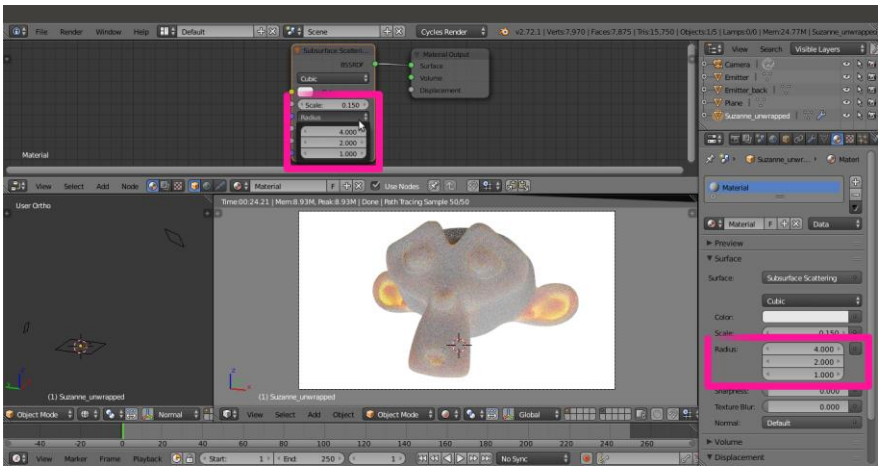


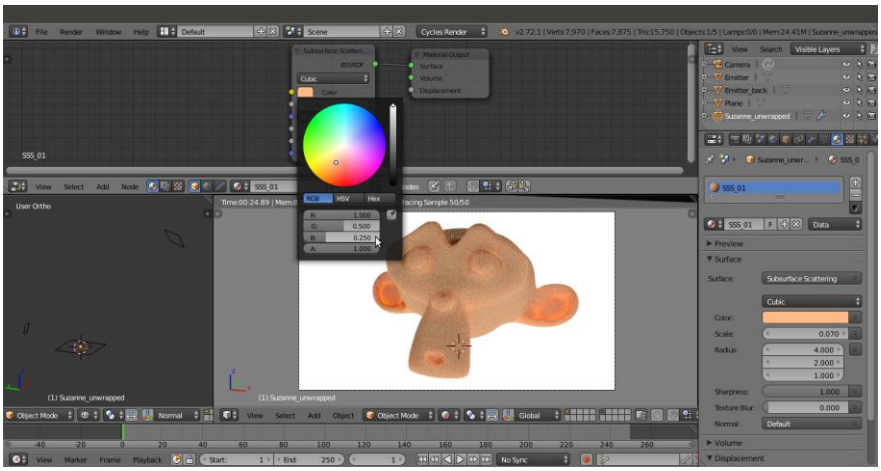


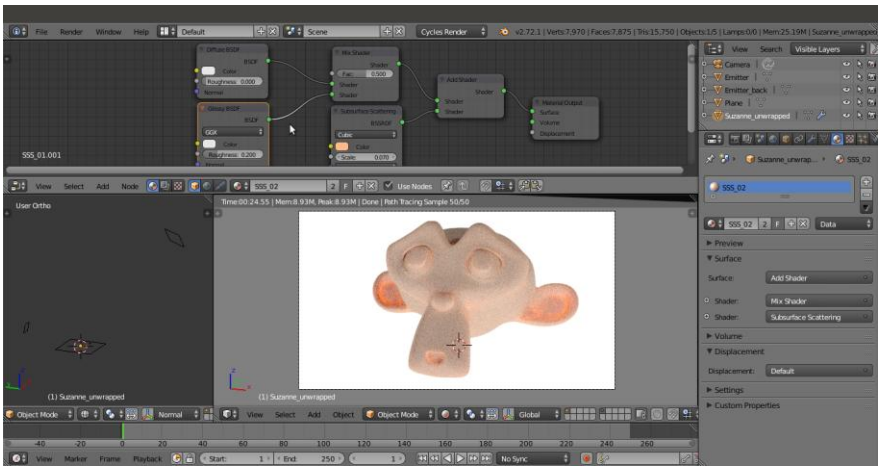


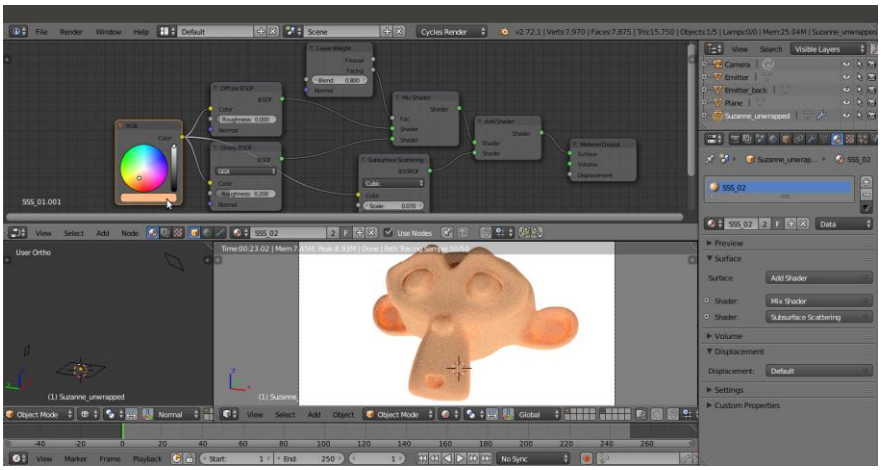


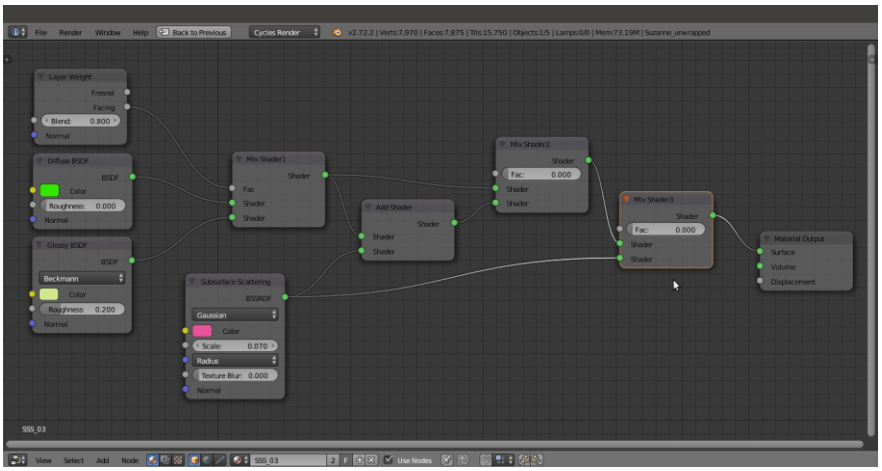


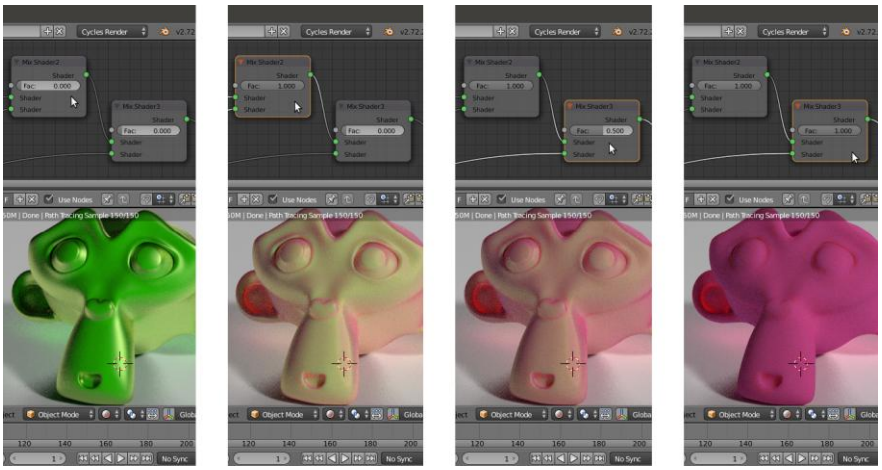


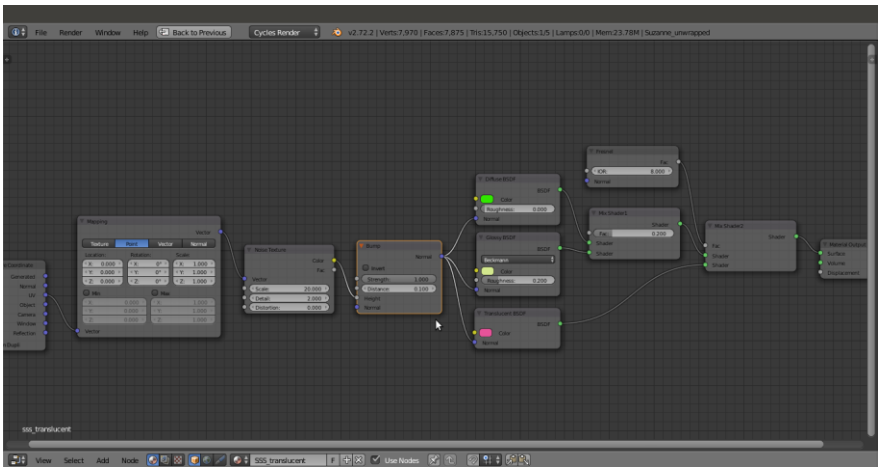


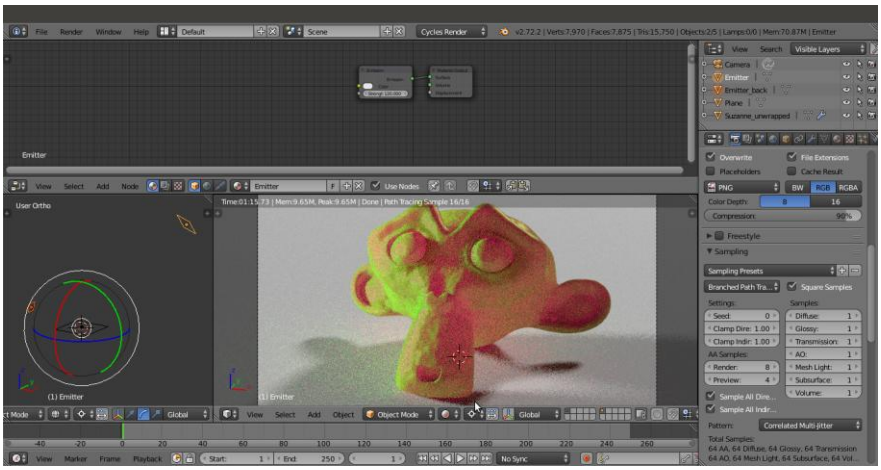


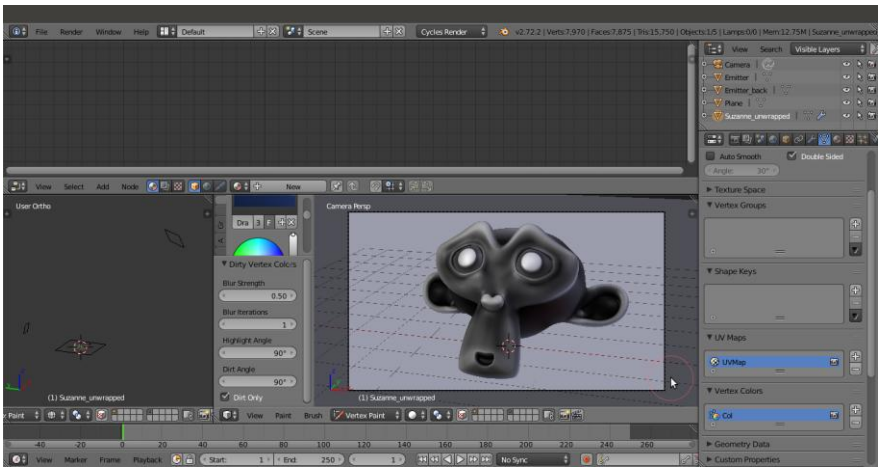


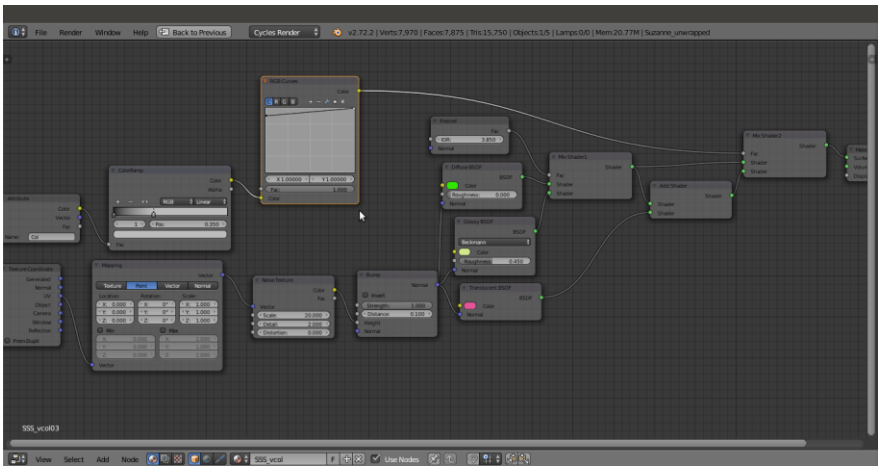








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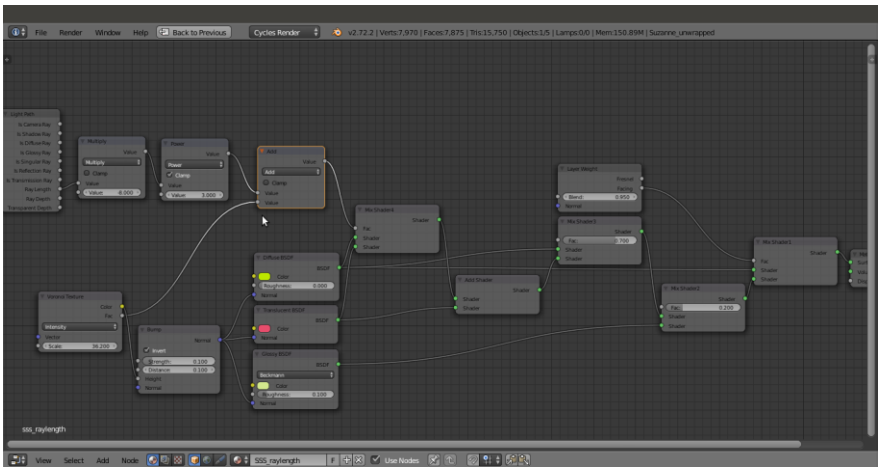
SSS_vcol03
View Select Add Node SSS_vcol Use Nodes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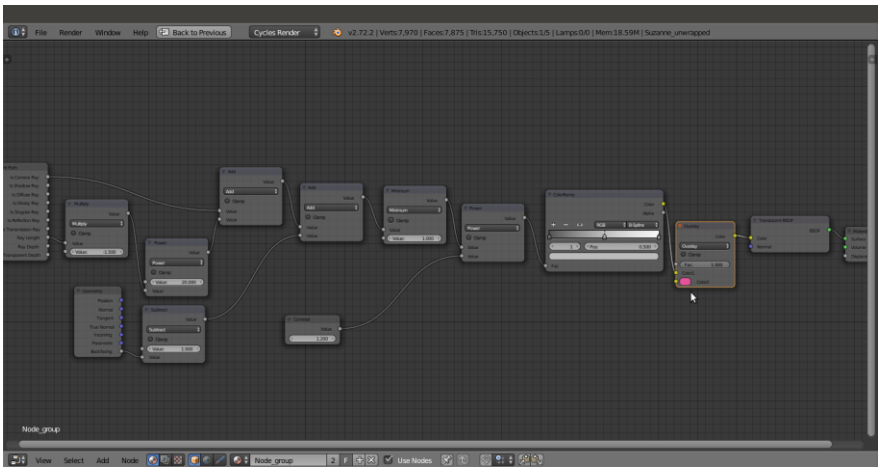
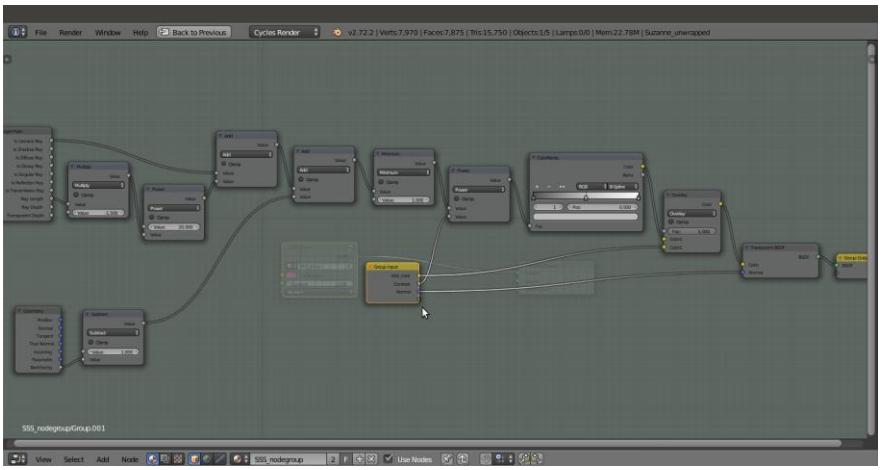
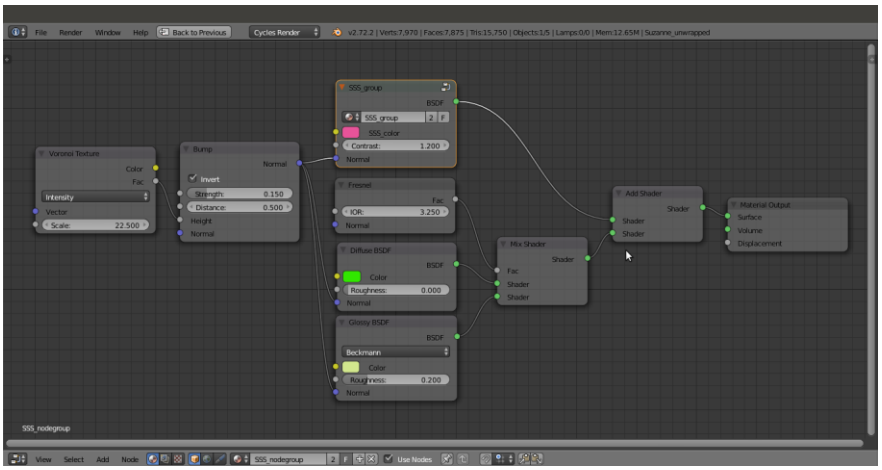
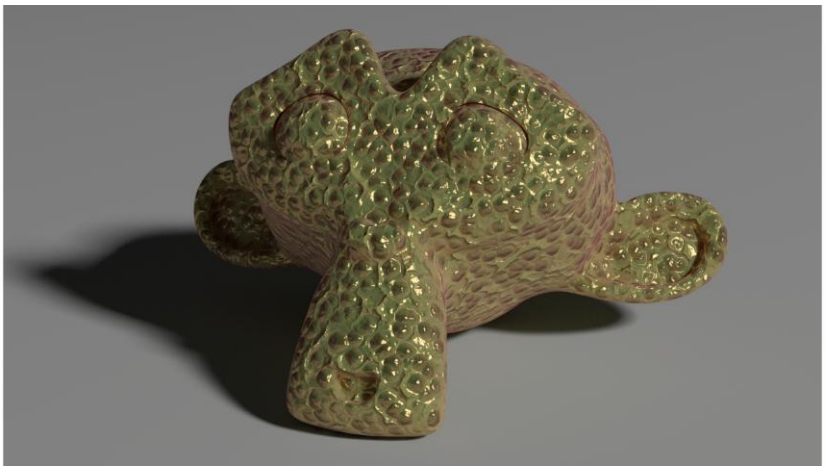
sss_raylength
View Select Add Node SSS_raylength Use Nodes

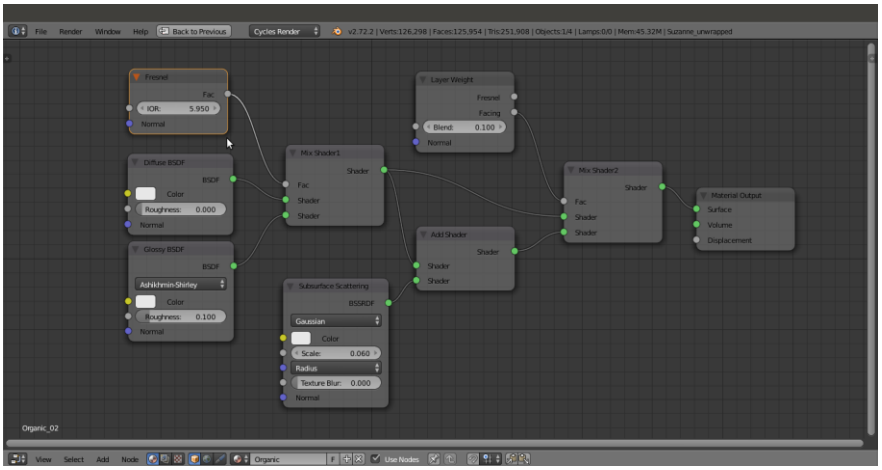

File
Render
Window
Help
Back to Previous
Cycles Render
Node_group
View
Select
Add
Node
Node group
Use Nodes

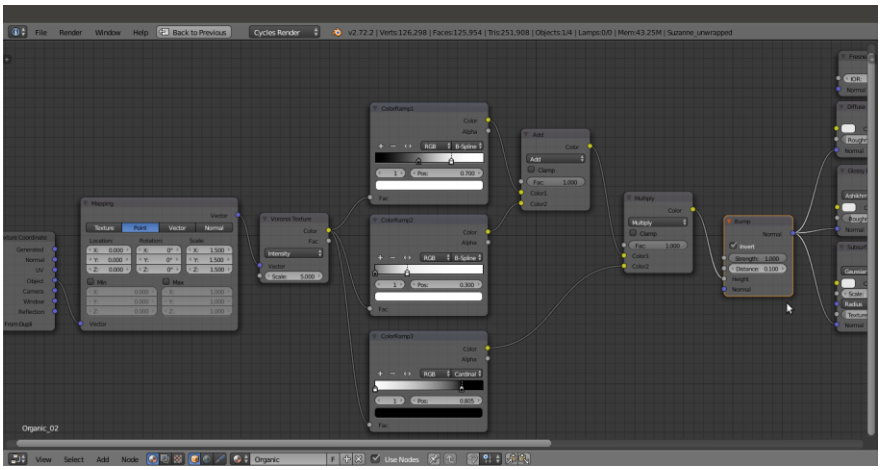


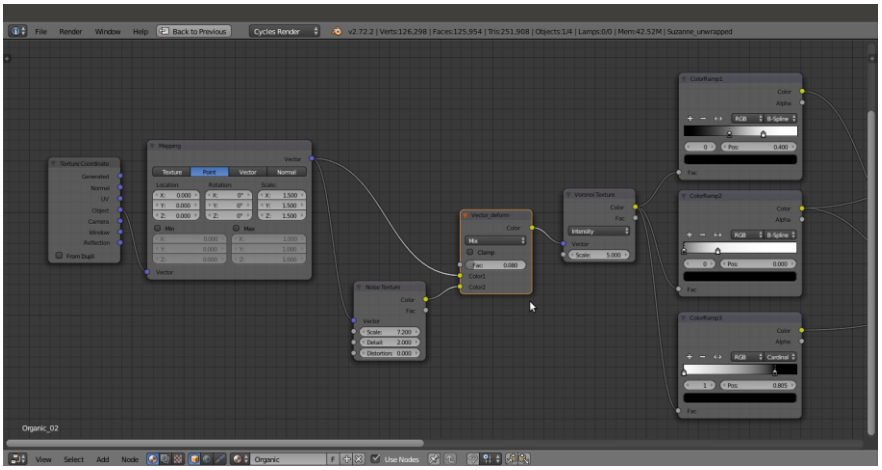


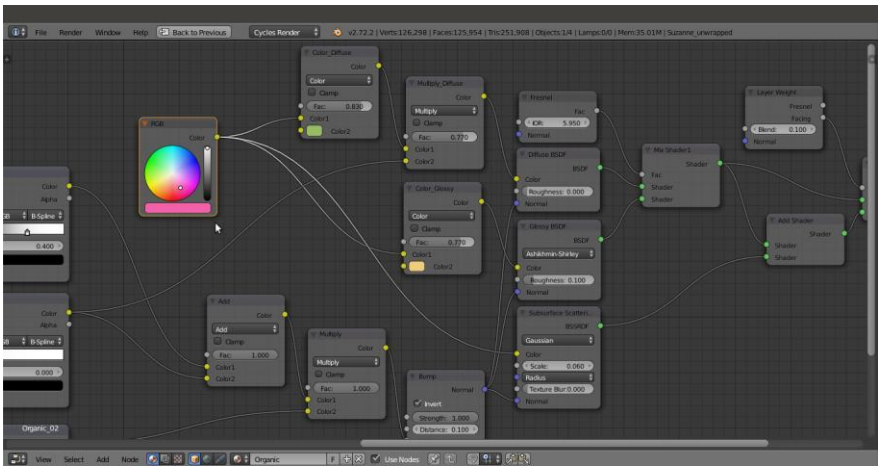
Chapter 8: Creating Organic Materials

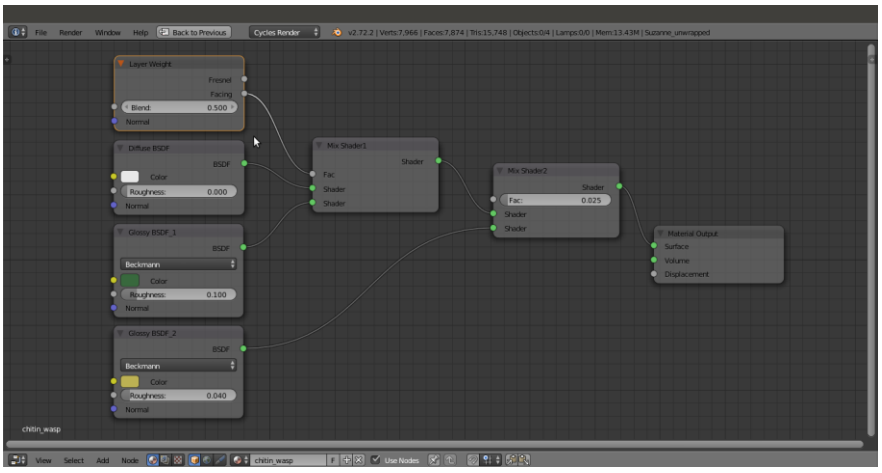


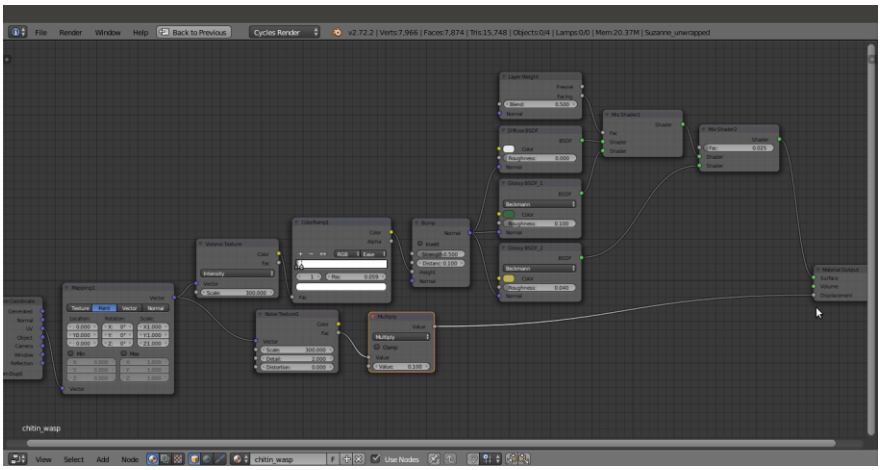

Fresnel
Layer Weight
Mix Shader1
Diffuse BSDF
Mix Shader2
Material Output
Glossy BSDF
Add Shader
Subsurface Scattering
Organic_02

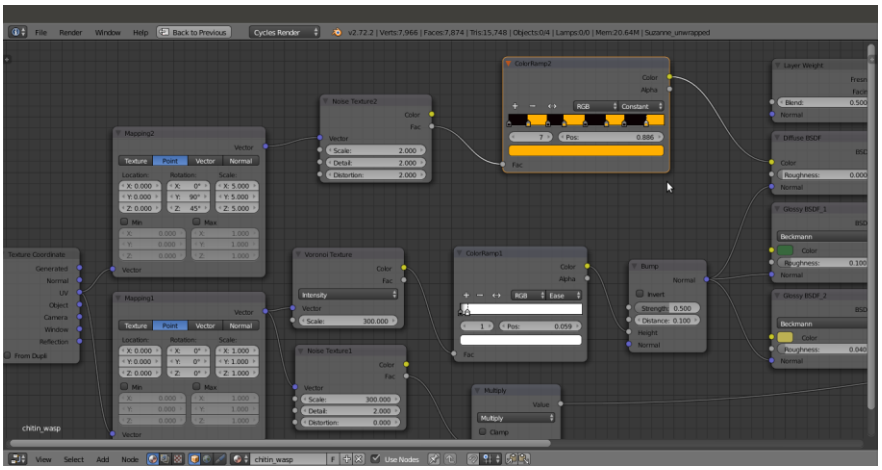

Mapping
Voronoi Texture
ColorRamp
Add
Multiply
Bump
Organic_02

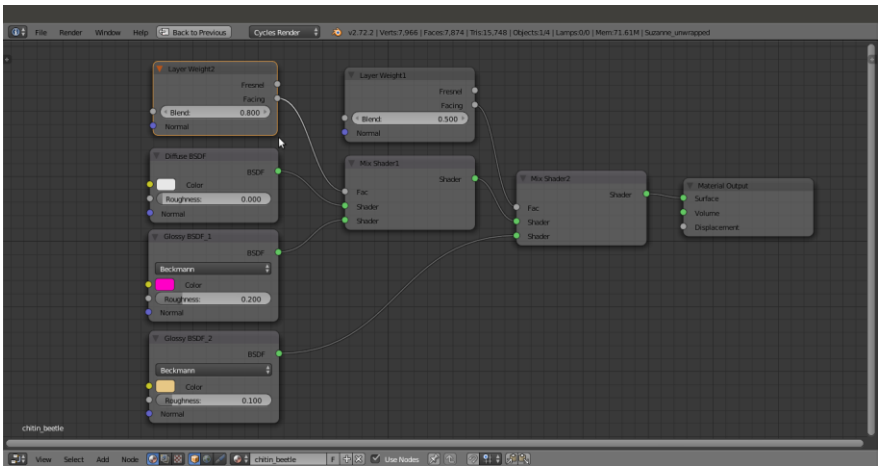

Texture Coordinate
Mapping
Vector_deform
Voronoi Texture
Noise Texture
ColorRamp
Organic_02

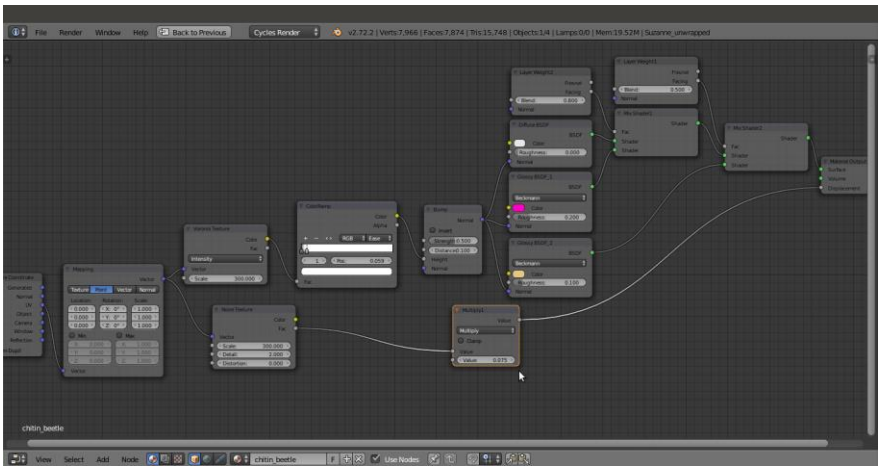

File Render Window Help Back to Previous Cycles Render
Color_Diffuse
Multiply_Diffuse
Fresnel
Layer Weight
RGB
Diffuse BSDF
Mix Shader1
Color_Glossy
Glossy BSDF
Add Shader
Add
Multiply
Subsurface Scatter...
Bump
Organic_02
View Select Add Node Organic Use Nodes

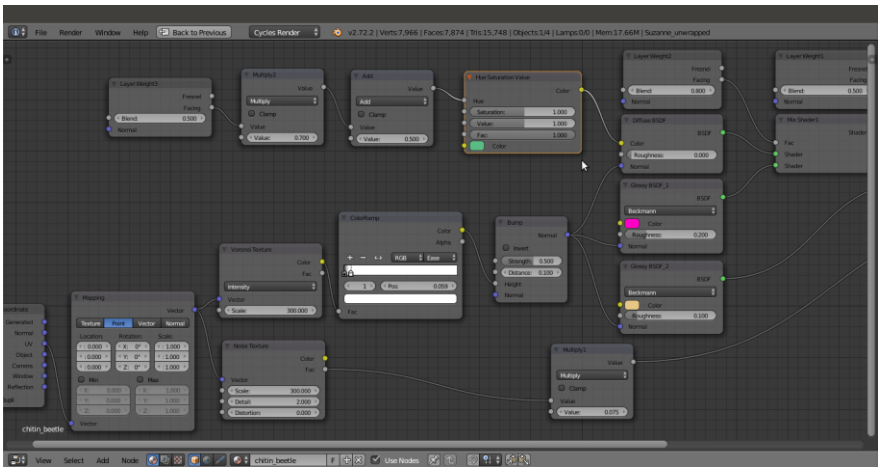

File Render Window Help Back to Previous Cycles Render
Layer Weight
Diffuse BSDF
Mix Shader1
Mix Shader2
Material Output
Glossy BSDF_1
Glossy BSDF_2
chitin_wasp
View Select Add Node chitin_wasp Use Nodes

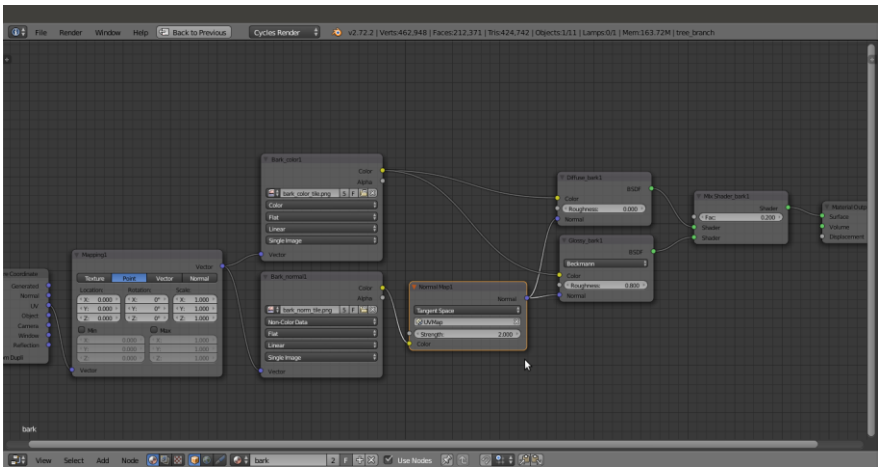


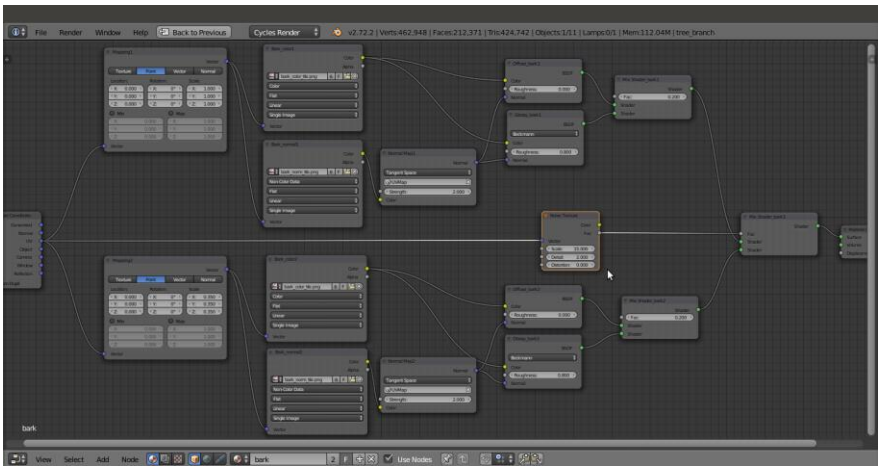


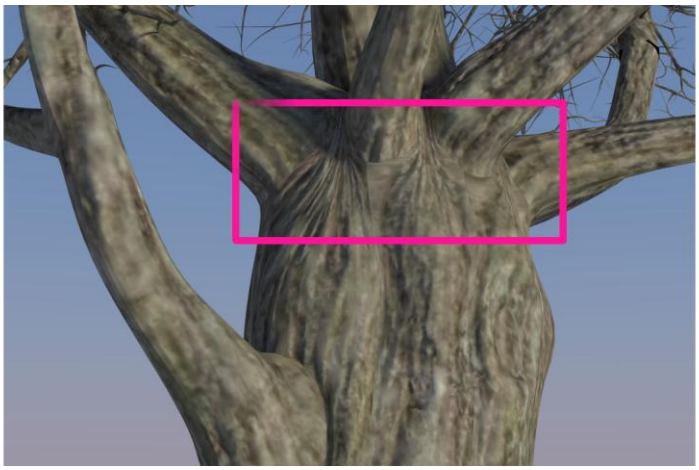

File Render Window Help Back to Previous Cycles Render
Layer Weight2
Fresnel
Facing
Blend: 0.800
Normal
Layer Weight1
Fresnel
Facing
Blend: 0.500
Normal
Diffuse BSDF
BSDF
Color
Roughness: 0.000
Normal
Mix Shader1
Shader
Fac
Shader
Shader
Mix Shader2
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Glossy BSDF_1
BSDF
Beckmann
Color
Roughness: 0.200
Normal
Glossy BSDF_2
BSDF
Beckmann
Color
Roughness: 0.100
Normal
chitin_beetle
View Select Add Node chitin_beetle Use Nodes

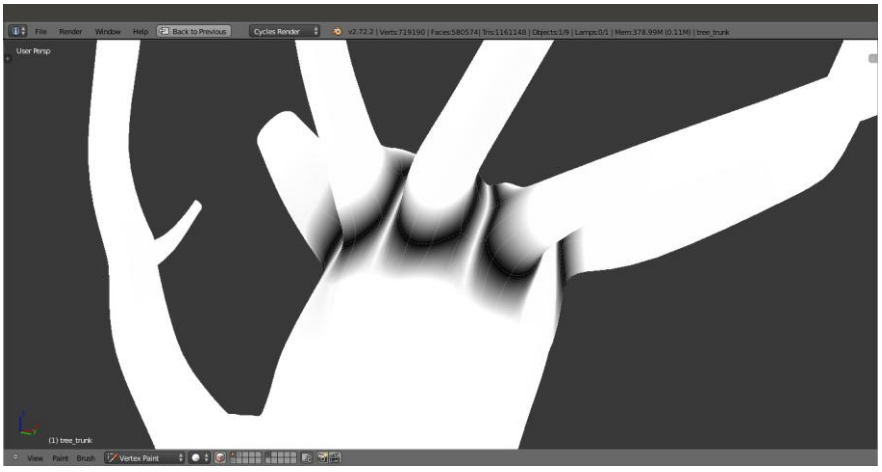

File Render Window Help Back to Previous Cycles Render
chitin_beetle
View Select Add Node chitin_beetle Use Nodes

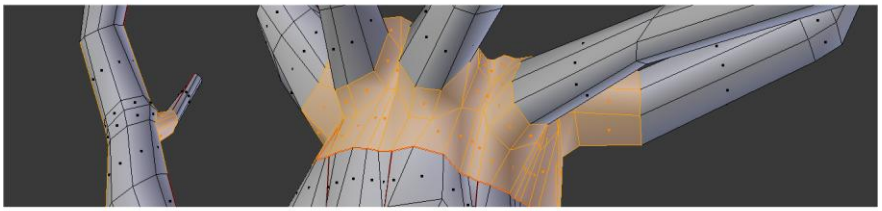

File Render Window Help Back to Previous Cycles Render
chitin_beetle
View Select Add Node chitin_beetle Use Nodes

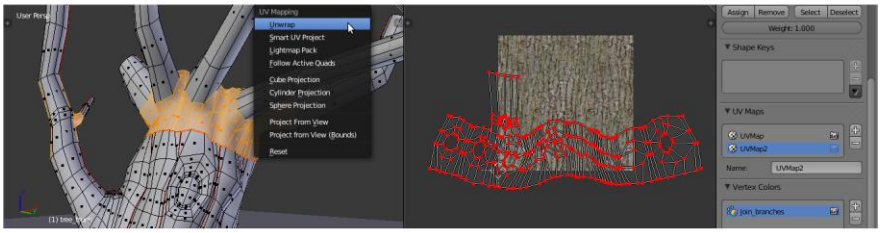

File
Render
Window
Help
Back to Previous
Cycles Render
bark
View
Select
Add
Node
Use Nodes

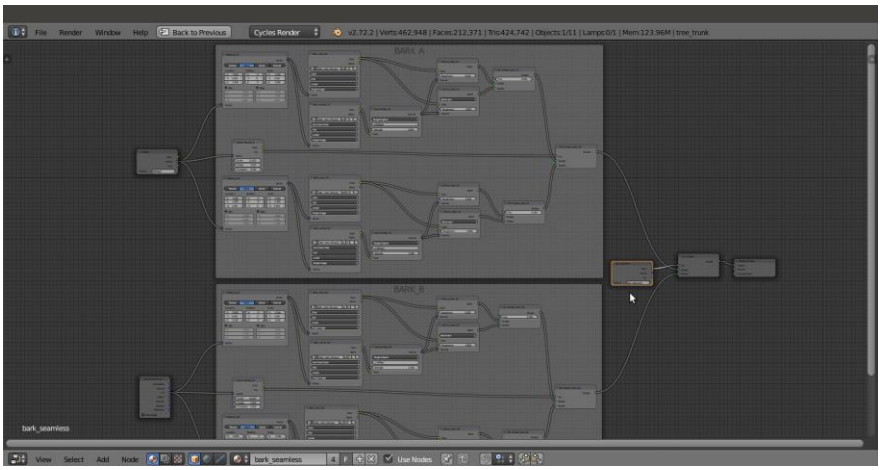

File Render Window Help Back to Previous Cycles Render
bark
View Select Add Node bark Use Nodes

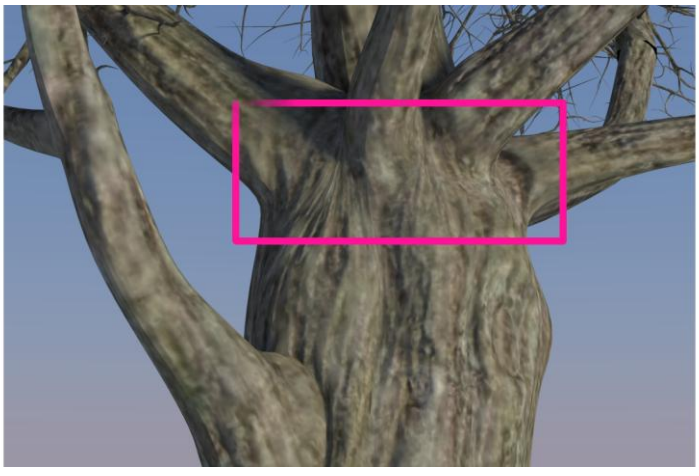


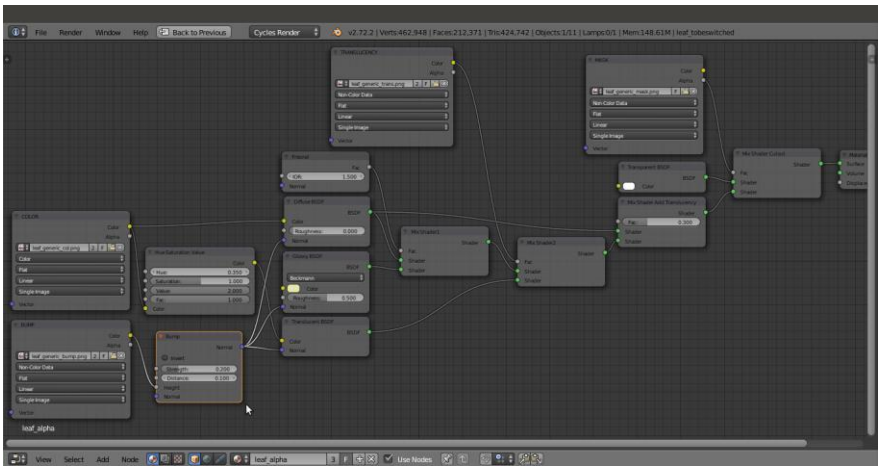

File Render Window Help Back to Previous Cycles Render
User Persp
(1) tree_trunk
View Paint Brush Vertex Paint

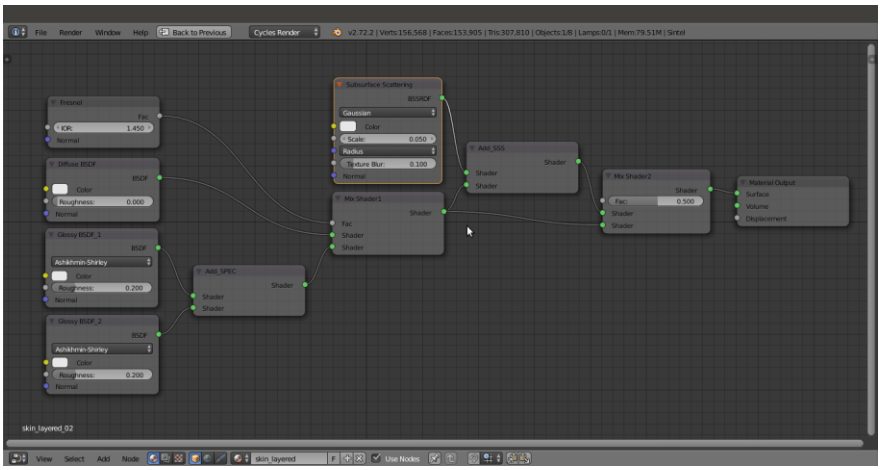


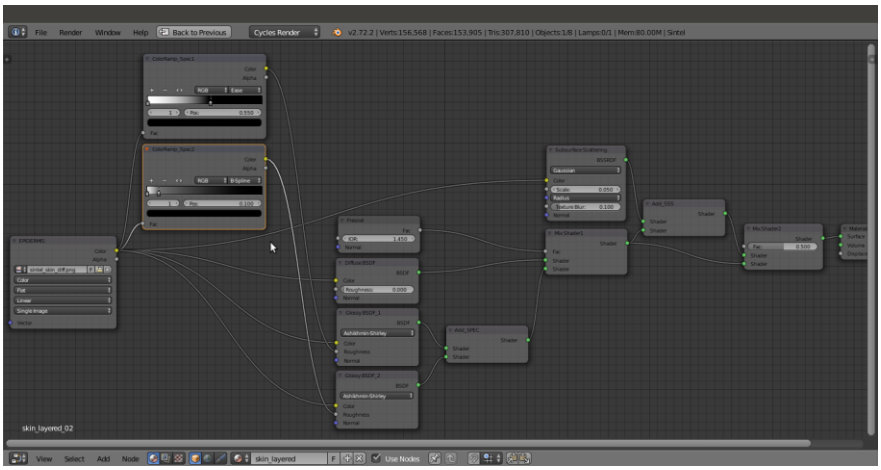

UV Mapping
Unwrap
Smart UV Project
Lightmap Pack
Follow Active Quads
Cube Projection
Cylinder Projection
Sphere Projection
Project From View
Project from View (Bounds)
Reset
Assign
Remove
Select
Deselect
Weight: 1.000
Shape Keys
UV Maps
UVMap
UVMap2
Name:
UVMap2
Vertex Colors
join_branches

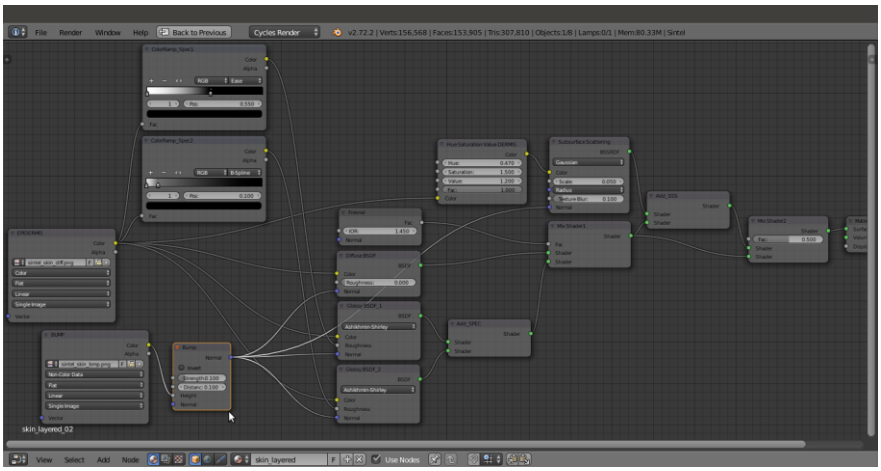

File
Render
Window
Help
Back to Previous
Cycles Render
BARK_A
BARK_B
bark_seamless
View
Select
Add
Node
Use Nodes

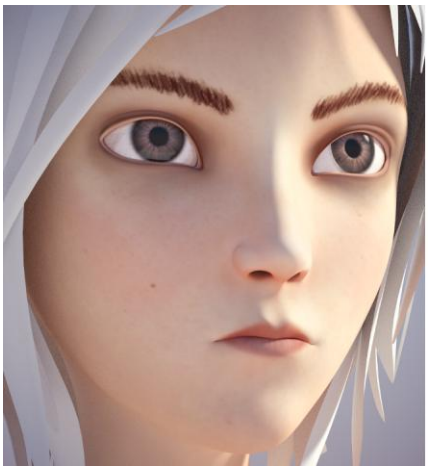


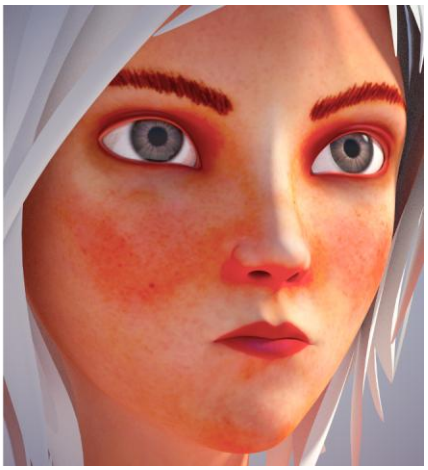

File
Render
Window
Help
Back to Previous
Cycles Render
leaf_alpha
View
Select
Add
Node
Use Nodes

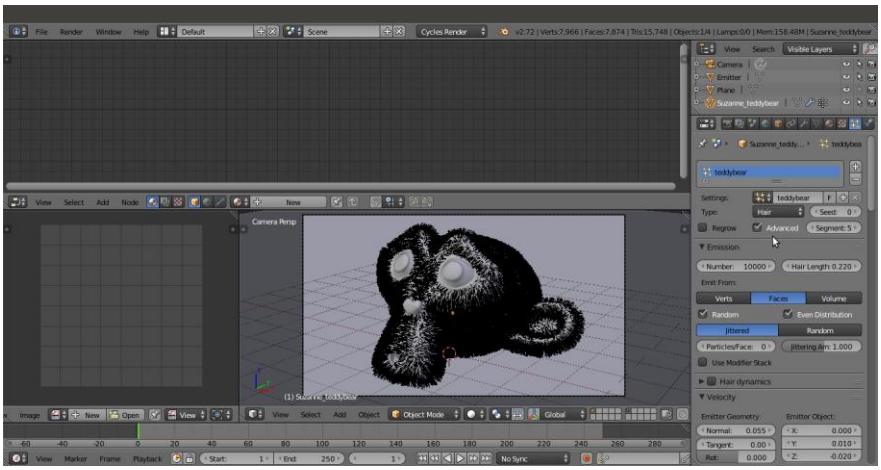

File Render Window Help Back to Previous Cycles Render
Fresnel
Diffuse BSDF
Glossy BSDF_1
Glossy BSDF_2
Subsurface Scattering
Mix Shader1
Add_SSS
Add_SPEC
Mix Shader2
Material Output
skin_layered_02
View Select Add Node skin_layered Use Nodes

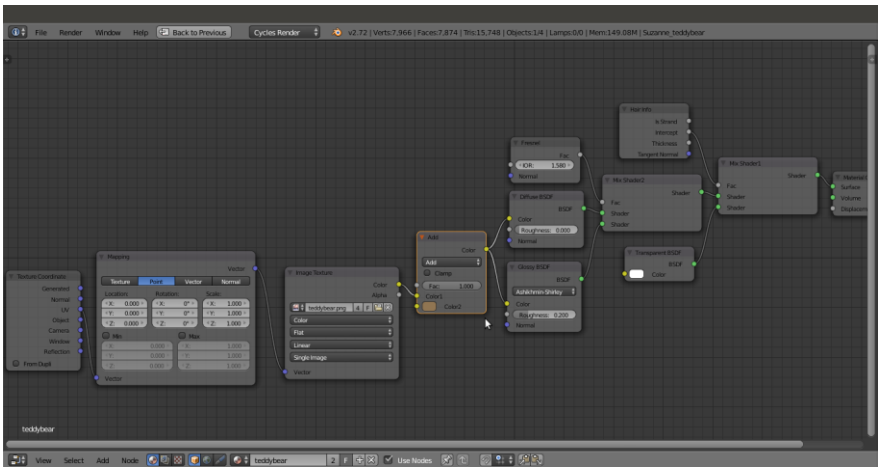

File Render Window Help Back to Previous Cycles Render
skin_layered_02
View Select Add Node skin_layered Use Nodes

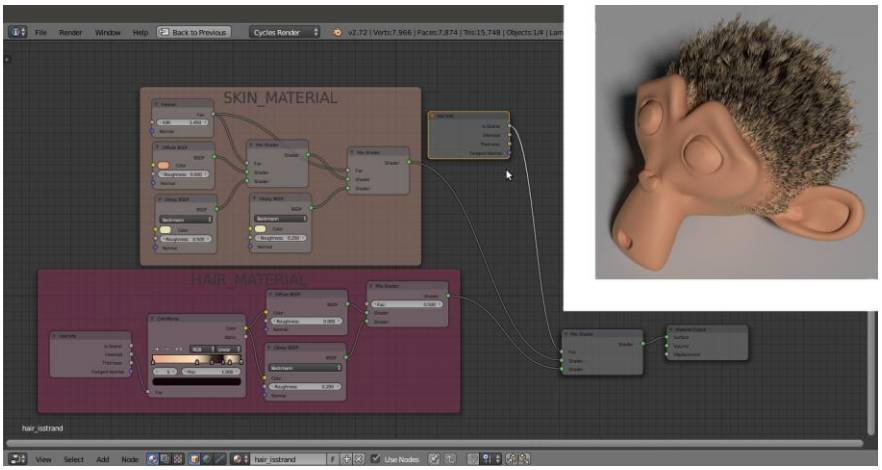

File Render Window Help Back to Previous Cycles Render
skin_layered_02
View Select Add Node skin_layered Use Nodes

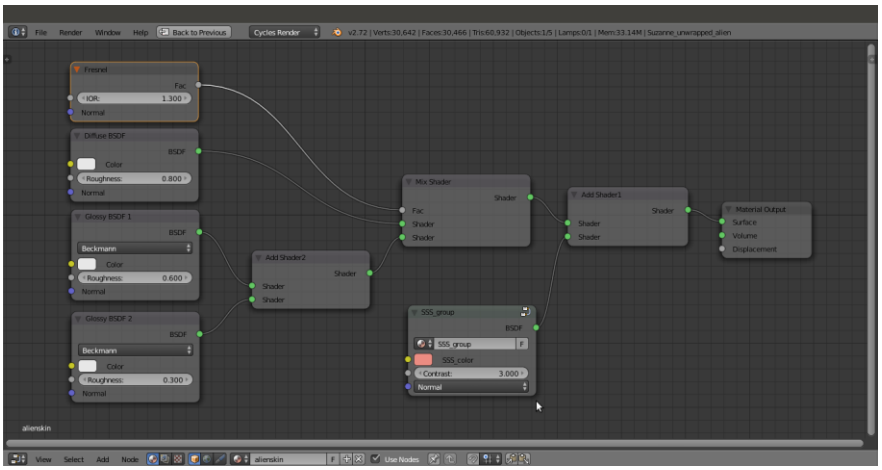


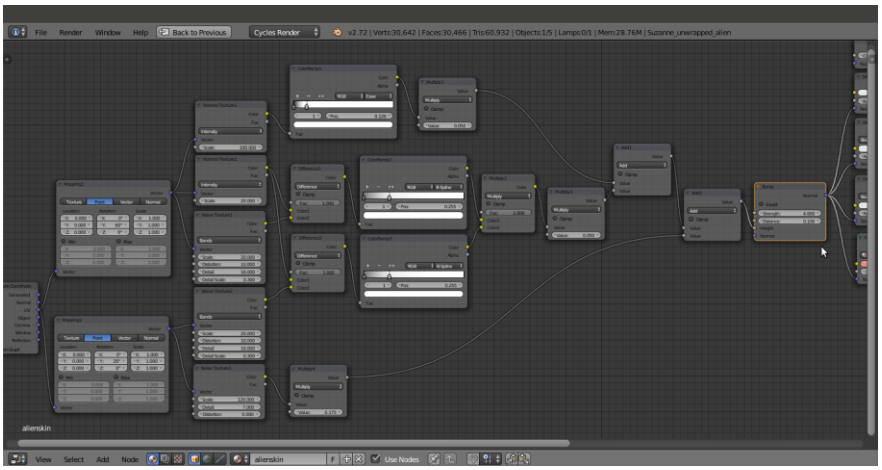


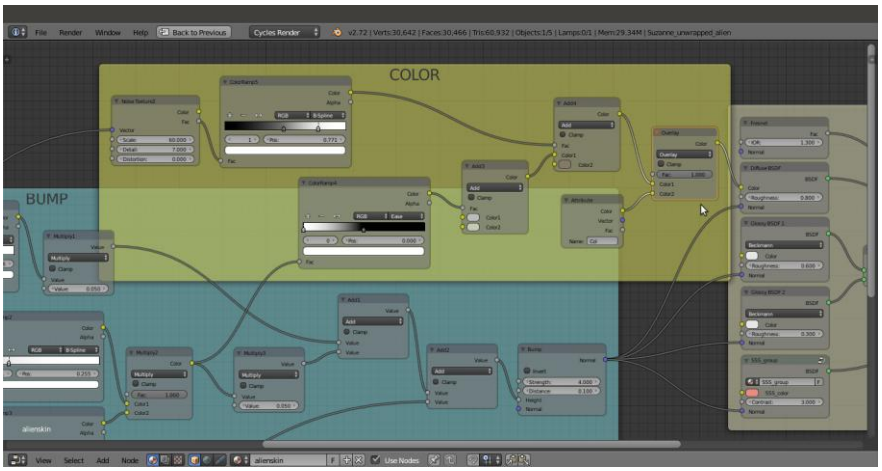




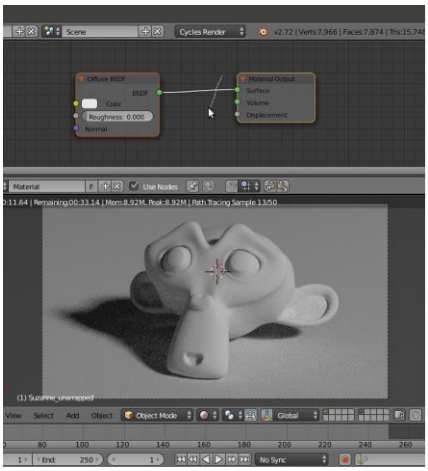

SKIN_MATERIAL
HAIR_MATERIAL

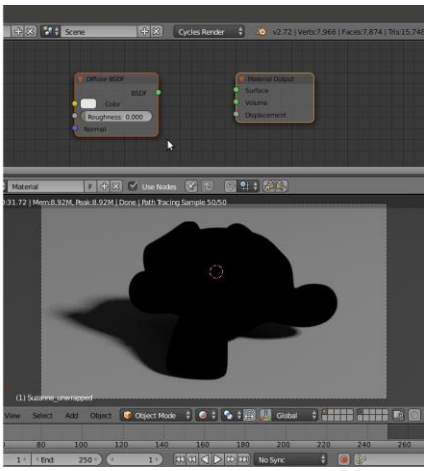

Fresnel
Diffuse BSDF
Glossy BSDF 1
Glossy BSDF 2
Mix Shader
Add Shader1
Add Shader2
Material Output
SSS_group
alienskin

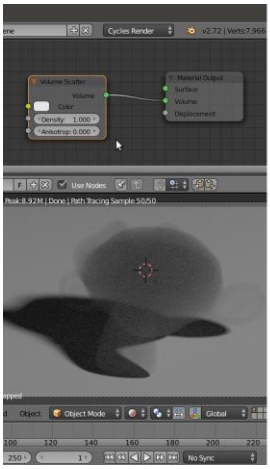

alienskin

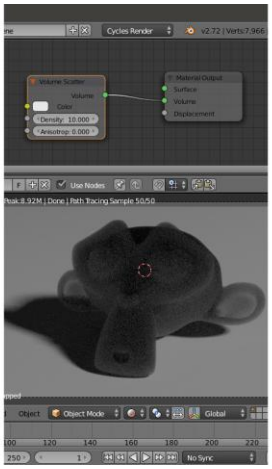

COLOR
BUMP
alienskin

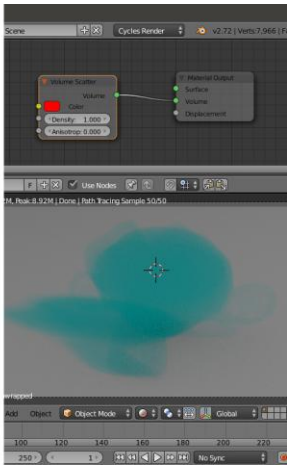
Chapter 9: Special Materials

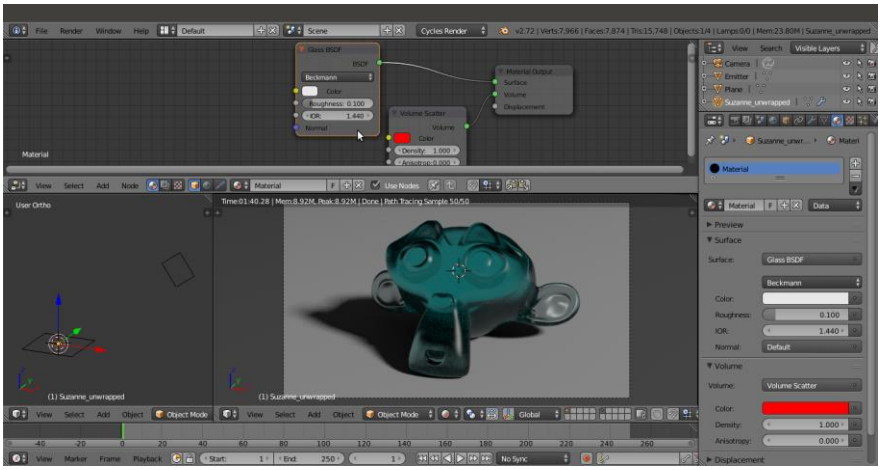


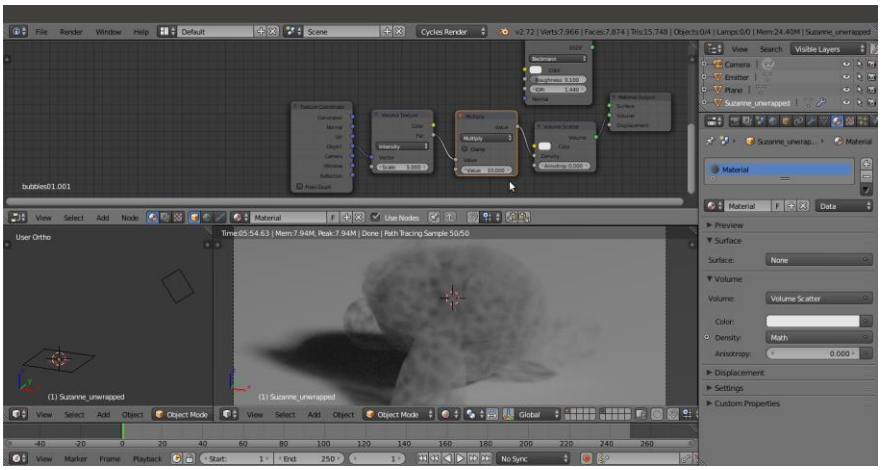


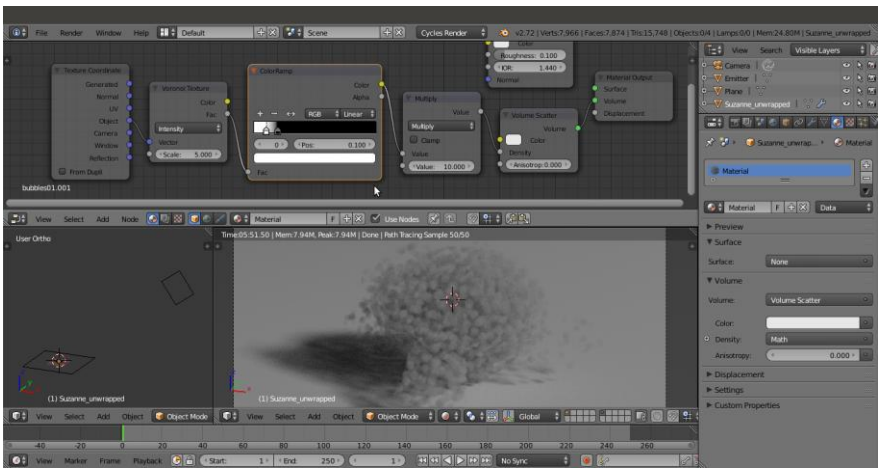


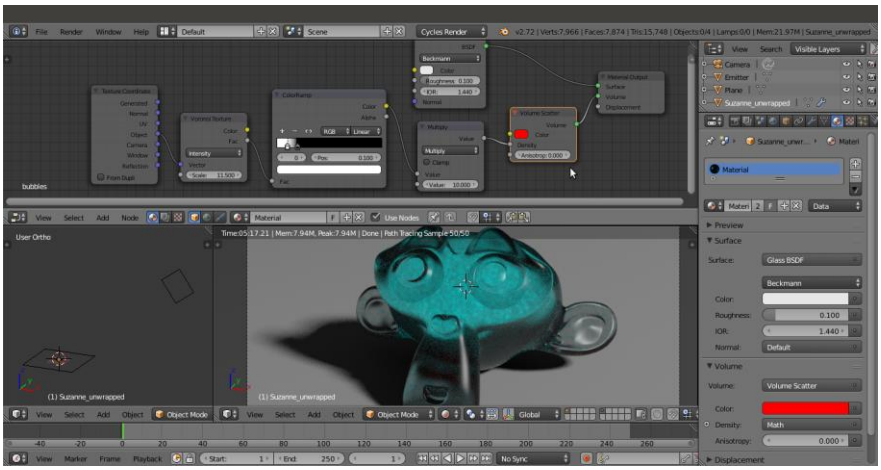


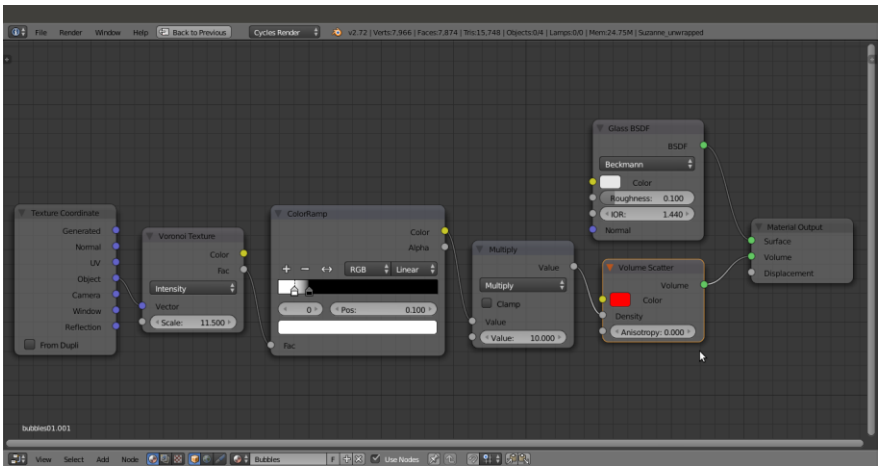


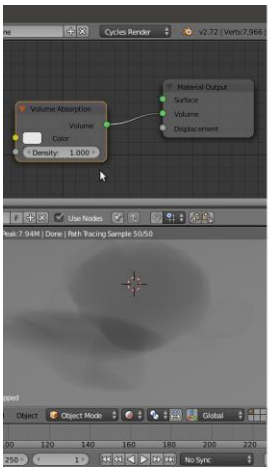


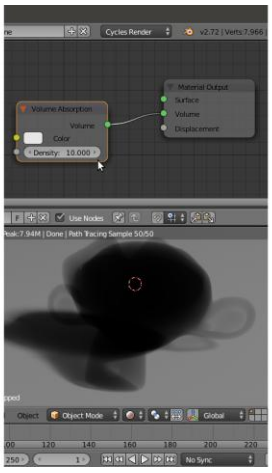


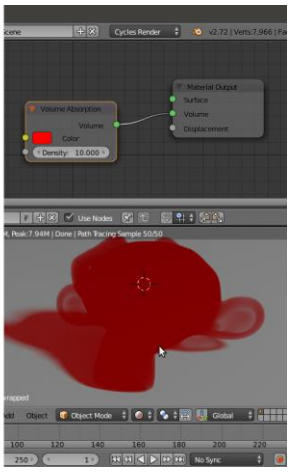


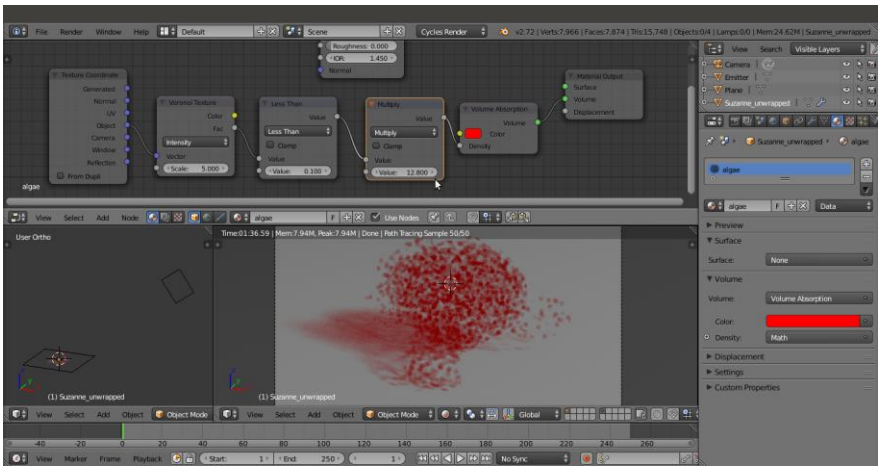


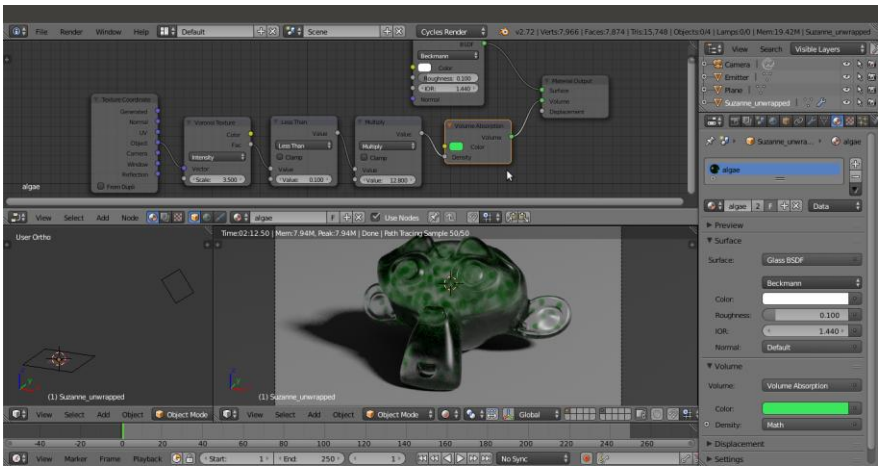


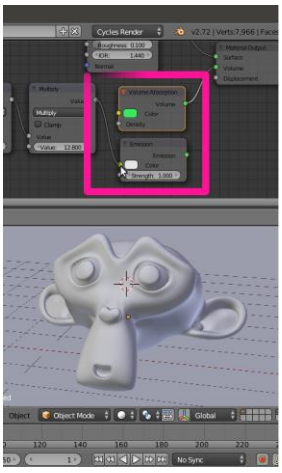


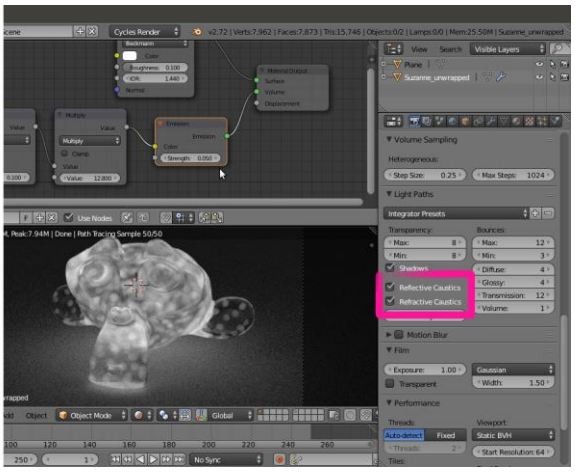


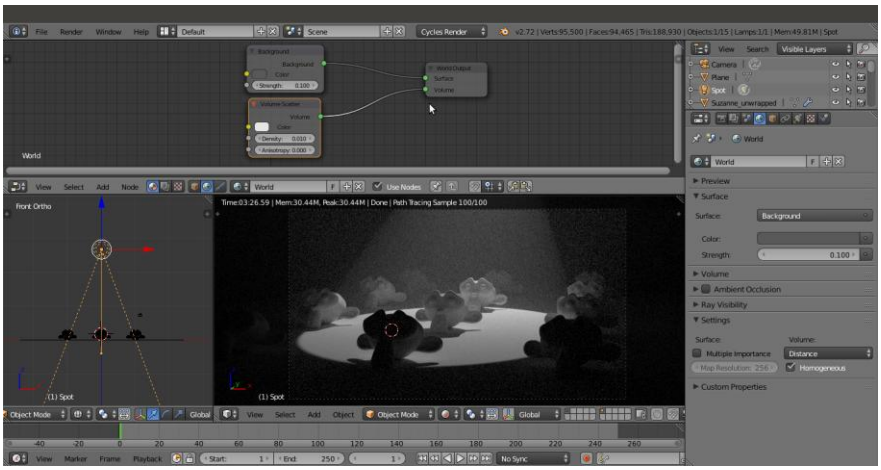


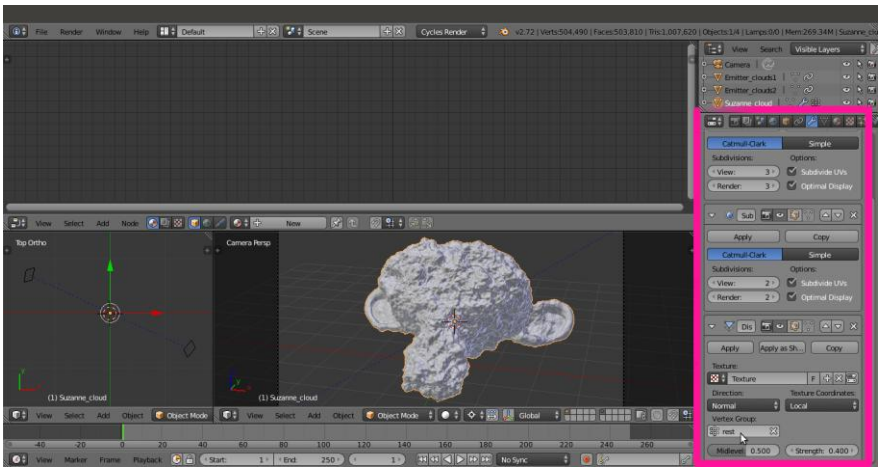


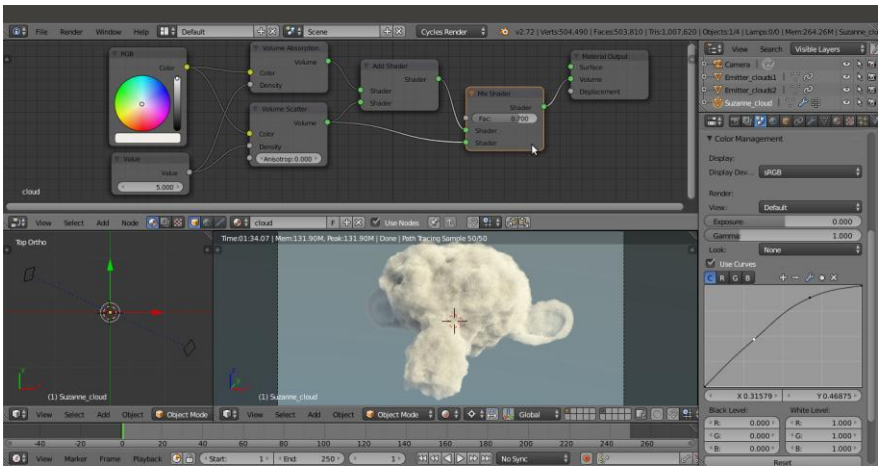


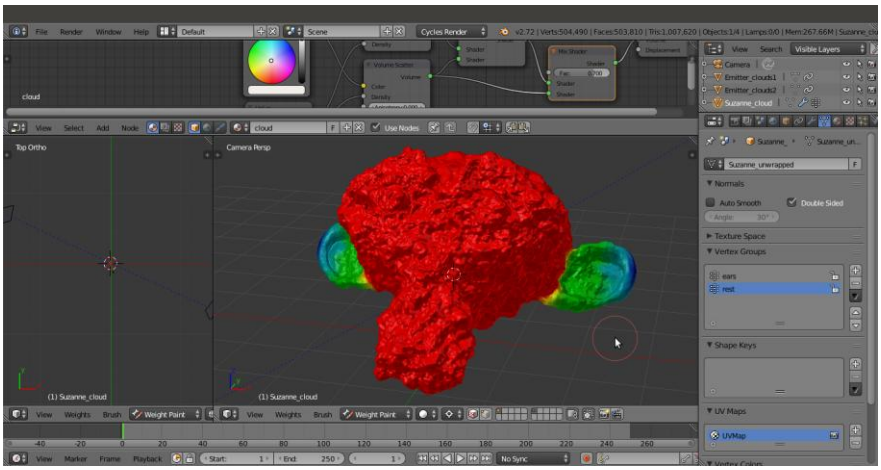


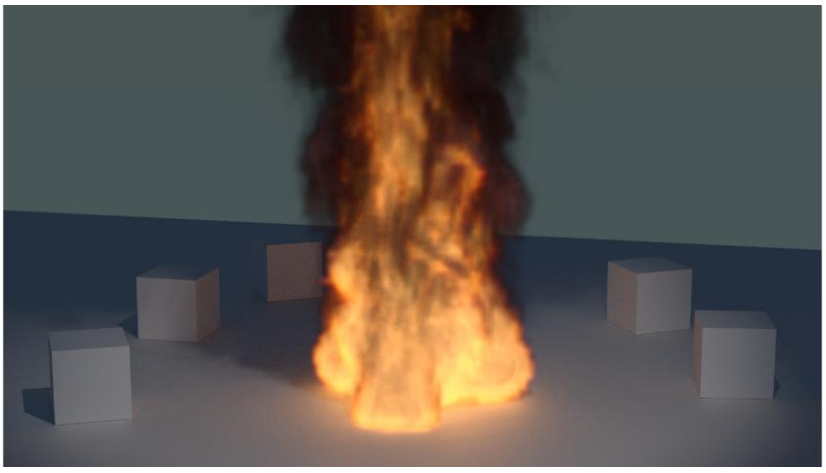


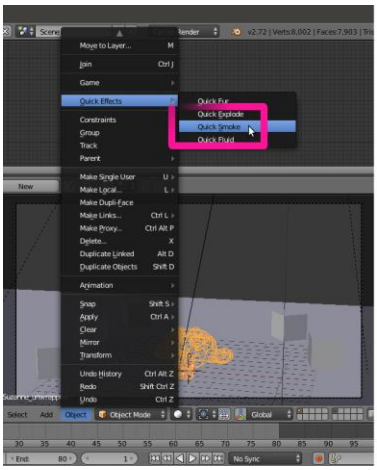


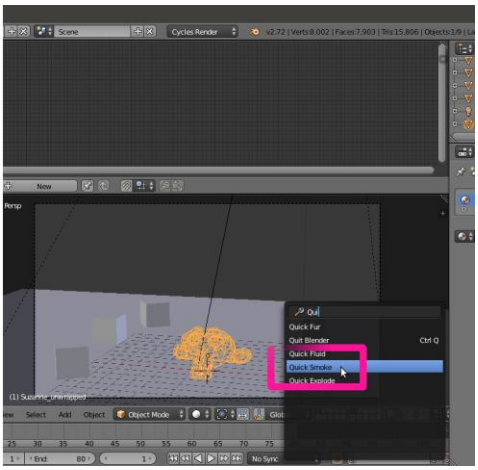


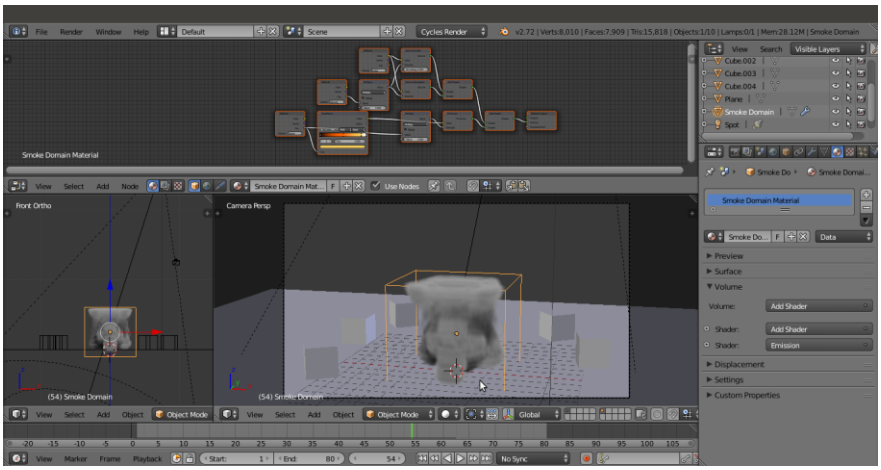


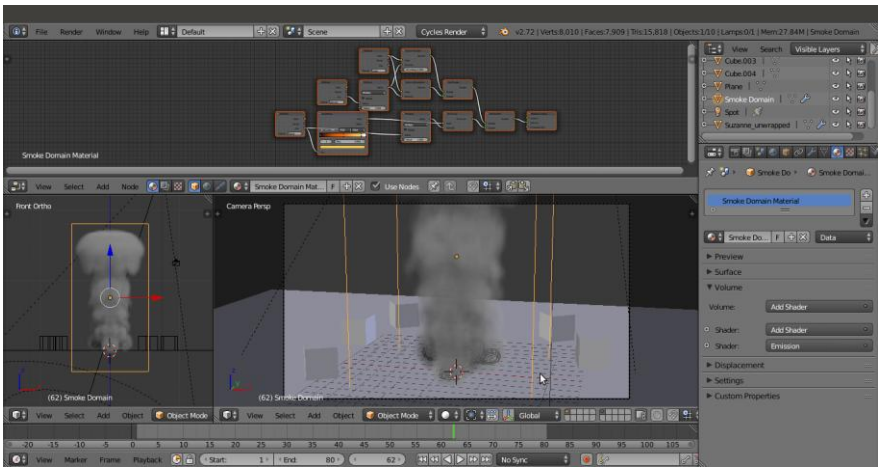


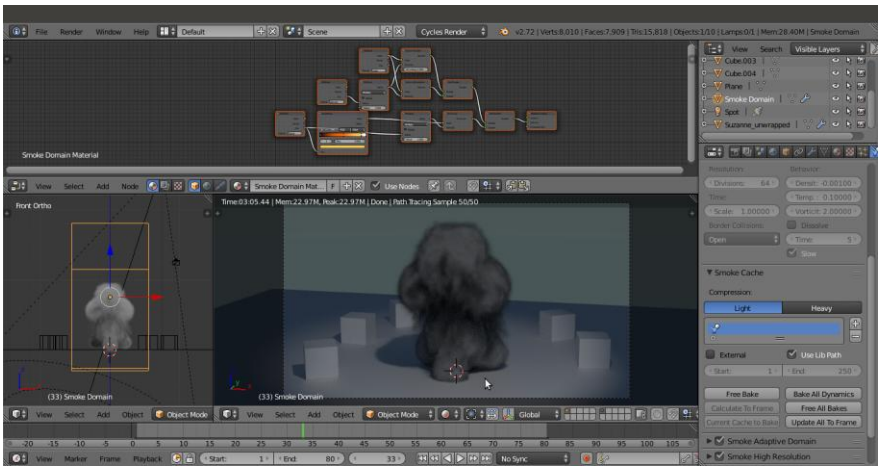


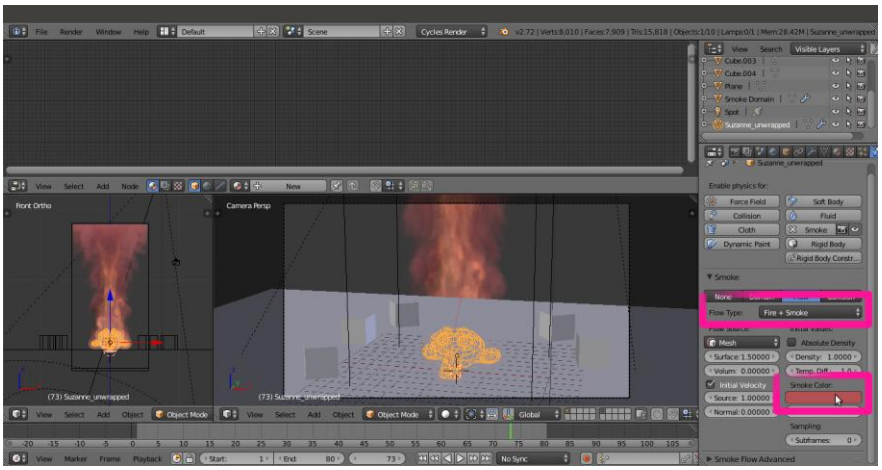

Move to Layer...
Join
Game
Quick Effects
Quick Fur
Quick Explode
Quick Smoke
Quick Fluid
Constraints
Group
Track
Parent
Make Single User
Make Local...
Make Dupli-Face
Make Links...
Make Proxy...
Delete...
Duplicate Linked
Duplicate Objects
Animation
Snap
Apply
Clear
Mirror
Transform
Undo History
Redo
Undo

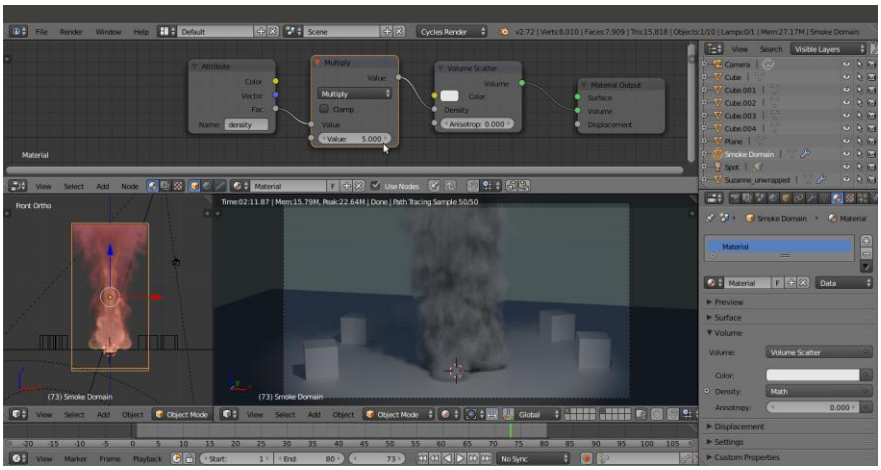

Quick Fur
Quit Blender
Quick Fluid
Quick Smoke
Quick Explode

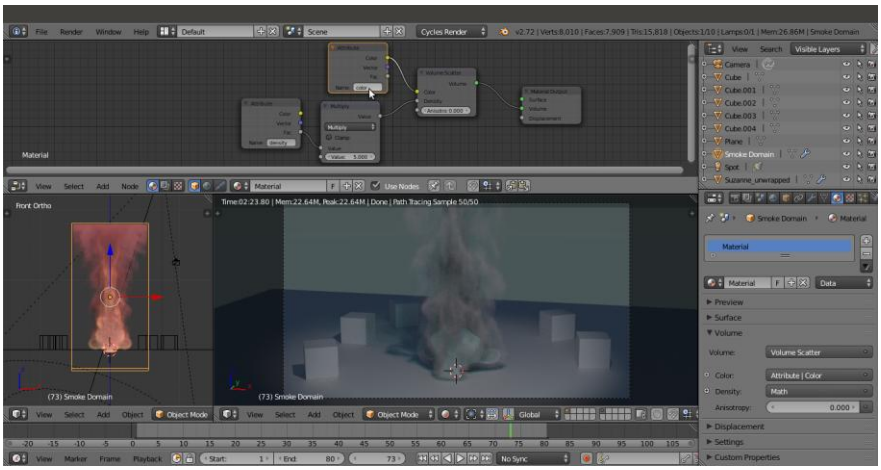

Smoke Domain Material
Front Ortho
Camera Persp
(54) Smoke Domain

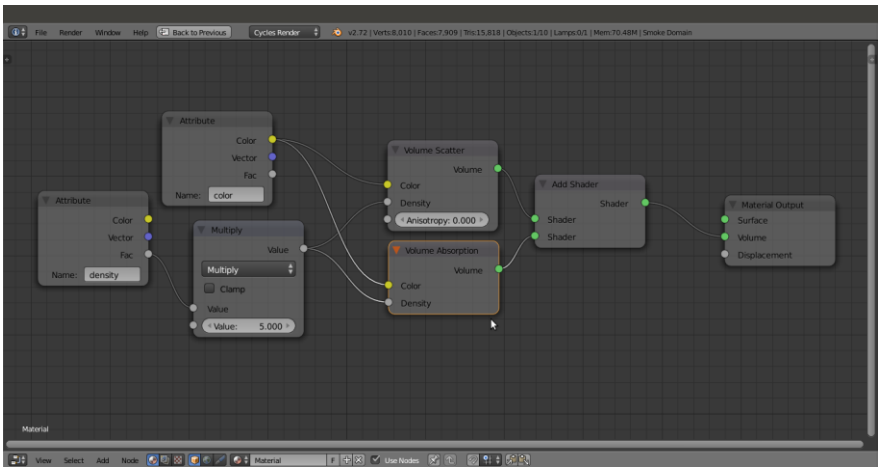

Smoke Domain Material
Front Ortho
Camera Persp
(62) Smoke Domain

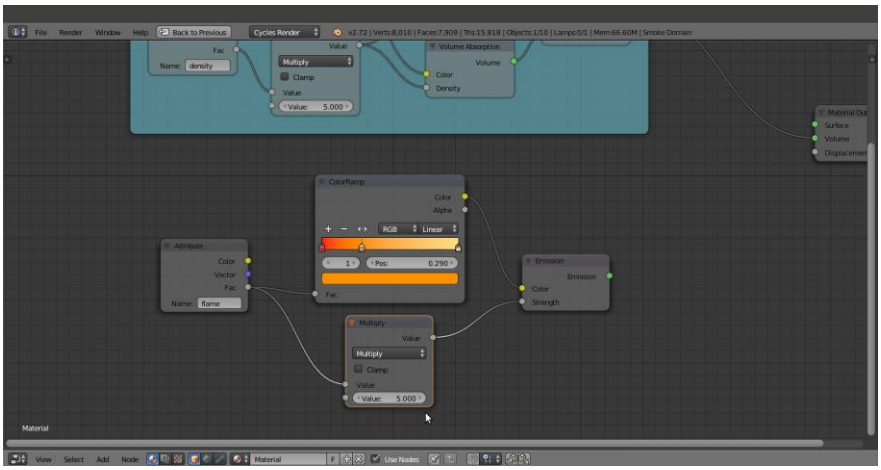


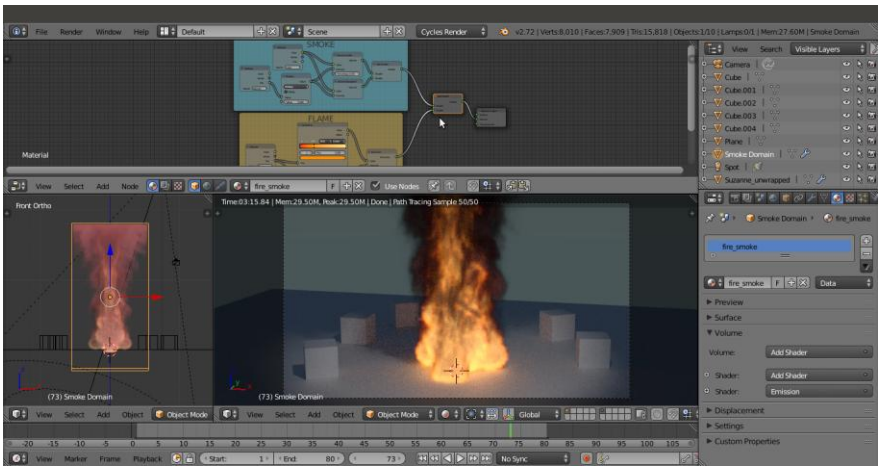


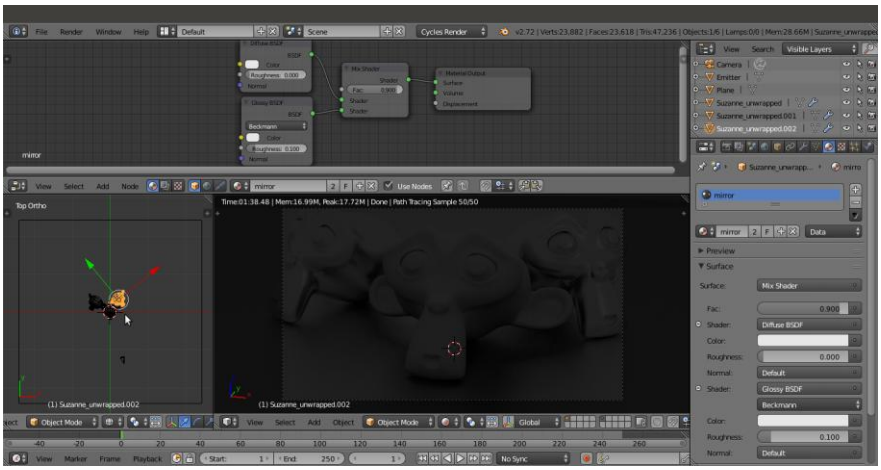


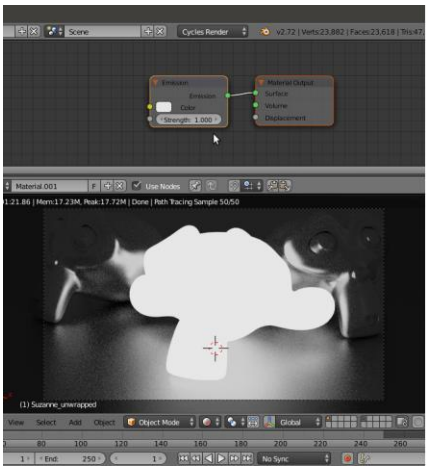


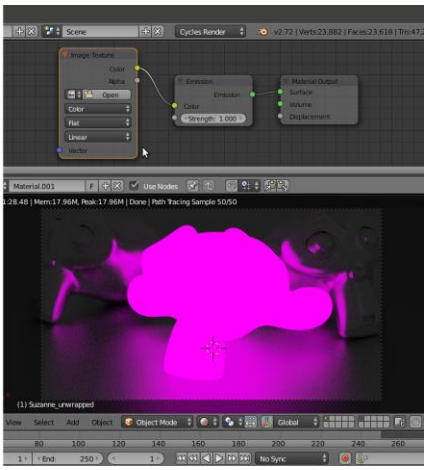

Attribute
Color
Vector
Fac
Name: color
Attribute
Color
Vector
Fac
Name: density
Multiply
Value
Multiply
Clamp
Value
Value: 5.000
Volume Scatter
Volume
Color
Density
Anisotropy: 0.000
Volume Absorption
Volume
Color
Density
Add Shader
Shader
Shader
Shader
Material Output
Surface
Volume
Displacement
Material

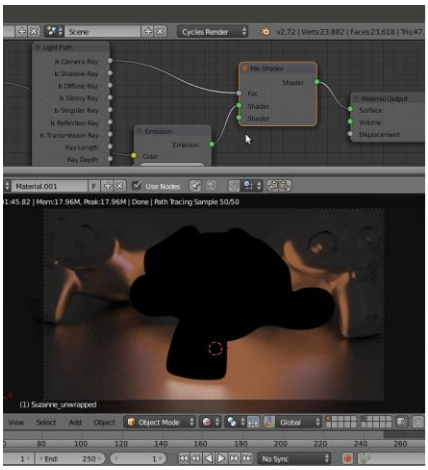

Material
ColorRamp
Attribute
Emission
Multiply
Volume Absorption
Material Output

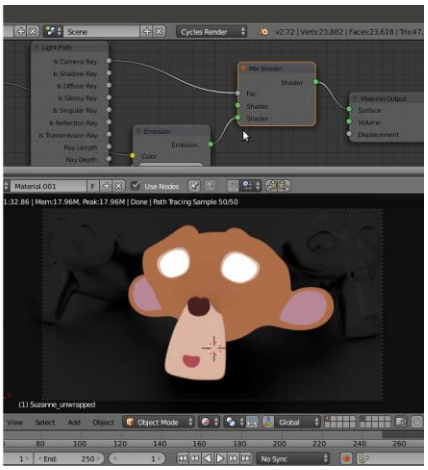

Material
Front Ortho
(73) Smoke Domain
(73) Smoke Domain
Time:03:15.84 | Mem:29.50M, Peak:29.50M | Done | Path Tracing Sample 50/50

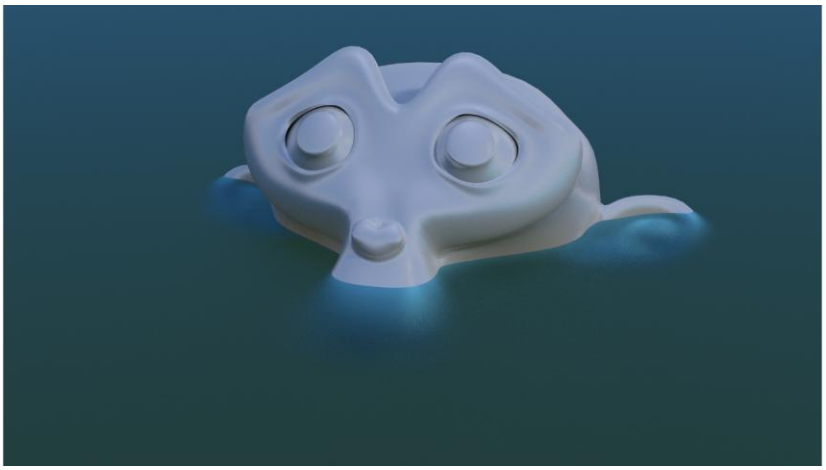


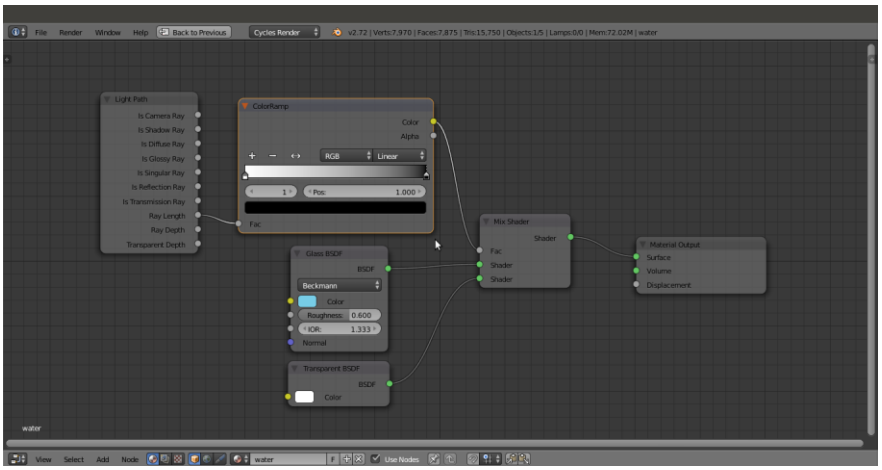


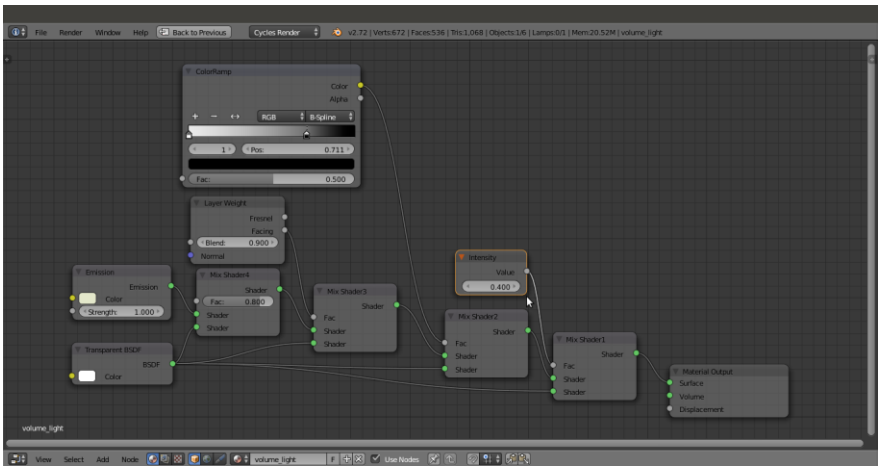




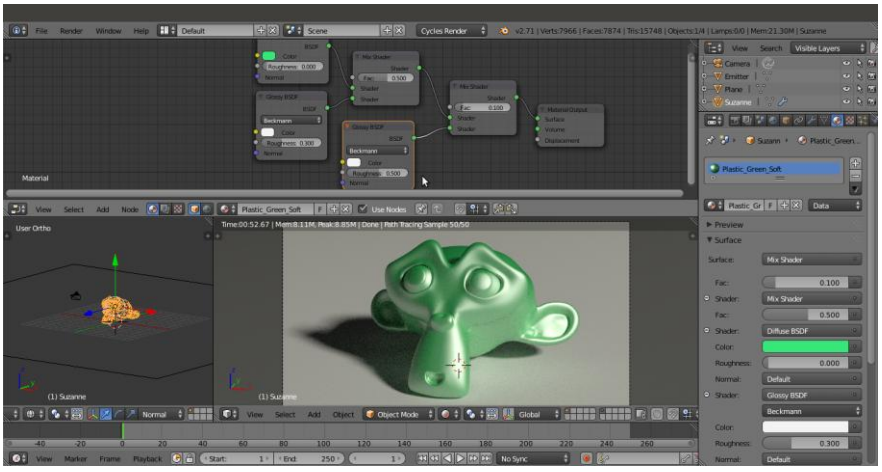


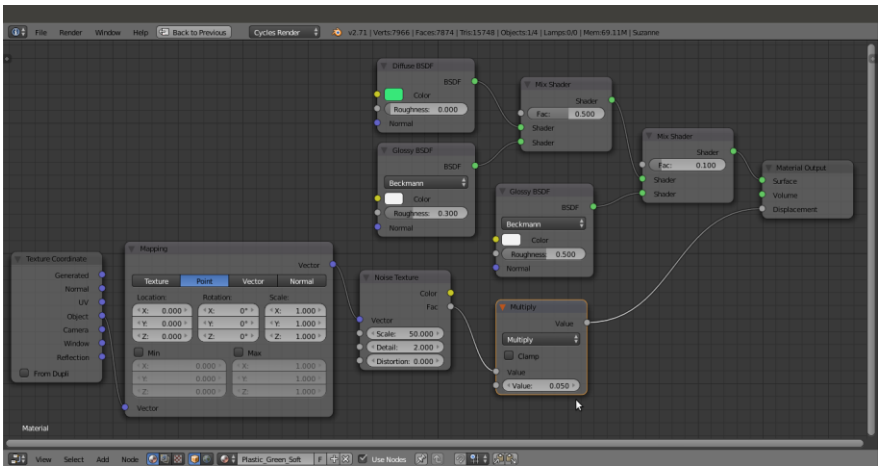


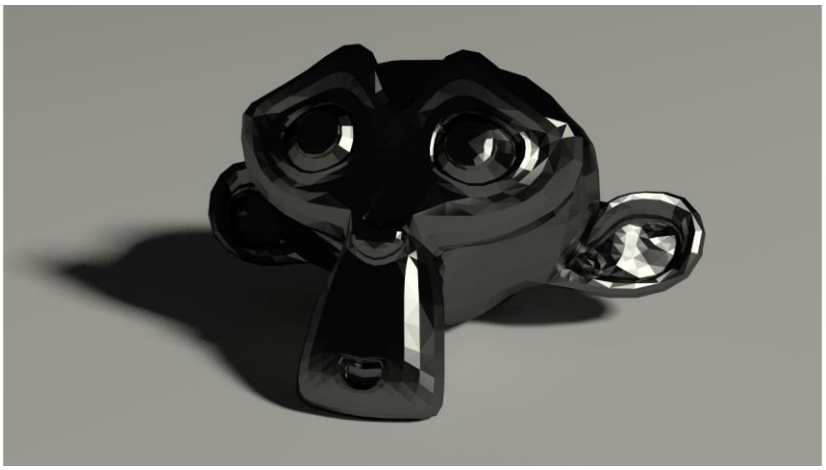

File
Render
Window
Help
Back to Previous
Cycles Render
Light Path
Is Camera Ray
Is Shadow Ray
Is Diffuse Ray
Is Glossy Ray
Is Singular Ray
Is Reflection Ray
Is Transmission Ray
Ray Length
Ray Depth
Transparent Depth
ColorRamp
Color
Alpha
RGB
Linear
Pos:
1.000
Fac
Glass BSDF
BSDF
Beckmann
Color
Roughness:
0.600
IOR:
1.333
Normal
Transparent BSDF
BSDF
Color
Mix Shader
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
water
View
Select
Add
Node
water
Use Nodes

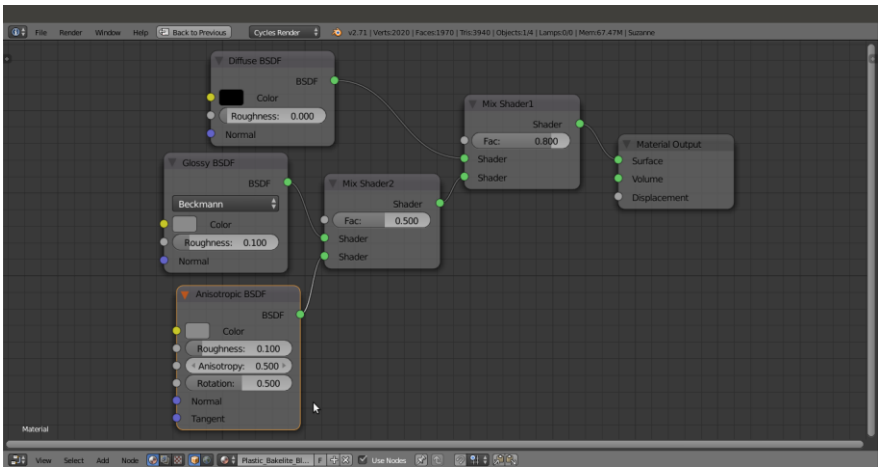

File
Render
Window
Help
Back to Previous
Cycles Render
v2.72 | Verts:672 | Faces:536 | Tris:1,068 | Objects:1/6 | Lamps:0/1 | Mem:20.52M | volume_light
ColorRamp
Color
Alpha
RGB
B-Spline
Pos: 0.711
Fac: 0.500
Layer Weight
Fresnel
Facing
Blend: 0.900
Normal
Intensity
Value
0.400
Emission
Emission
Color
Strength: 1.000
Mix Shader4
Shader
Fac: 0.800
Shader
Shader
Mix Shader3
Shader
Fac
Shader
Shader
Mix Shader2
Shader
Fac
Shader
Shader
Mix Shader1
Shader
Fac
Shader
Shader
Transparent BSDF
BSDF
Color
Material Output
Surface
Volume
Displacement
volume_light
View
Select
Add
Node
volume_light
Use Nodes

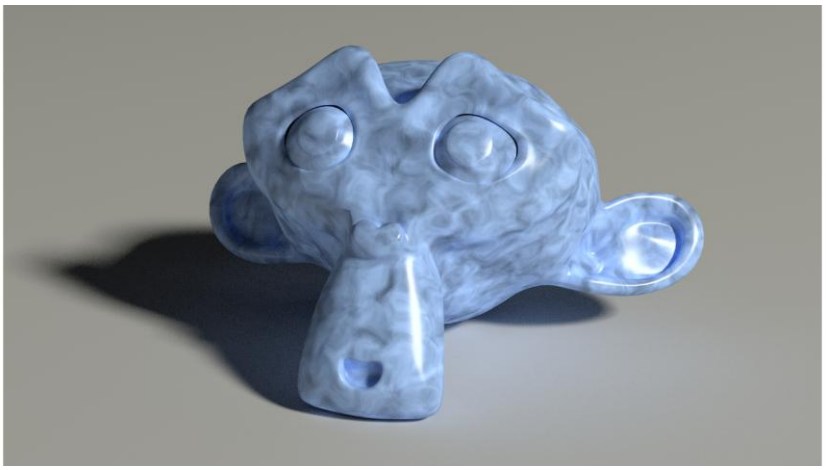
Chapter 4: Creating Man-made Materials in Cycles

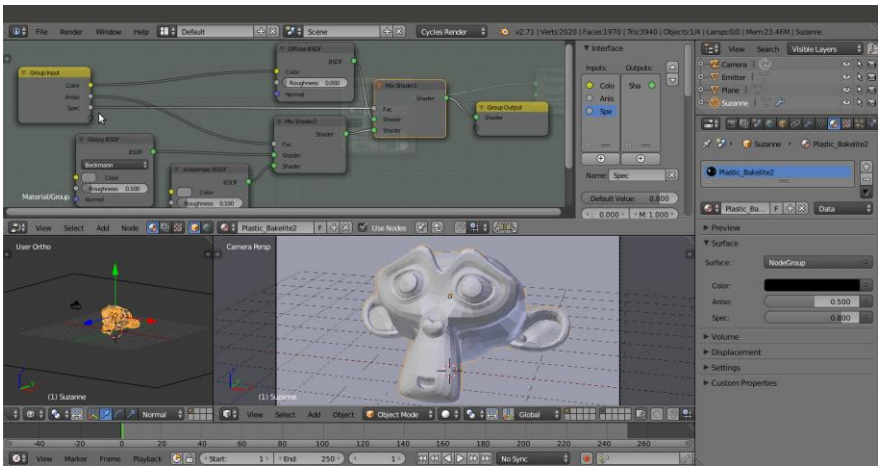


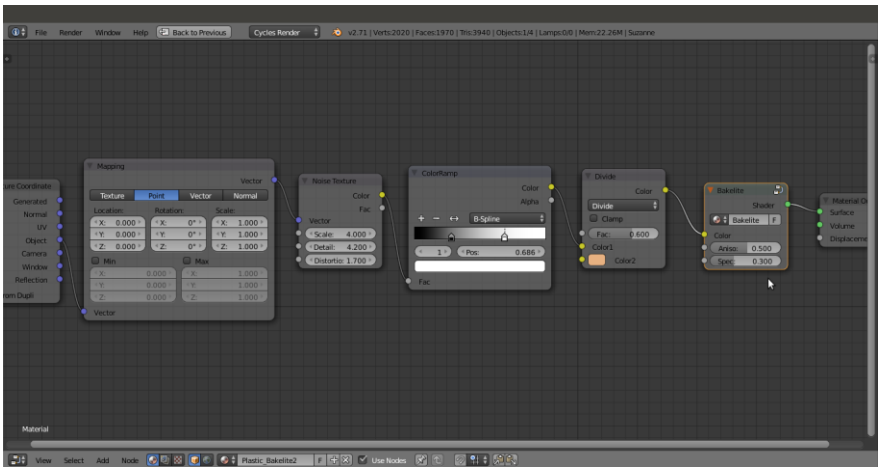

Diffuse BSDF
BSDF
Color
Roughness: 0.000
Normal
Mix Shader
Shader
Fac: 0.500
Shader
Shader
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.300
Normal
Mix Shader
Shader
Fac: 0.100
Shader
Shader
Material Output
Surface
Volume
Displacement
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.500
Normal
Texture Coordinate
Generated
Normal
UV
Object
Camera
Window
Reflection
From Dupli
Mapping
Vector
Texture
Point
Vector
Normal
Location:
Rotation:
Scale:
Min
Max
Vector
Noise Texture
Color
Fac:
Vector
Scale: 50.000
Detail: 2.000
Distortion: 0.000
Multiply
Value
Multiply
Clamp
Value
Value: 0.050
Material
View
Select
Add
Node
Use Nodes

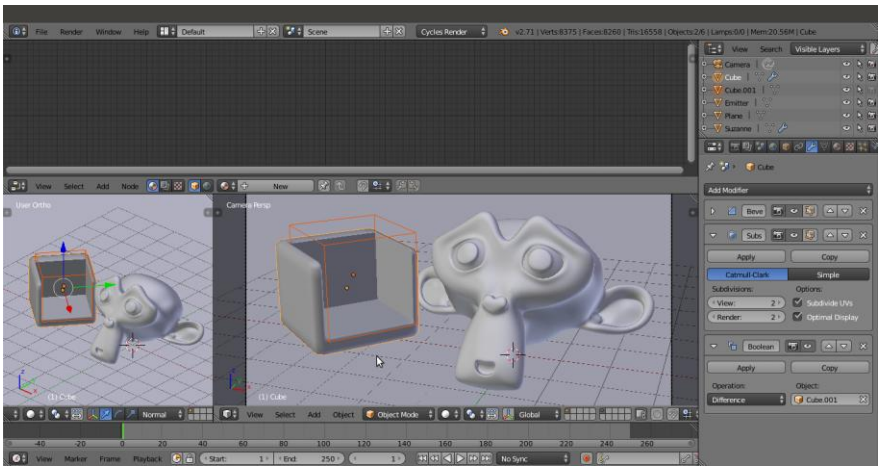


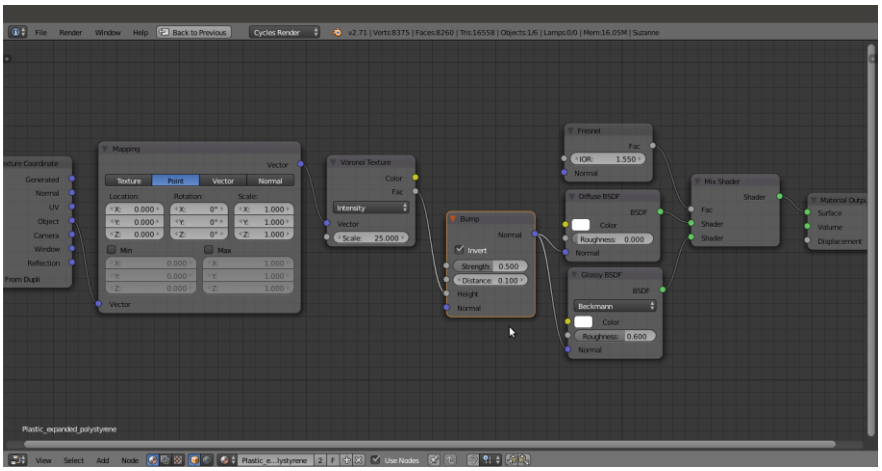

Diffuse BSDF
BSDF
Color
Roughness: 0.000
Normal
Mix Shader1
Shader
Fac: 0.800
Shader
Shader
Material Output
Surface
Volume
Displacement
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.100
Normal
Mix Shader2
Shader
Fac: 0.500
Shader
Shader
Anisotropic BSDF
BSDF
Color
Roughness: 0.100
Anisotropy: 0.500
Rotation: 0.500
Normal
Tangent
Material
View
Select
Add
Node
Use Nodes

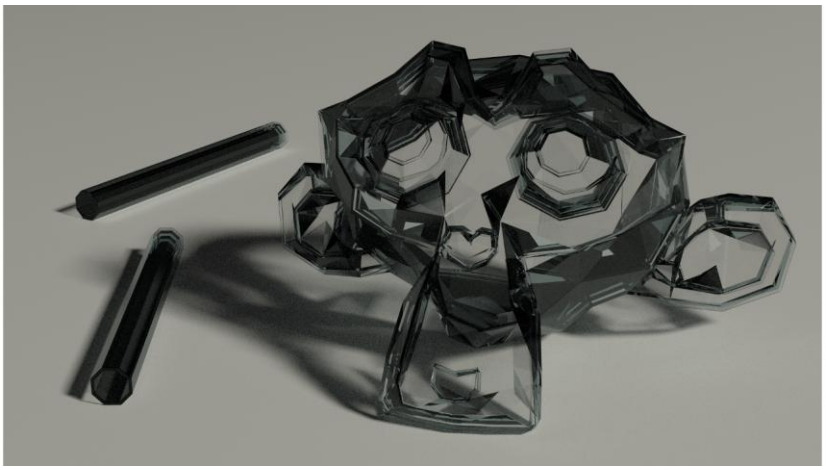


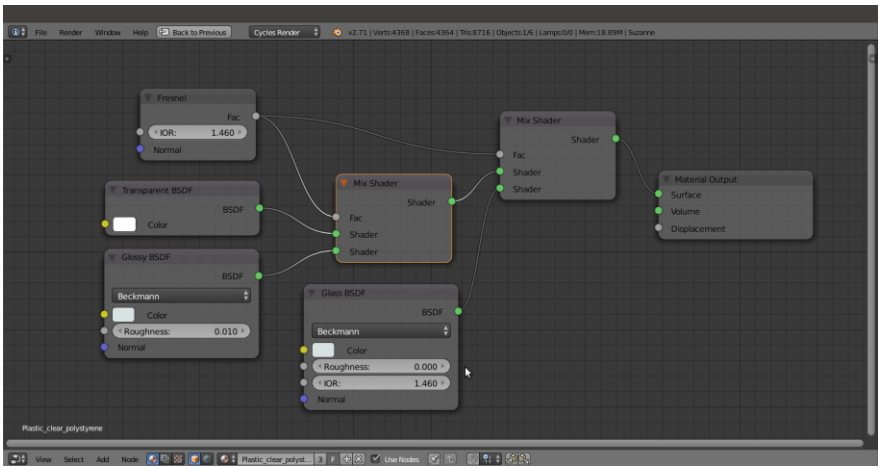


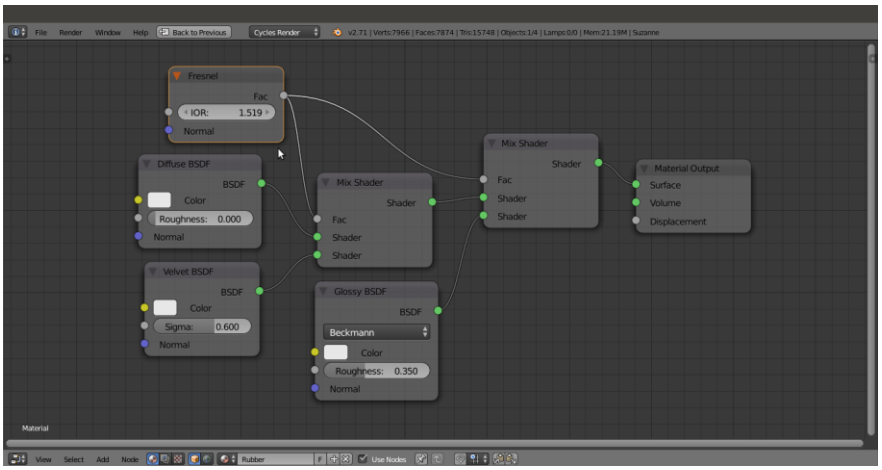


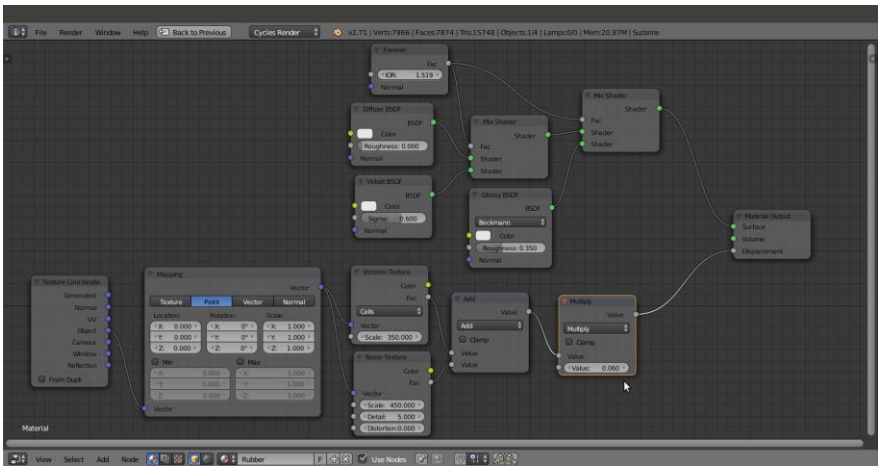


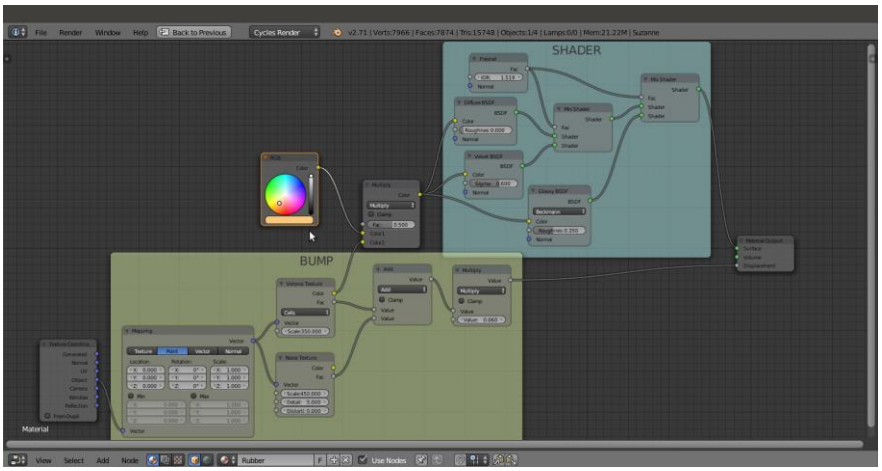


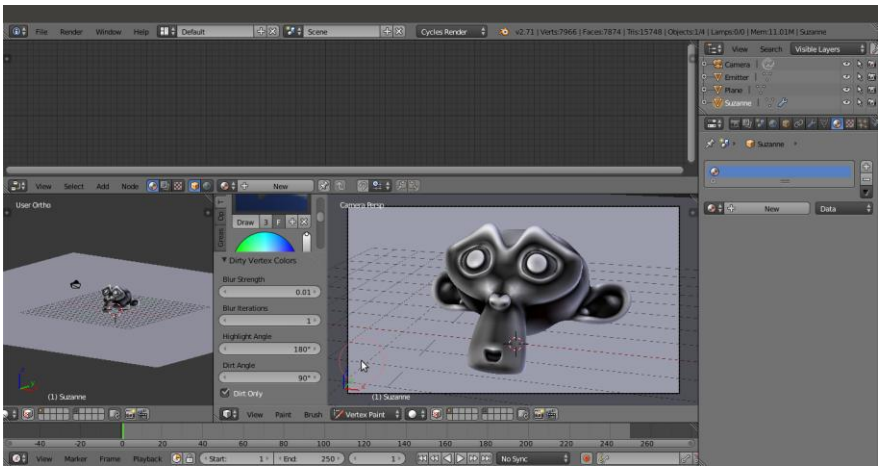



File
Render
Window
Help
Back to Previous
Cycles Render
Fresnel
Fac
IOR: 1.460
Normal
Transparent BSDF
BSDF
Color
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.010
Normal
Mix Shader
Shader
Fac
Shader
Shader
Glass BSDF
BSDF
Beckmann
Color
Roughness: 0.000
IOR: 1.460
Normal
Mix Shader
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Plastic_clear_polystyrene
View
Select
Add
Node
Use Nodes

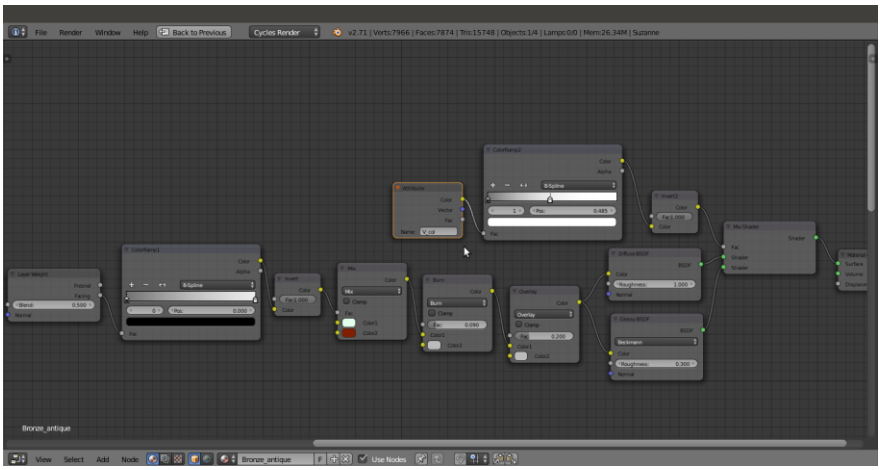

Fresnel
Fac
IOR: 1.519
Normal
Diffuse BSDF
BSDF
Color
Roughness: 0.000
Normal
Mix Shader
Shader
Fac
Shader
Shader
Mix Shader
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Velvet BSDF
BSDF
Color
Sigma: 0.600
Normal
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.350
Normal
Material

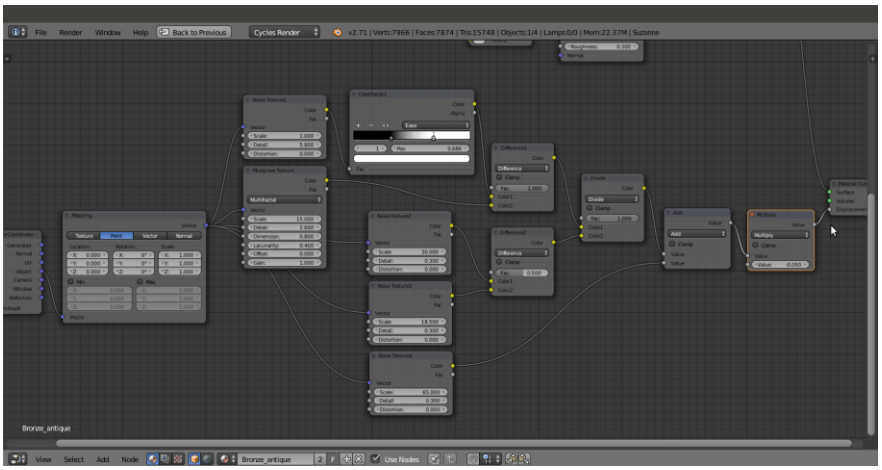

Material

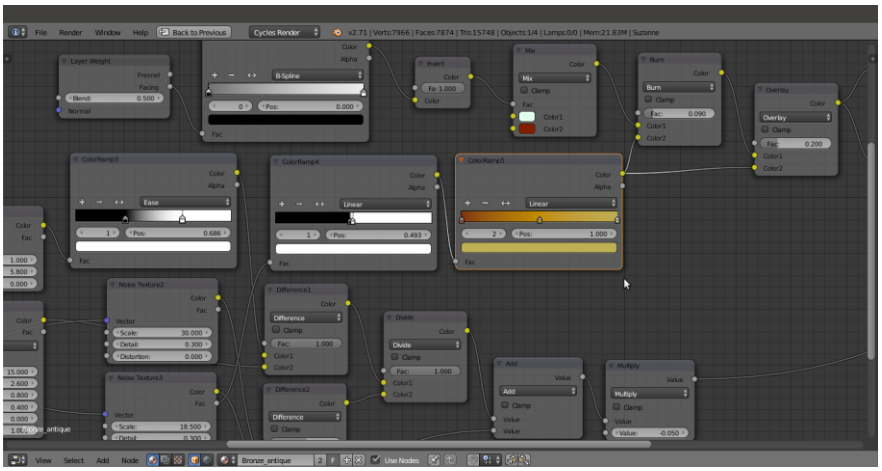

SHADER
BUMP
Material

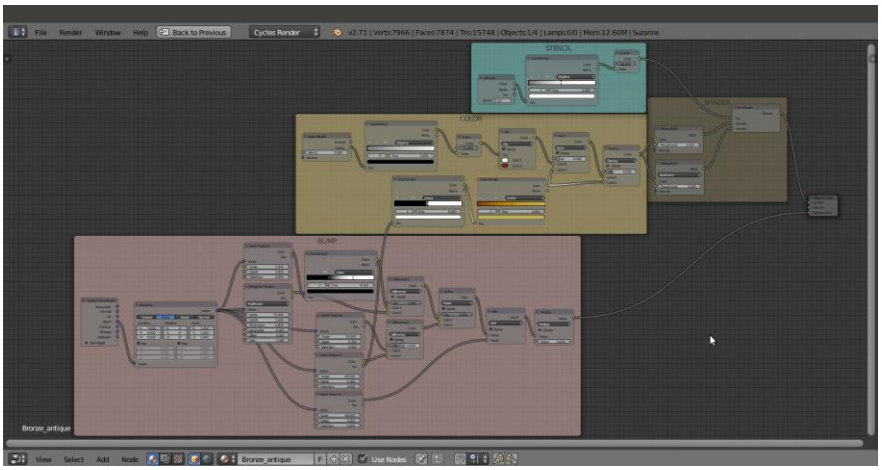

Dirty Vertex Colors
Blur Strength
Blur Iterations
Highlight Angle
Dirt Angle
Dirt Only

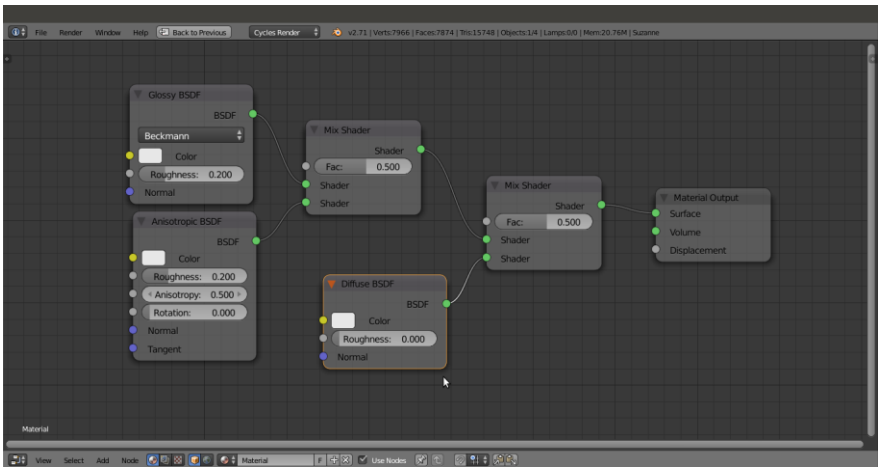
Bronze_antique
Surface
Mix Shader
Diffuse BSDF
Glossy BSDF

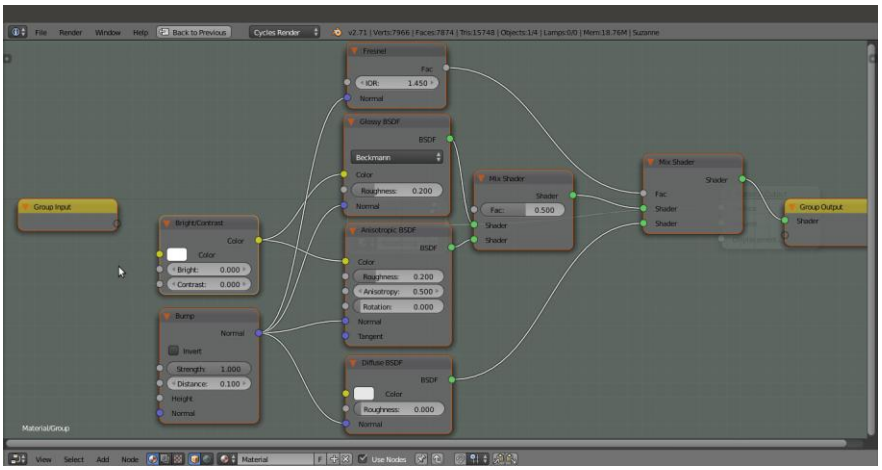

File Render Window Help Back to Previous Cycles Render v2.71 | Verts:7966 | Faces:7874 | Tris:15748 | Objects:1/4 | Lamps:0/0 | Mem:26.34M | Suzanne
Bronze_antique
View Select Add Node Bronze_antique Use Nodes

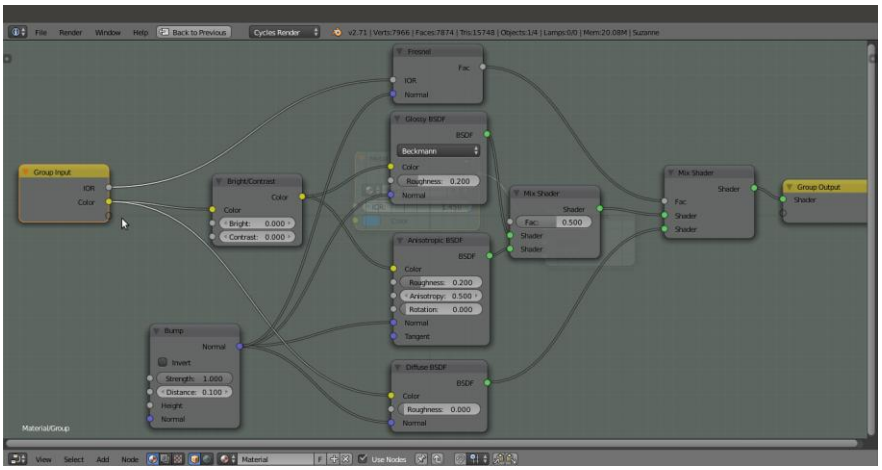

File Render Window Help Back to Previous Cycles Render v2.71 | Verts:7966 | Faces:7874 | Tris:15748 | Objects:1/4 | Lamps:0/0 | Mem:22.37M | Suzanne
Bronze_antique
View Select Add Node Bronze_antique Use Nodes

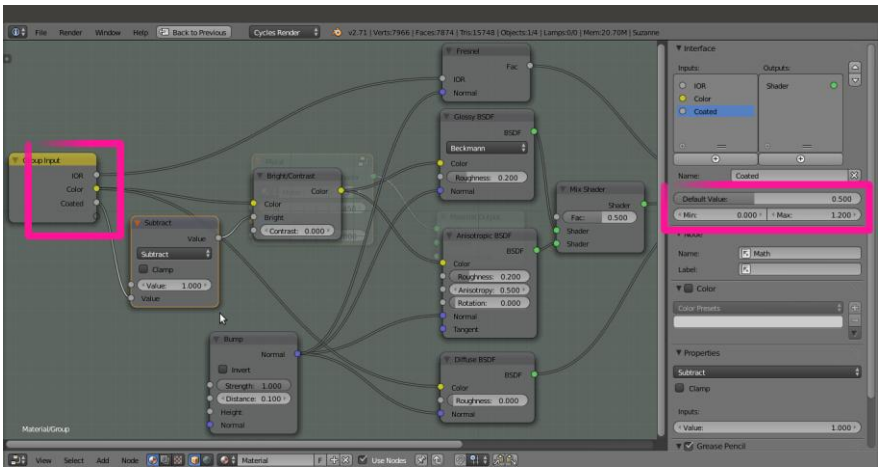

File Render Window Help Back to Previous Cycles Render v2.71 | Verts:7966 | Faces:7874 | Tris:15748 | Objects:1/4 | Lamps:0/0 | Mem:21.83M | Suzanne
View Select Add Node Bronze_antique Use Nodes

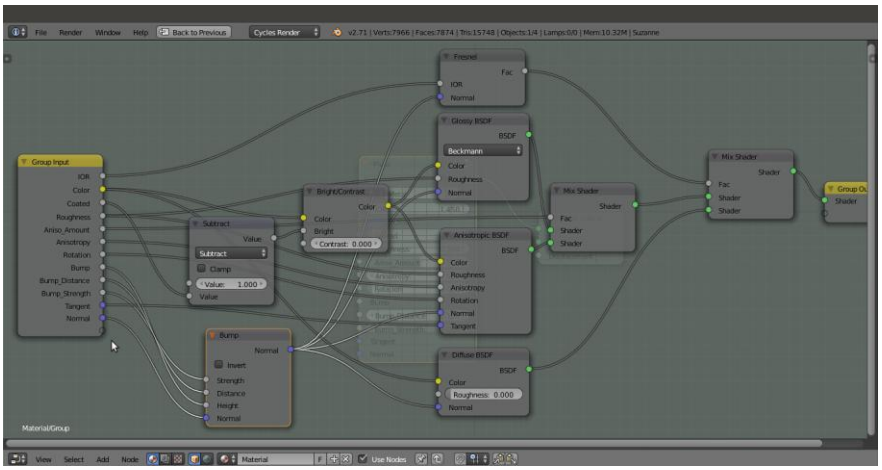

File Render Window Help Back to Previous Cycles Render
STENCIL
COLOR
BUMP
Bronze_antique
View Select Add Node Bronze_antique Use Nodes

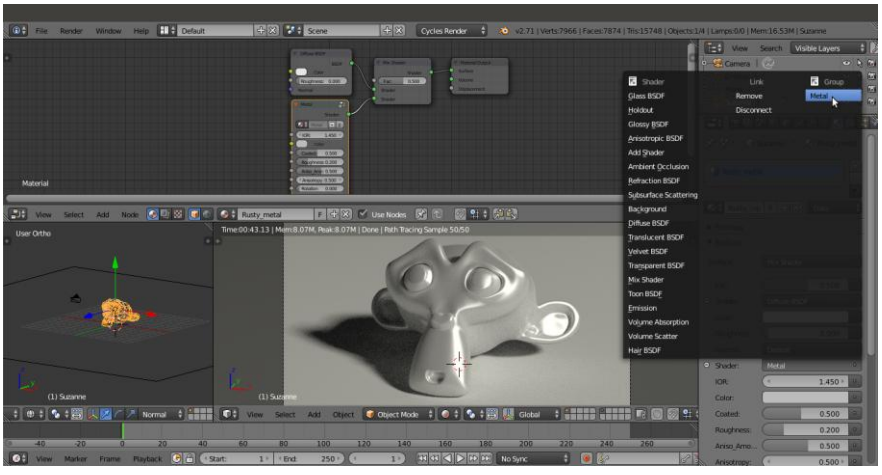

File Render Window Help Back to Previous Cycles Render
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.200
Normal
Anisotropic BSDF
BSDF
Color
Roughness: 0.200
Anisotropy: 0.500
Rotation: 0.000
Normal
Tangent
Mix Shader
Shader
Fac: 0.500
Shader
Shader
Mix Shader
Shader
Fac: 0.500
Shader
Shader
Diffuse BSDF
BSDF
Color
Roughness: 0.000
Normal
Material Output
Surface
Volume
Displacement
Material
View Select Add Node Material Use Nodes

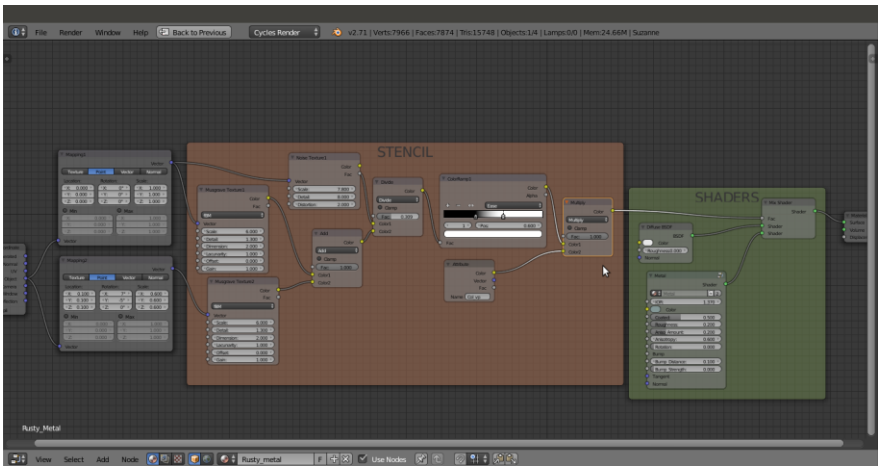

Fresnel
IOR: 1.450
Glossy BSDF
Beckmann
Roughness: 0.200
Mix Shader
Fac: 0.500
Group Input
Bright/Contrast
Anisotropic BSDF
Anisotropy: 0.500
Rotation: 0.000
Bump
Strength: 1.000
Distance: 0.100
Diffuse BSDF
Group Output
Material/Group

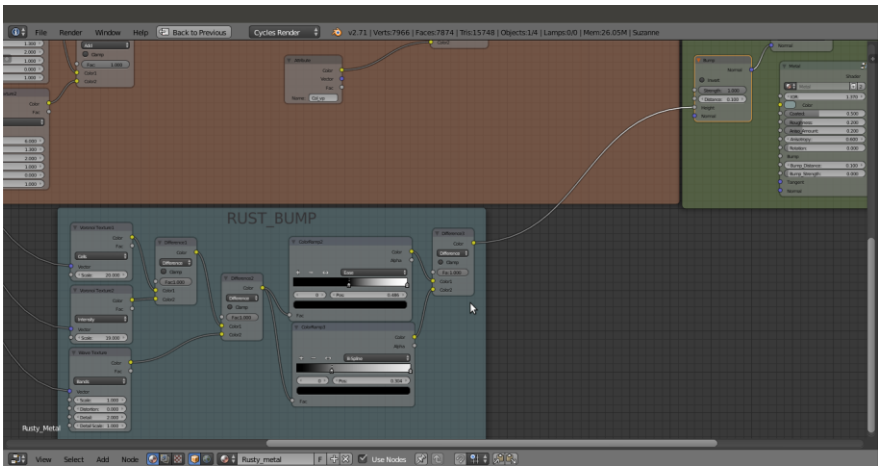

Fresnel
Glossy BSDF
Beckmann
Roughness: 0.200
Mix Shader
Fac: 0.500
Group Input
Bright/Contrast
Anisotropic BSDF
Anisotropy: 0.500
Rotation: 0.000
Bump
Strength: 1.000
Distance: 0.100
Diffuse BSDF
Group Output
Material/Group

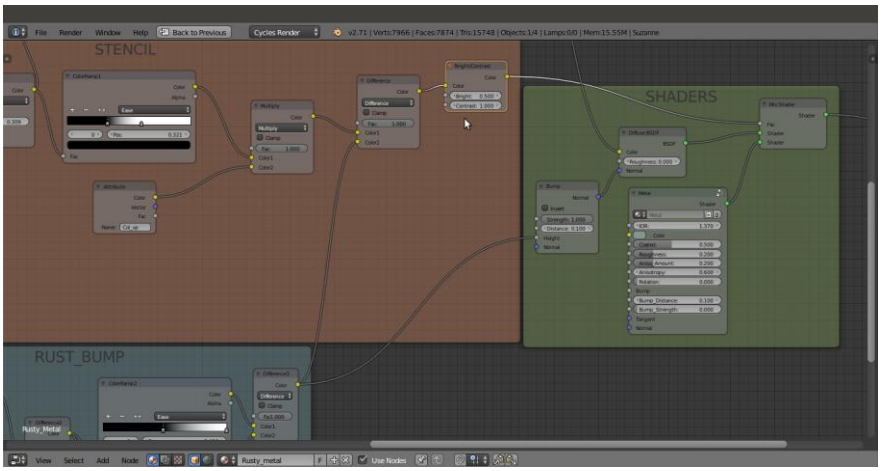

Fresnel
Glossy BSDF
Beckmann
Roughness: 0.200
Mix Shader
Fac: 0.500
Group Input
Coated
Subtract
Value: 1.000
Bright/Contrast
Anisotropic BSDF
Anisotropy: 0.500
Rotation: 0.000
Bump
Strength: 1.000
Distance: 0.100
Diffuse BSDF
Interface
Inputs:
Outputs:
Default Value: 0.500
Min: 0.000
Max: 1.200
Properties
Material/Group

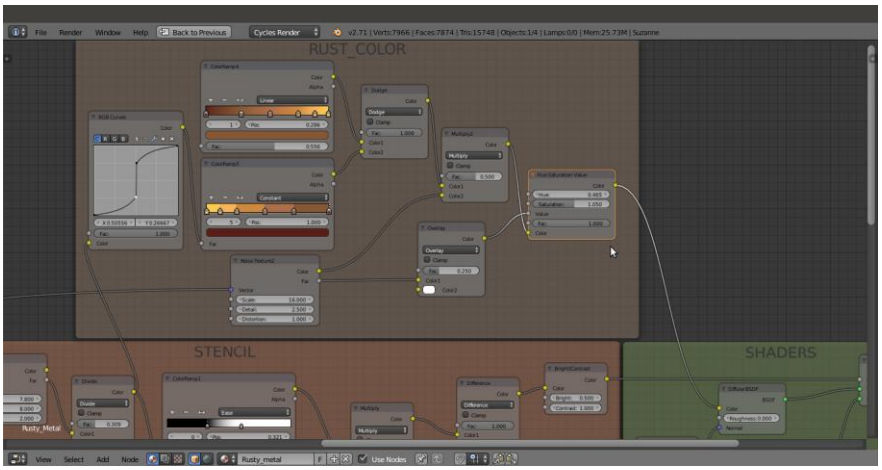

Group Input
Fresnel
Glossy BSDF
Beckmann
Bright/Contrast
Subtract
Anisotropic BSDF
Mix Shader
Bump
Diffuse BSDF
Material/Group

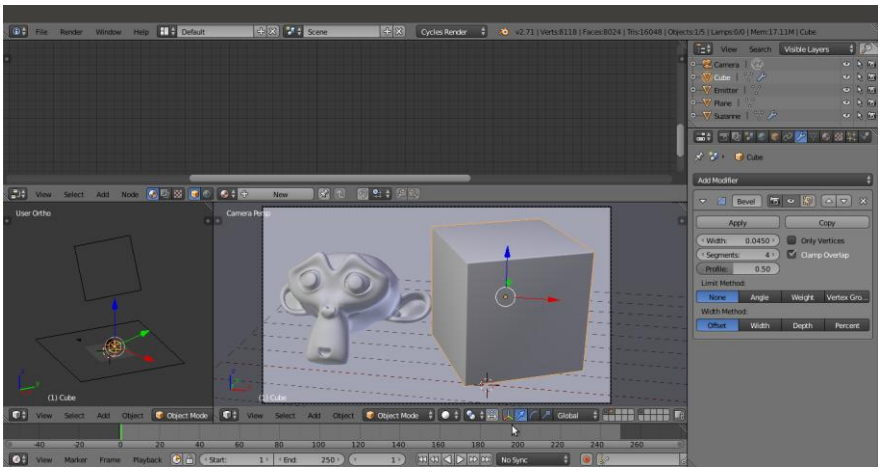

Material
Rusty metal
User Ortho
(1) Suzanne
Glass BSDF
Holdout
Glossy BSDF
Anisotropic BSDF
Add Shader
Ambient Occlusion
Refraction BSDF
Subsurface Scattering
Background
Diffuse BSDF
Translucent BSDF
Velvet BSDF
Transparent BSDF
Mix Shader
Toon BSDF
Emission
Volume Absorption
Volume Scatter
Hair BSDF

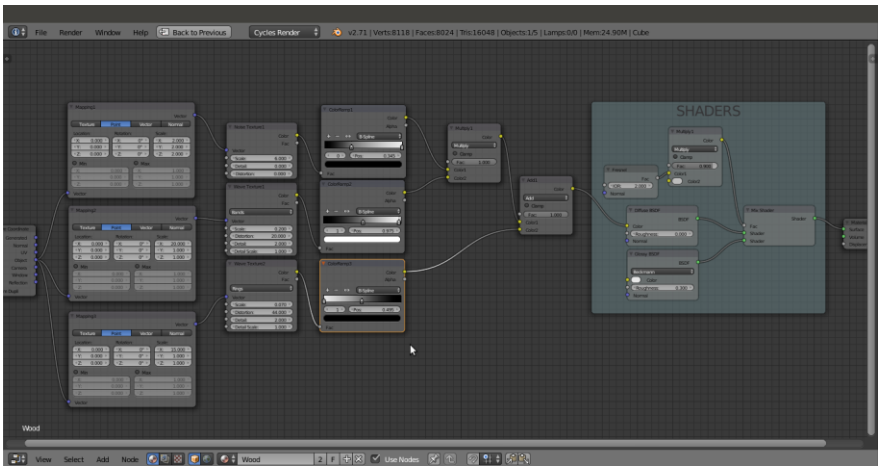

STENCIL
SHADERS
Rusty_Metal

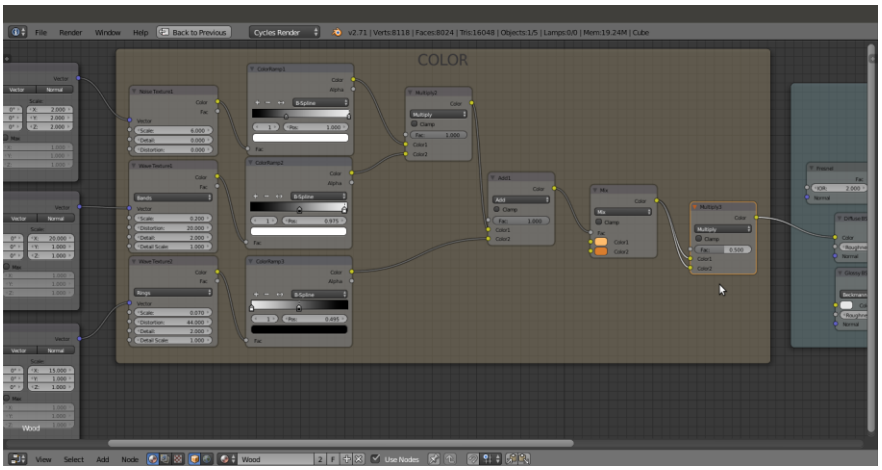

RUST_BUMP
Rusty_Metal

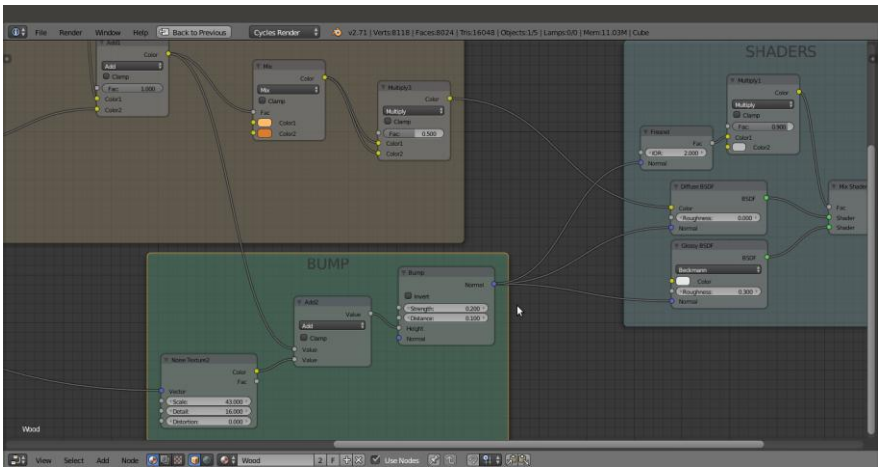

STENCIL
SHADERS
RUST_BUMP
Rusty_Metal


RUST_COLOR
STENCIL
SHADERS

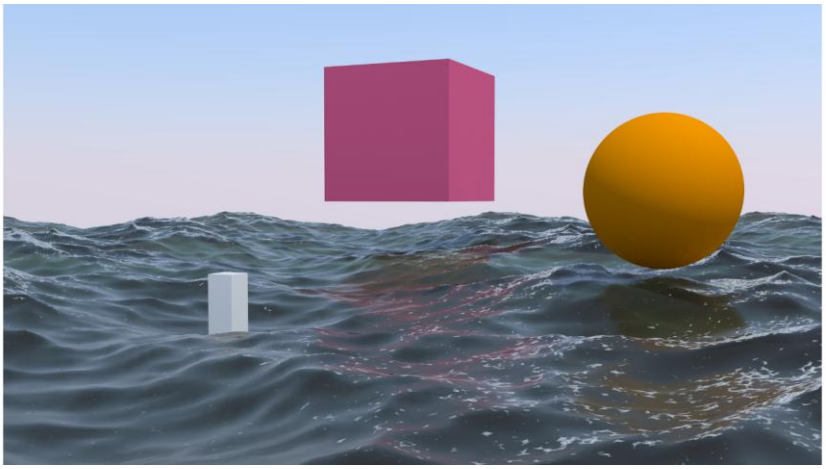


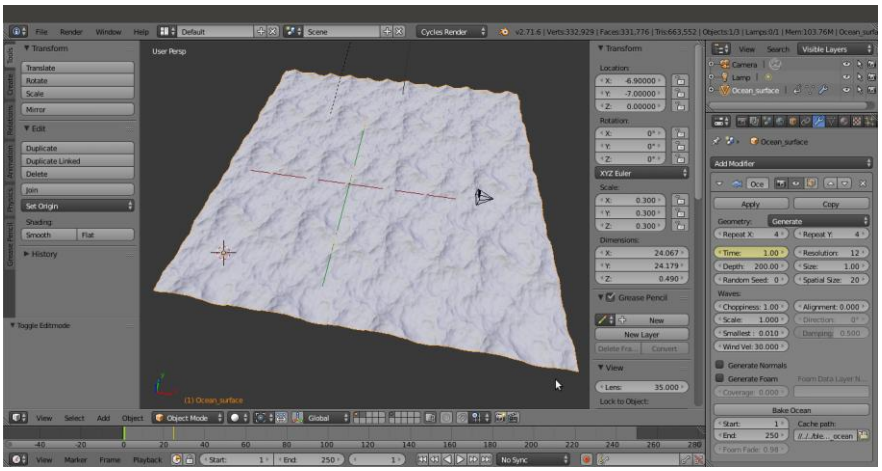

SHADERS
Wood

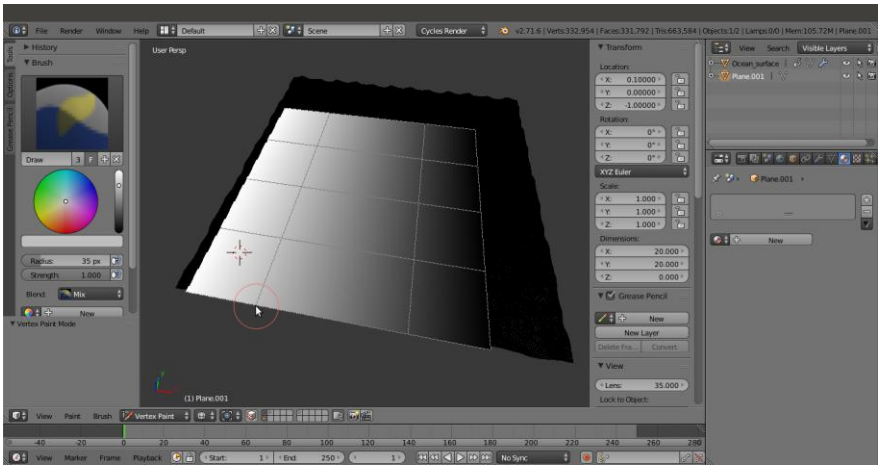

COLOR
Wood

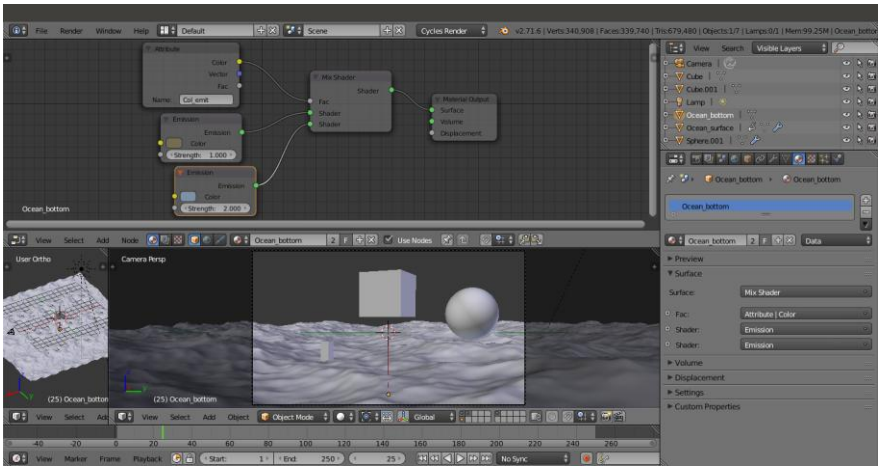

SHADERS
BUMP
Wood

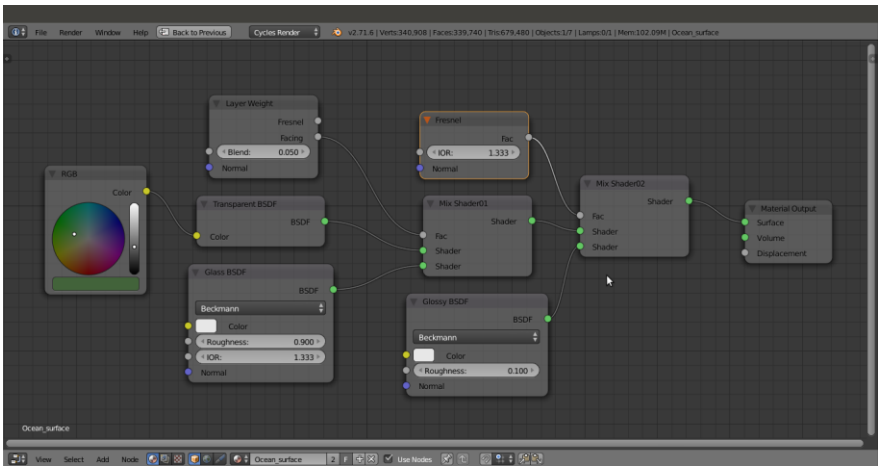
Chapter 5: Creating Complex Natural Materials in Cycles

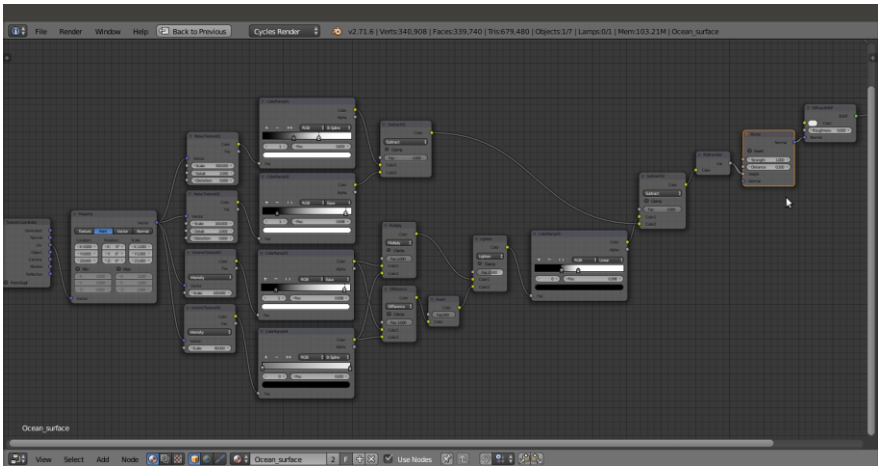


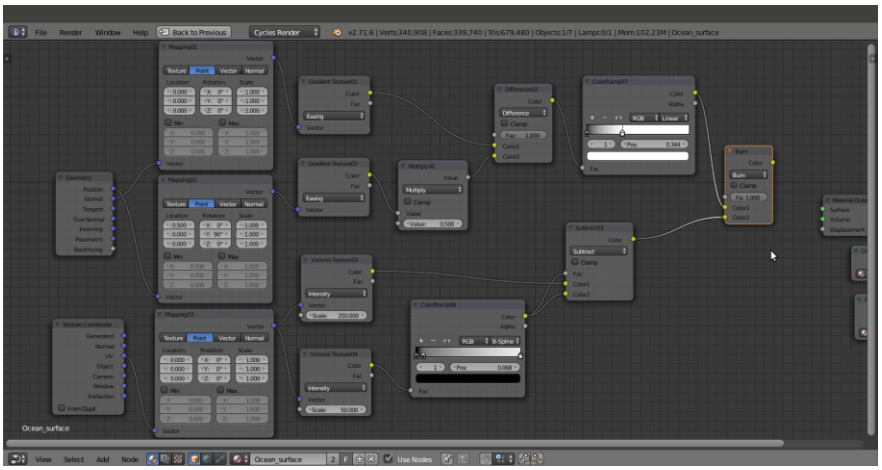


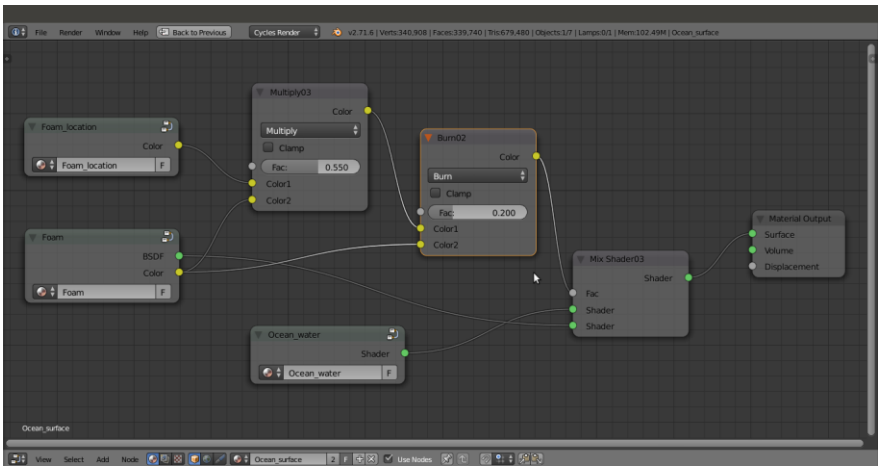


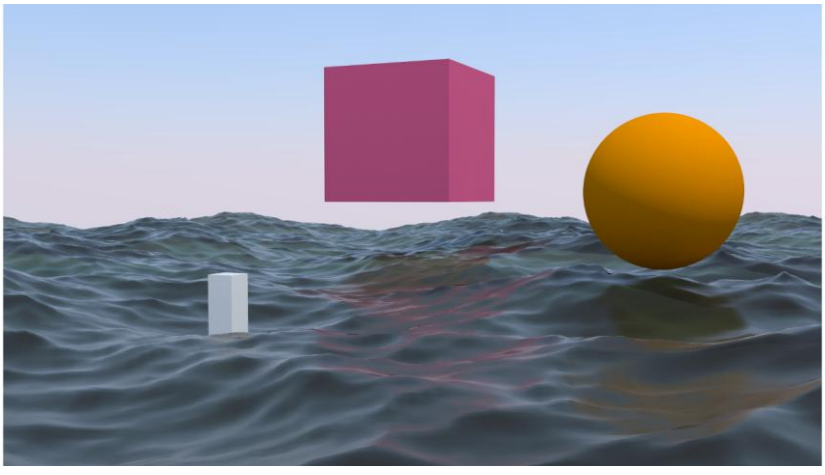

File Render Window Help
Default
Scene
Cycles Render
Attribute
Color
Vector
Fac
Name: Col_emit
Emission
Strength: 1.000
Strength: 2.000
Mix Shader
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Ocean_bottom
View Select Add Node
Use Nodes
User Ortho
Camera Persp
(25) Ocean_bottom
Object Mode
Global
View Marker Frame Playback
Start: 1
End: 250
No Sync
View Search
Visible Layers
Camera
Cube
Cube.001
Lamp
Ocean_bottom
Ocean_surface
Sphere.001
Data
Preview
Surface
Surface: Mix Shader
Fac: Attribute | Color
Shader: Emission
Shader: Emission
Volume
Displacement
Settings
Custom Properties

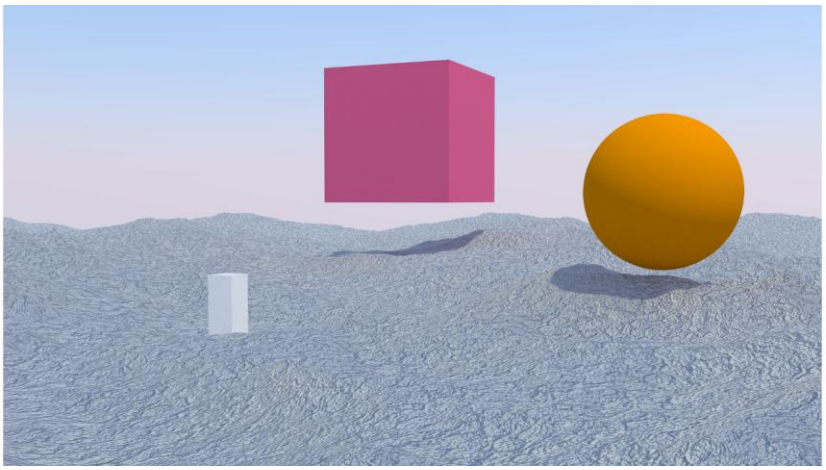

File Render Window Help
Back to Previous
Cycles Render
v2.71.6 | Verts:340,908 | Faces:339,740 | Tris:679,480 | Objects:1/7 | Lamps:0/1 | Mem:102.09M | Ocean_surface
Layer Weight
Fresnel
Facing
Blend: 0.050
Normal
Fresnel
Fac
IOR: 1.333
Normal
RGB
Color
Transparent BSDF
BSDF
Color
Mix Shader01
Shader
Fac
Shader
Shader
Mix Shader02
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Glass BSDF
BSDF
Beckmann
Color
Roughness: 0.900
IOR: 1.333
Normal
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.100
Normal
Ocean_surface
View Select Add Node
Use Nodes

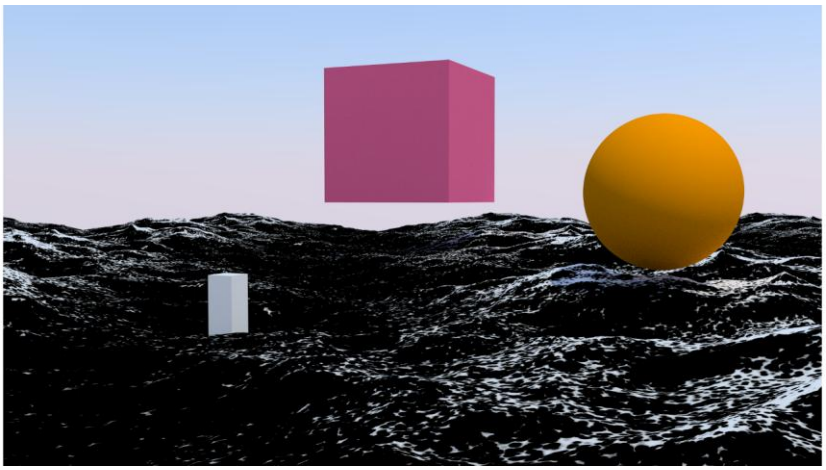

File Render Window Help
Back to Previous
Cycles Render
v2.71.6 | Verts:340,908 | Faces:339,740 | Tris:679,480 | Objects:1/7 | Lamps:0/1 | Mem:103.21M | Ocean_surface
Ocean_surface
View Select Add Node
Use Nodes

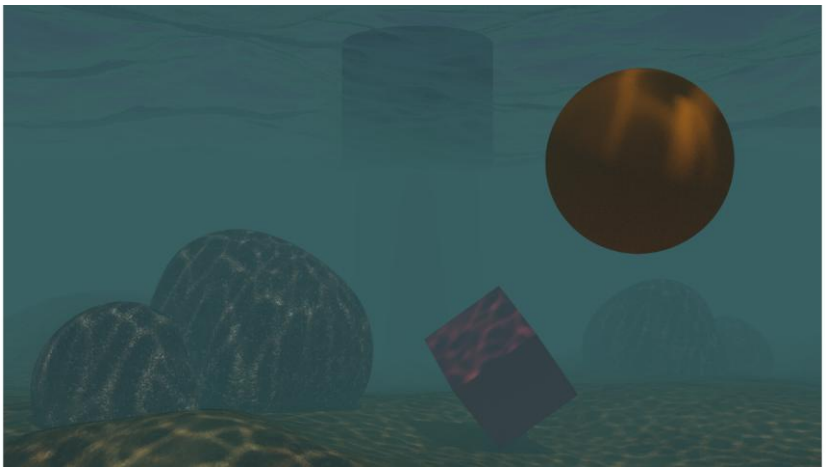

File Render Window Help Back to Previous Cycles Render
Ocean_surface
View Select Add Node Ocean_surface Use Nodes

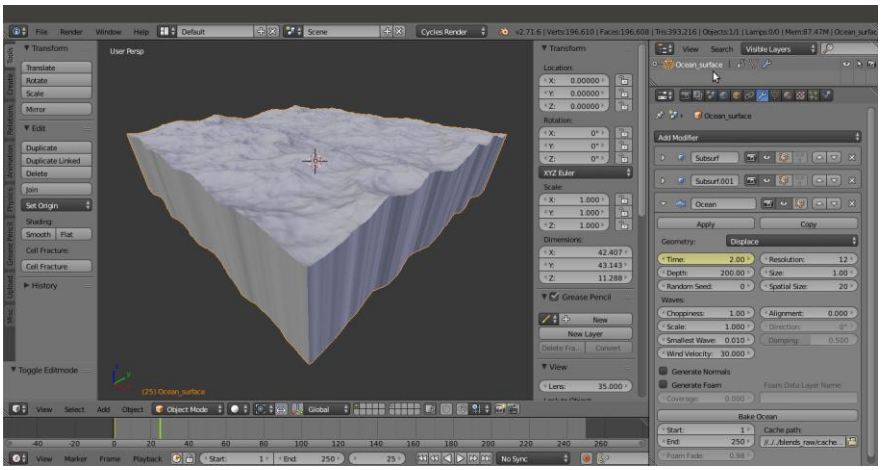

File Render Window Help Back to Previous Cycles Render
Multiply03
Color
Multiply
Clamp
Fac: 0.550
Color1
Color2
Foam_location
Color
Foam_location
Burn02
Color
Burn
Clamp
Fac: 0.200
Color1
Color2
Foam
BSDF
Color
Foam
Material Output
Surface
Volume
Displacement
Mix Shader03
Shader
Fac
Shader
Shader
Ocean_water
Shader
Ocean_water
Ocean_surface
View Select Add Node Ocean_surface Use Nodes

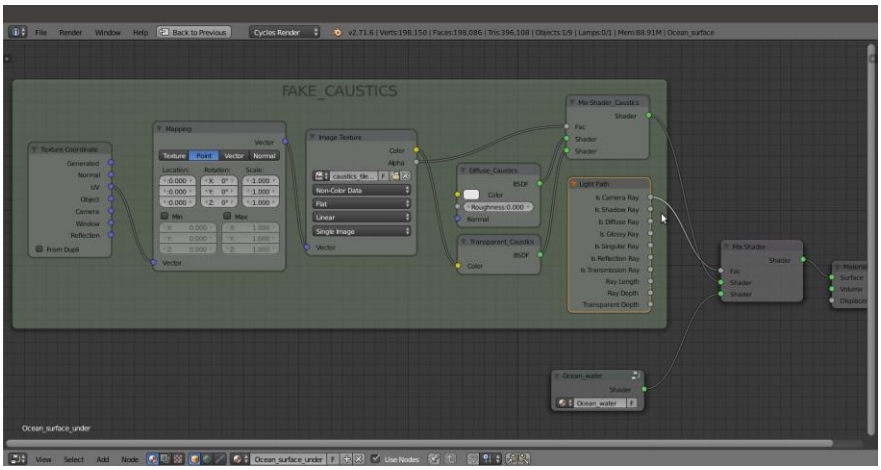


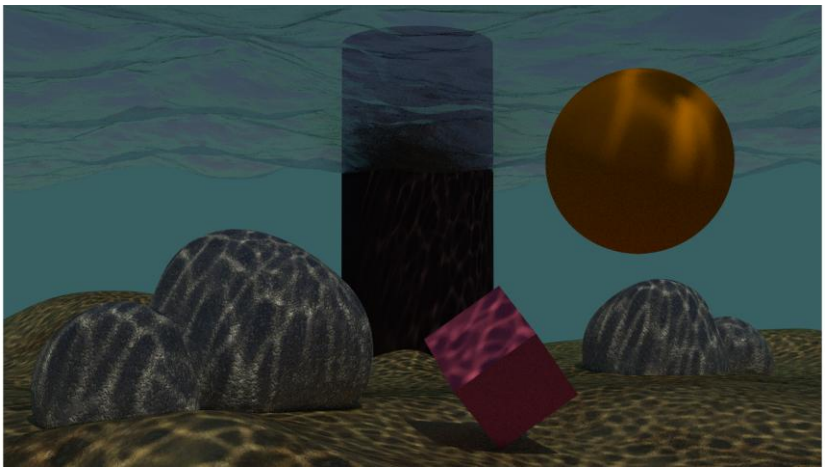


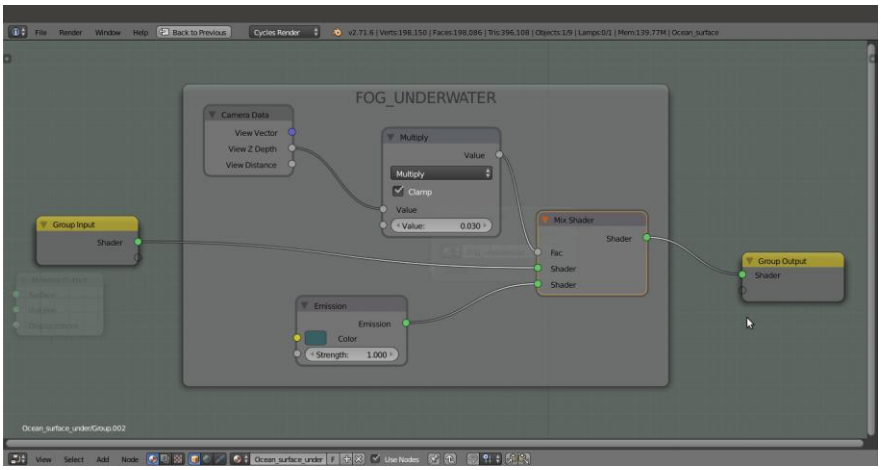


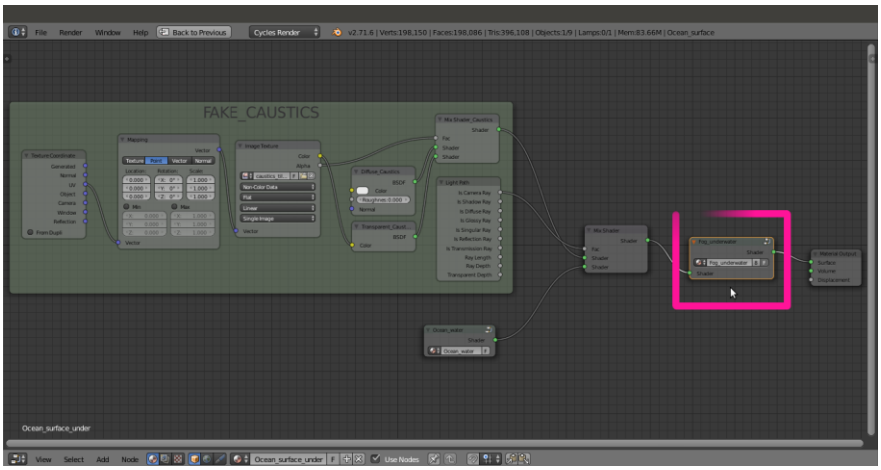


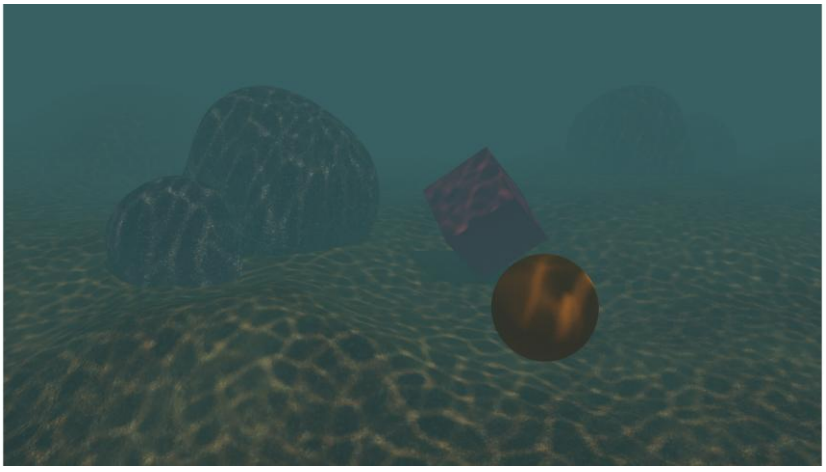


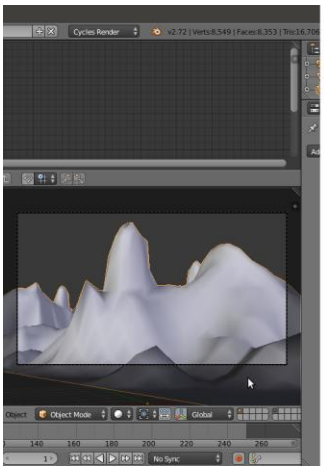

FAKE_CAUSTICS
Ocean_surface_under

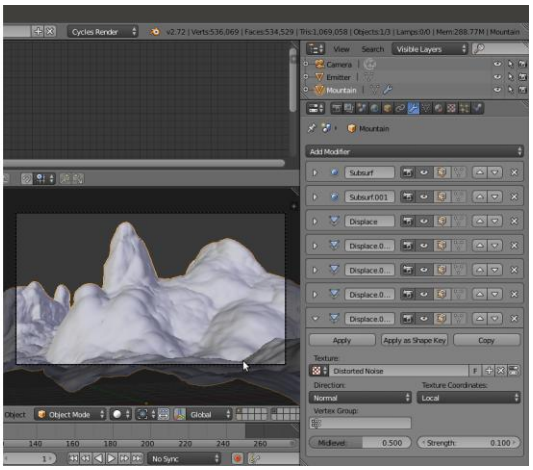


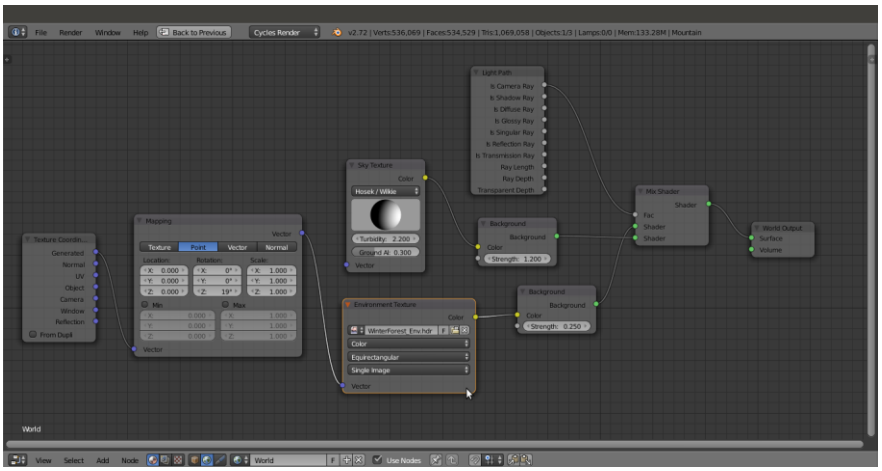

FOG_UNDERWATER
Camera Data
View Vector
View Z Depth
View Distance
Multiply
Value
Multiply
Clamp
Value
Value: 0.030
Group Input
Shader
Mix Shader
Shader
Fac
Shader
Shader
Group Output
Shader
Emission
Emission
Color
Strength: 1.000
Ocean_surface_under/Group.002

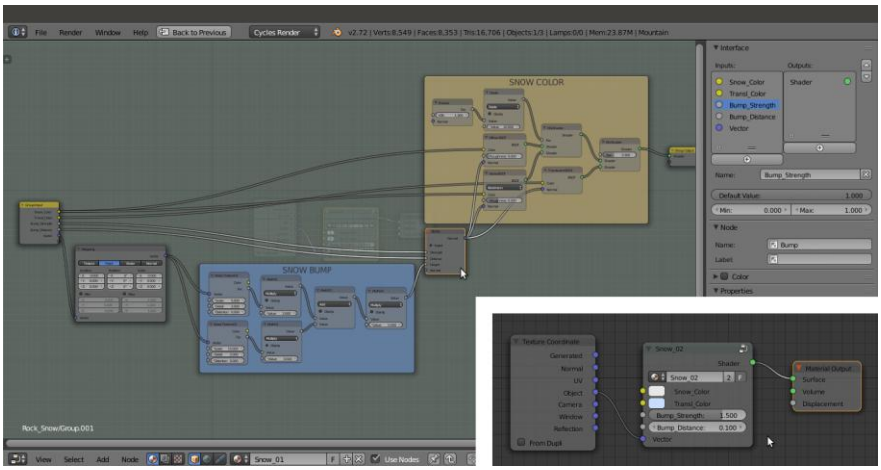

FAKE_CAUSTICS
Ocean_surface_under

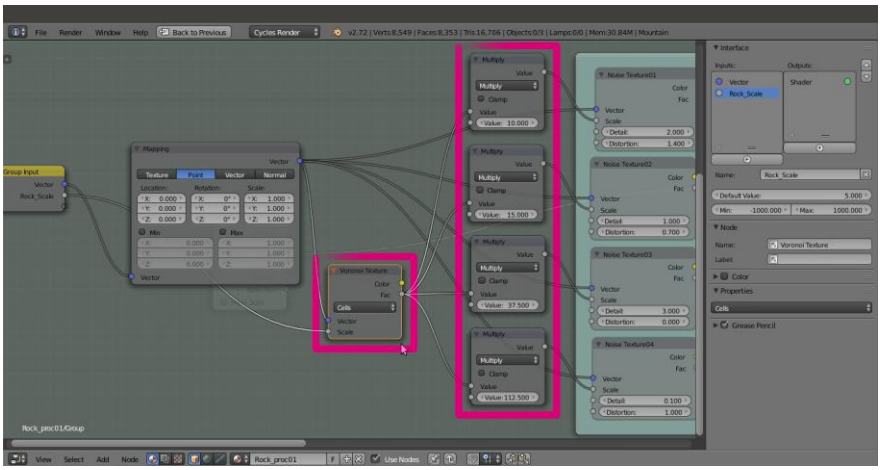


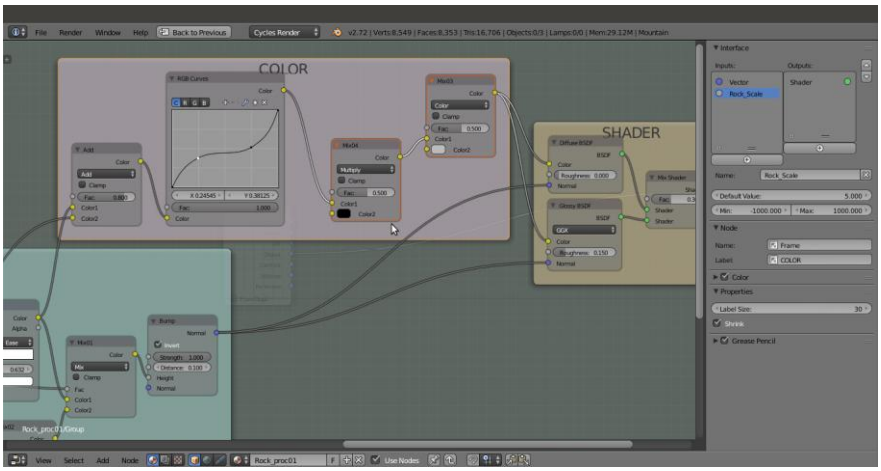


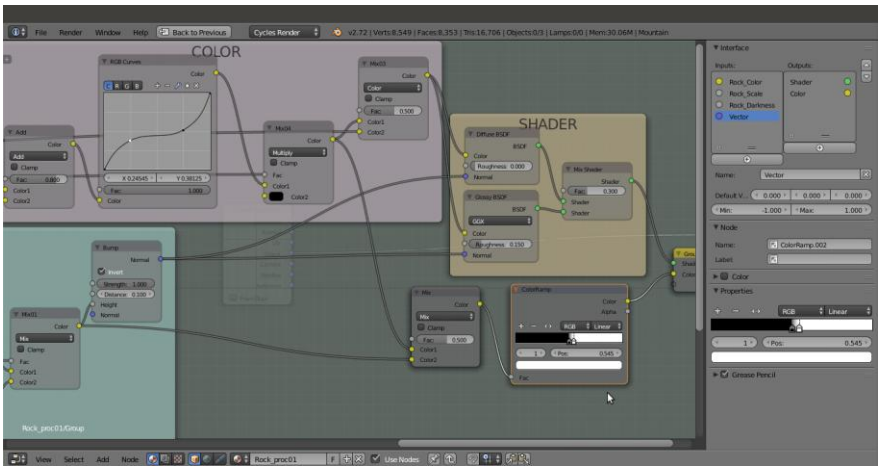


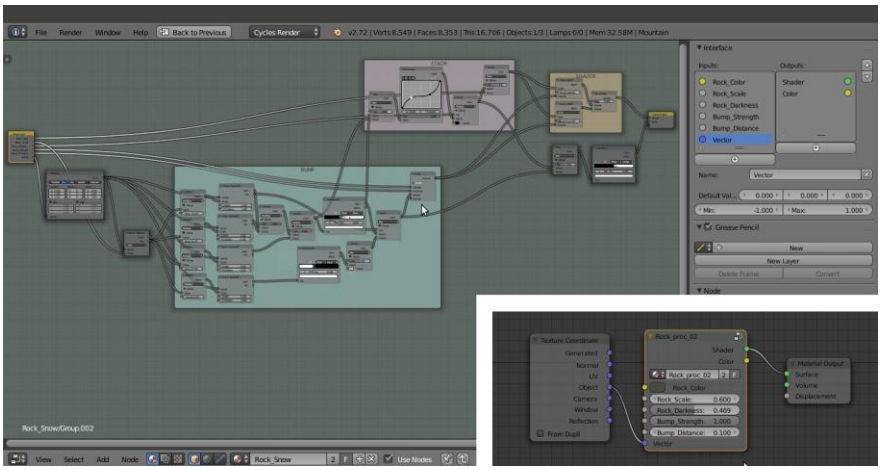


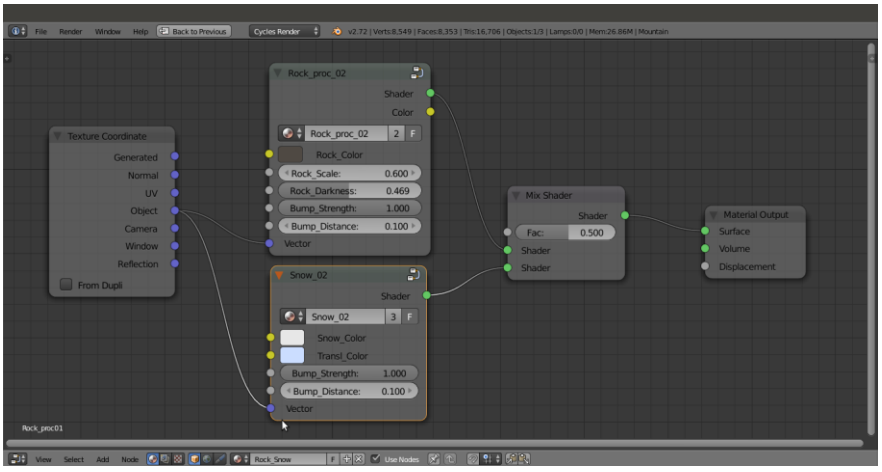

SNOW COLOR
SNOW BUMP

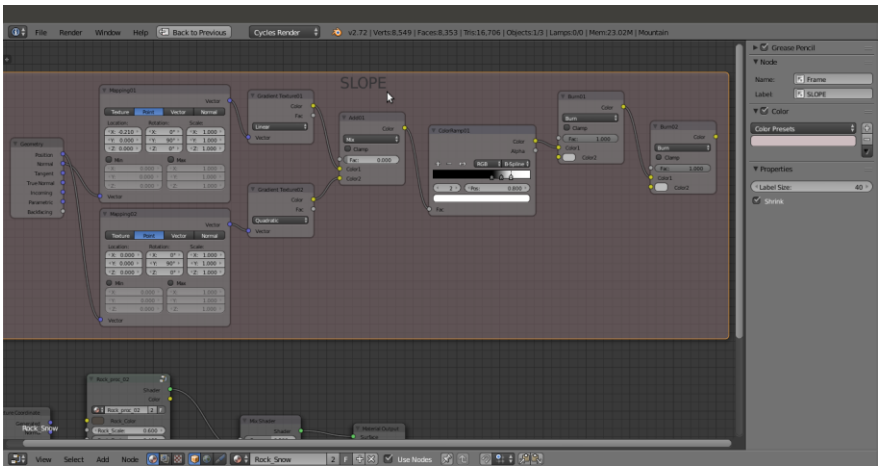


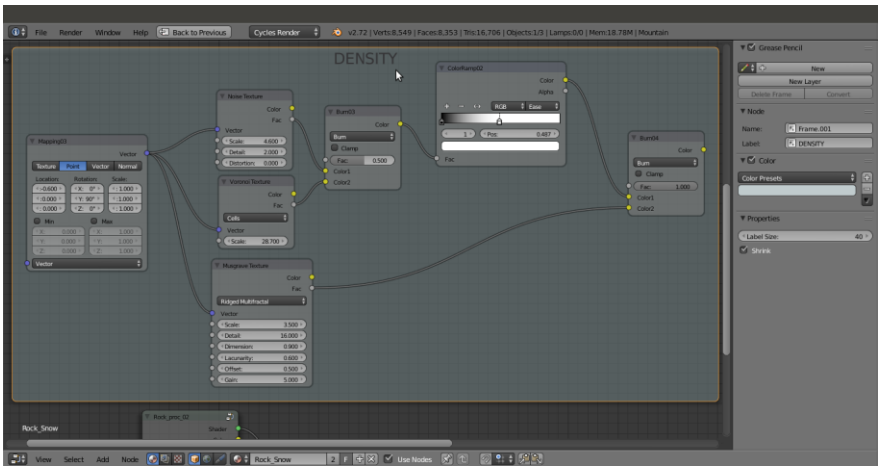

COLOR
SHADER

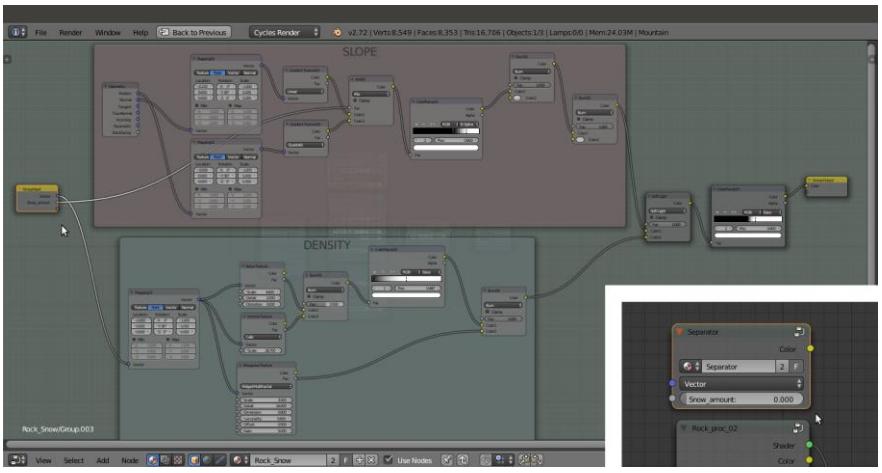

COLOR
SHADER

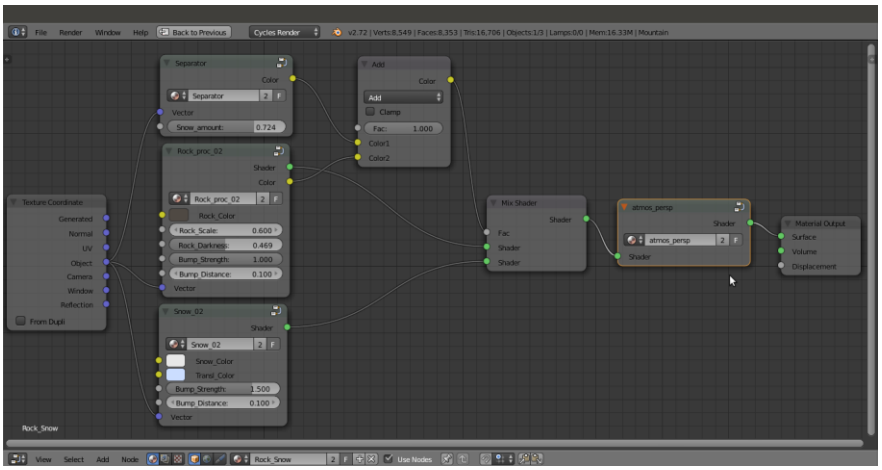


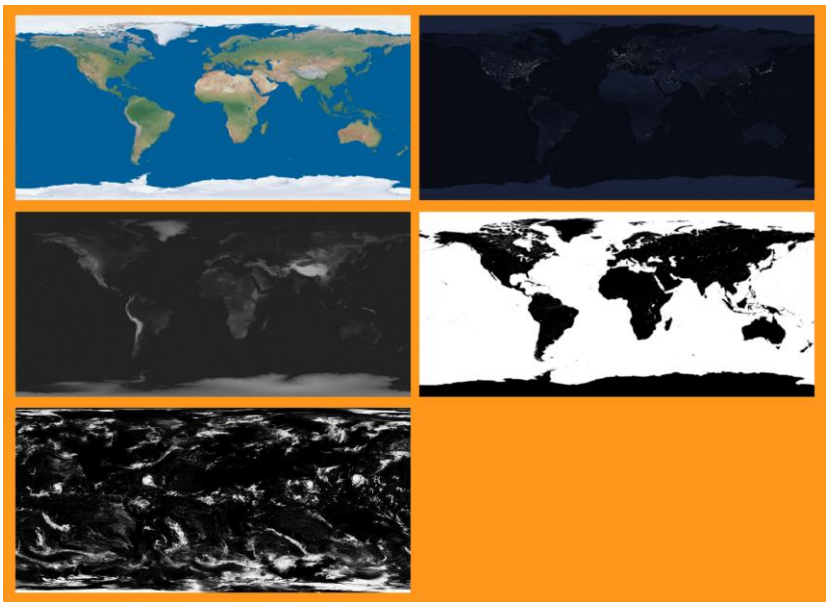

Texture Coordinate
Generated
Normal
UV
Object
Camera
Window
Reflection
From Dupli
Rock_proc_02
Shader
Color
Rock_proc_02
Rock_Color
Rock_Scale: 0.600
Rock_Darkness: 0.469
Bump_Strength: 1.000
Bump_Distance: 0.100
Vector
Snow_02
Shader
Snow_02
Snow_Color
Transl_Color
Bump_Strength: 1.000
Bump_Distance: 0.100
Vector
Mix Shader
Shader
Fac: 0.500
Shader
Shader
Material Output
Surface
Volume
Displacement
Rock_proc01

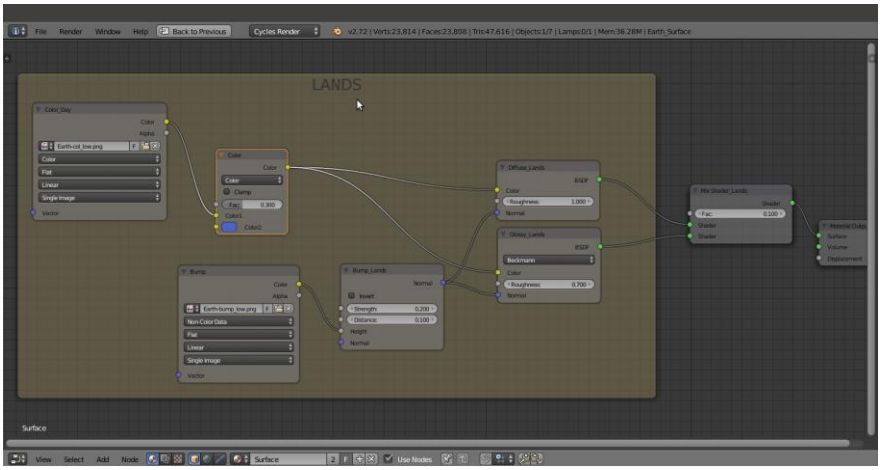

SLOPE
Rock_Snow

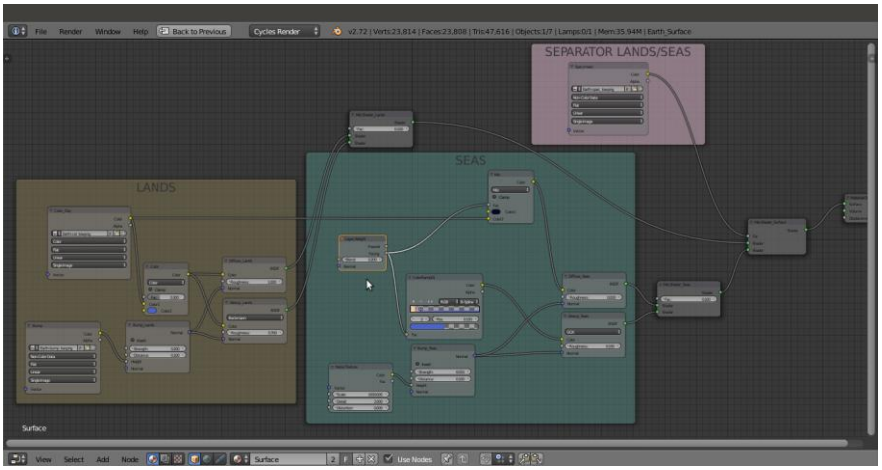

DENSITY
Rock_Snow

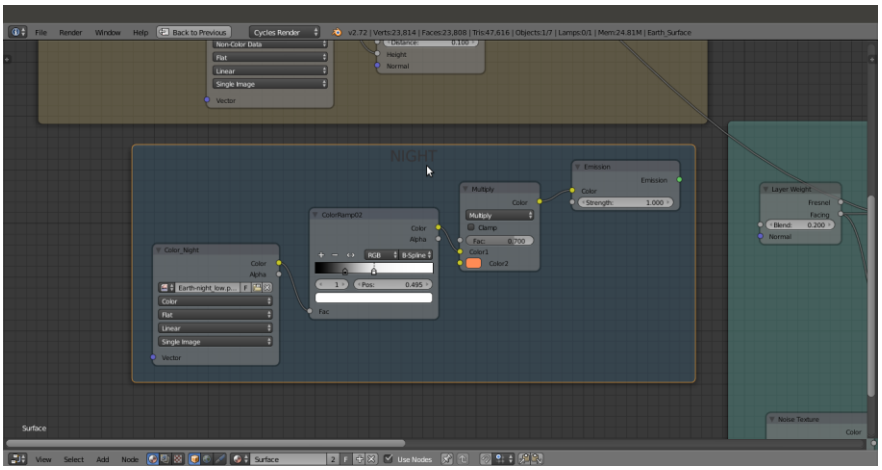

SLOPE
DENSITY
Rock_Snow/Group.003
Separator
Vector
Snow amount: 0.000
Rock_proc_02

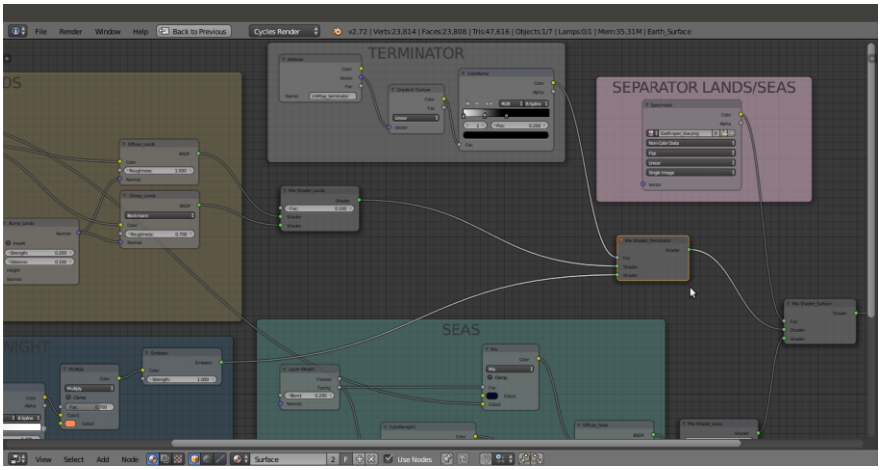

File
Render
Window
Help
Back to Previous
Cycles Render
Separator
Color
Separator
Vector
Snow_amount: 0.724
Add
Color
Add
Clamp
Fac: 1.000
Color1
Color2
Rock_proc_02
Shader
Color
Rock_proc_02
Rock_Color
Rock_Scale: 0.600
Rock_Darkness: 0.469
Bump_Strength: 1.000
Bump_Distance: 0.100
Vector
Texture Coordinate
Generated
Normal
UV
Object
Camera
Window
Reflection
From Dupli
Snow_02
Shader
Snow_02
Snow_Color
Transl_Color
Bump_Strength: 1.500
Bump_Distance: 0.100
Vector
Mix Shader
Shader
Fac
Shader
Shader
atmos_persp
Shader
atmos_persp
Shader
Material Output
Surface
Volume
Displacement
Rock_Snow
View
Select
Add
Node
Rock_Snow
Use Nodes

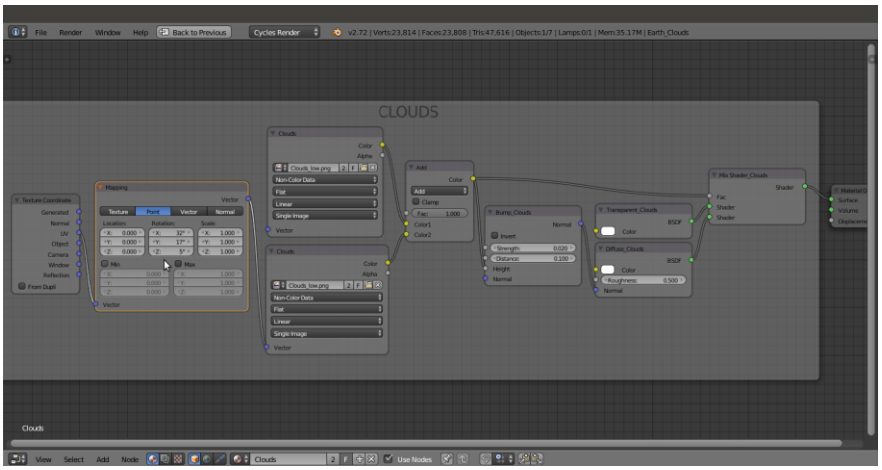


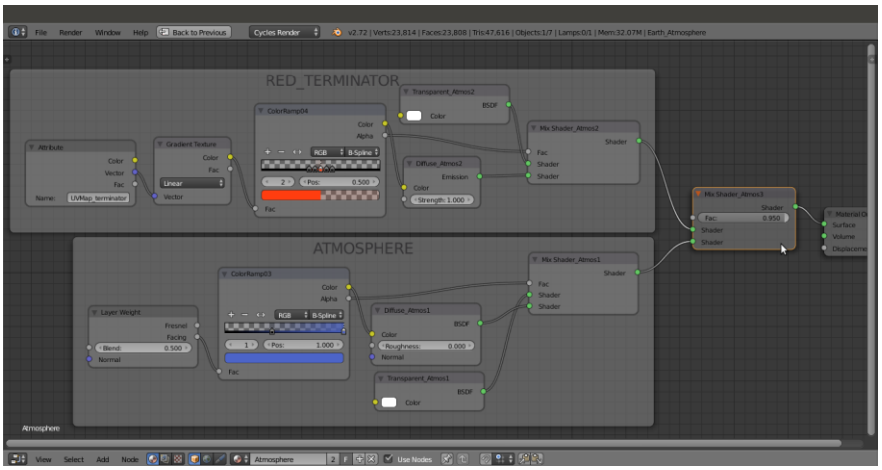

LANDS
Surface


SEPARATOR LANDS/SEAS
SEAS
LANDS
Surface

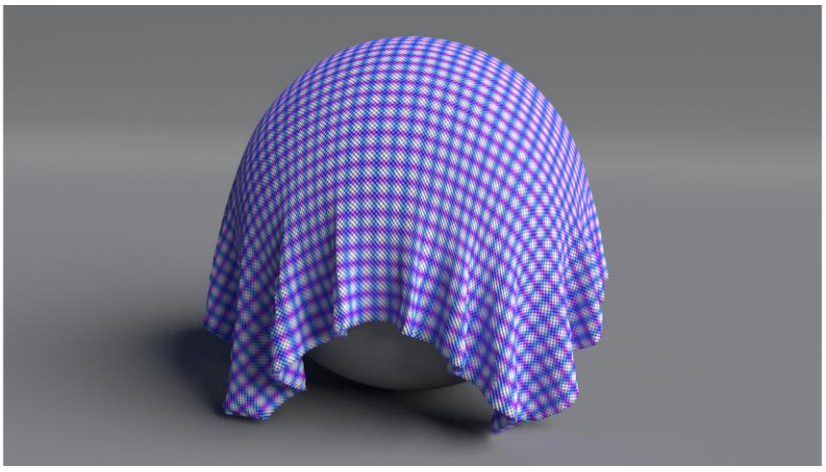

NIGHT
Surface

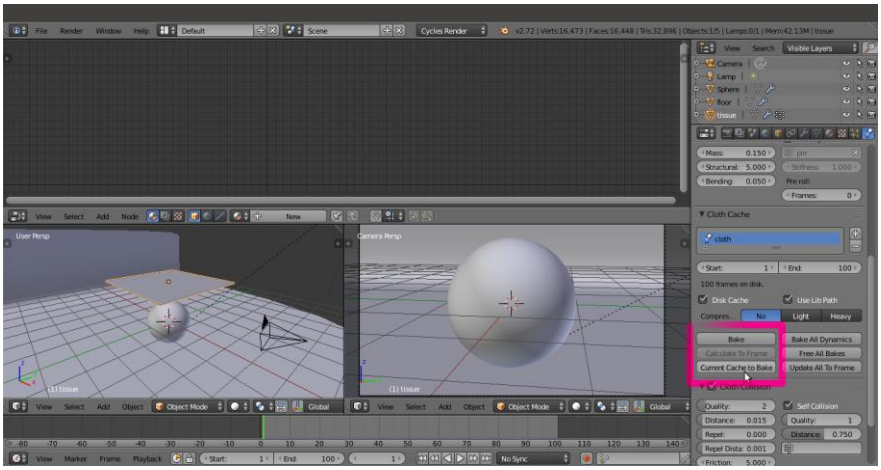

TERMINATOR
SEPARATOR LANDS/SEAS
SEAS

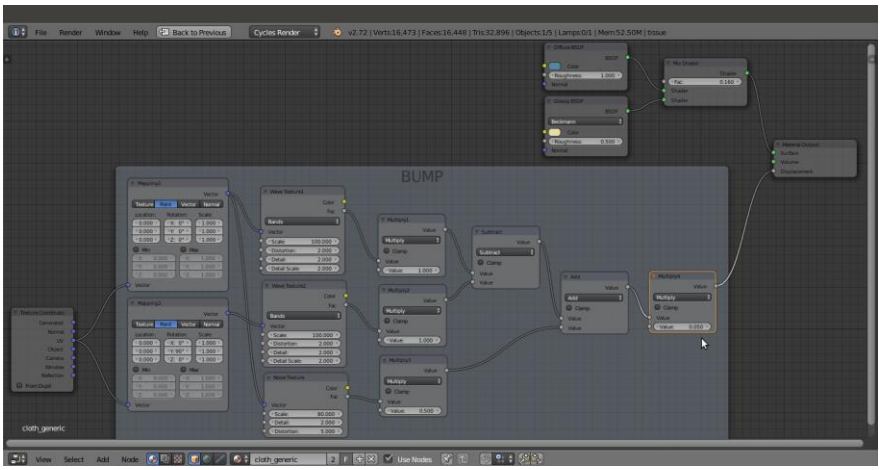


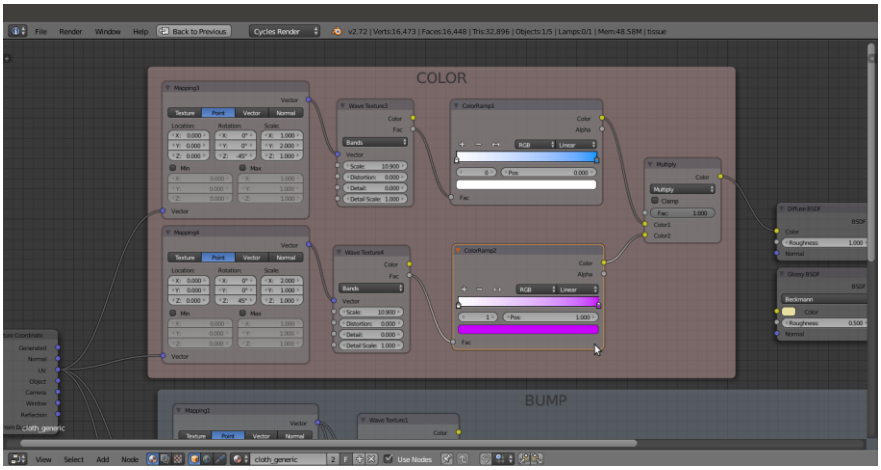


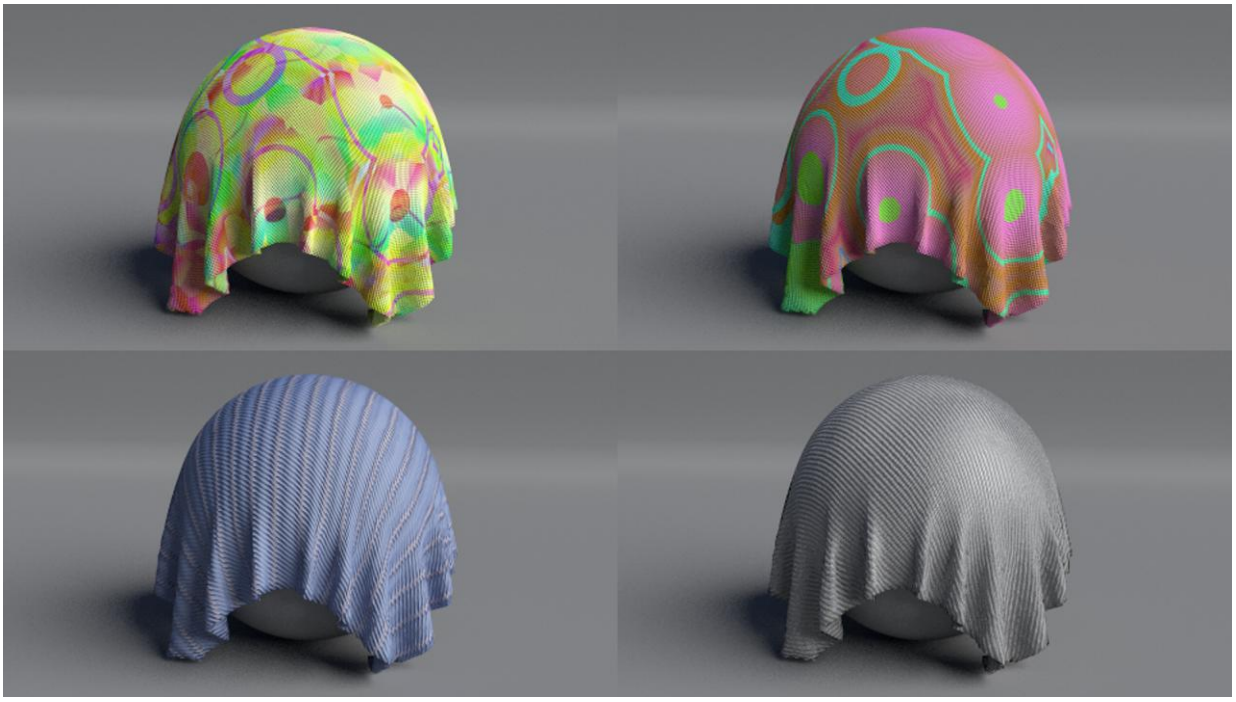
Chapter 6: Creating More Complex Man-made Materials

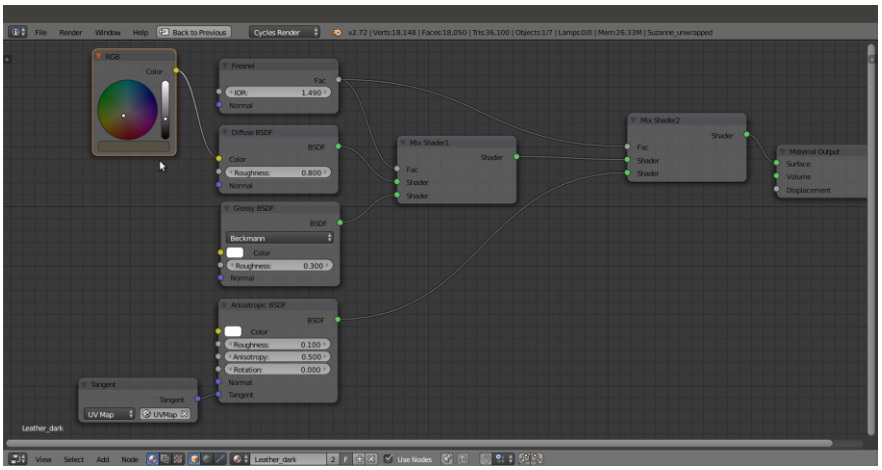


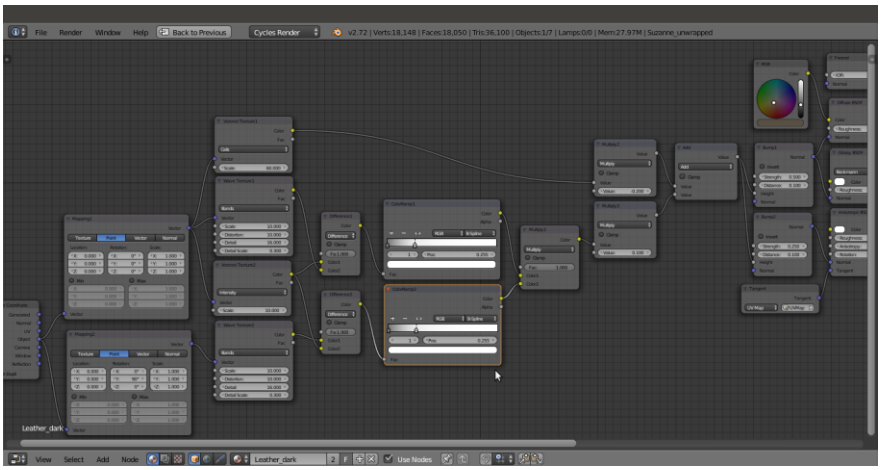

Cycles Render
Cloth Cache
Bake
Calculate To Frame
Current Cache to Bake
Free All Bakes
Update All To Frame
Bake All Dynamics

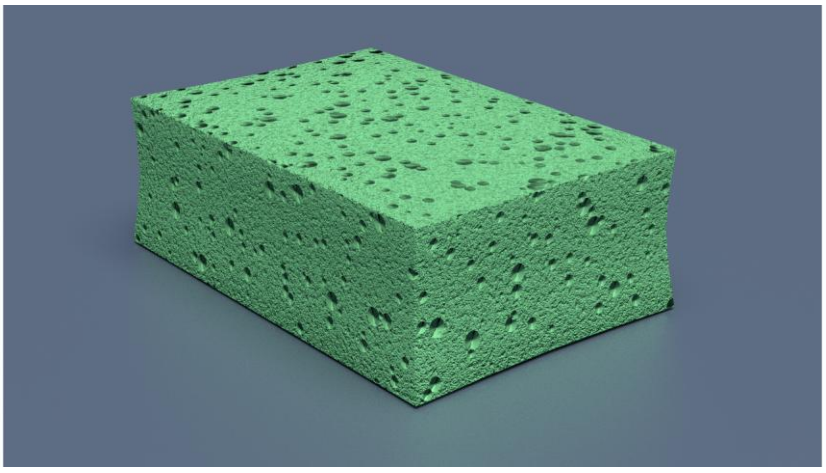

BUMP
cloth_generic

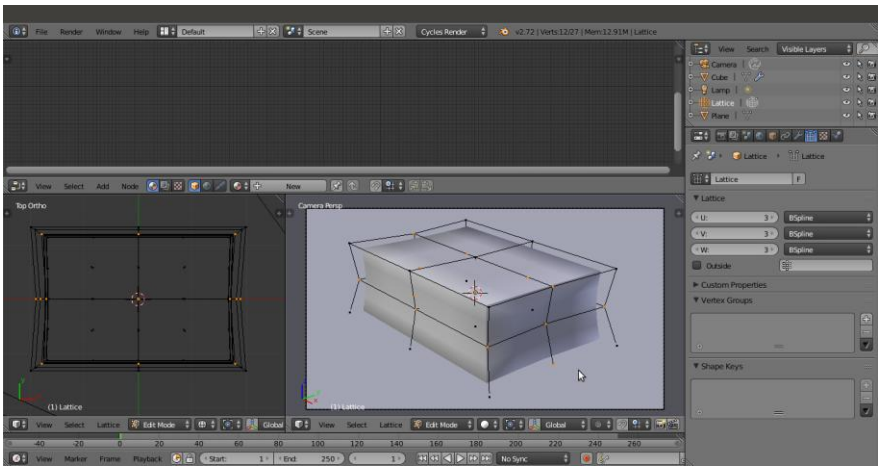

COLOR
BUMP
cloth_generic

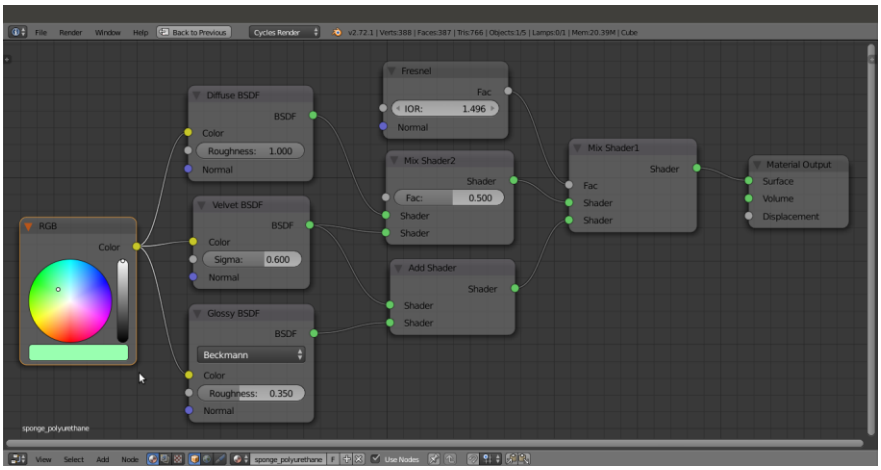


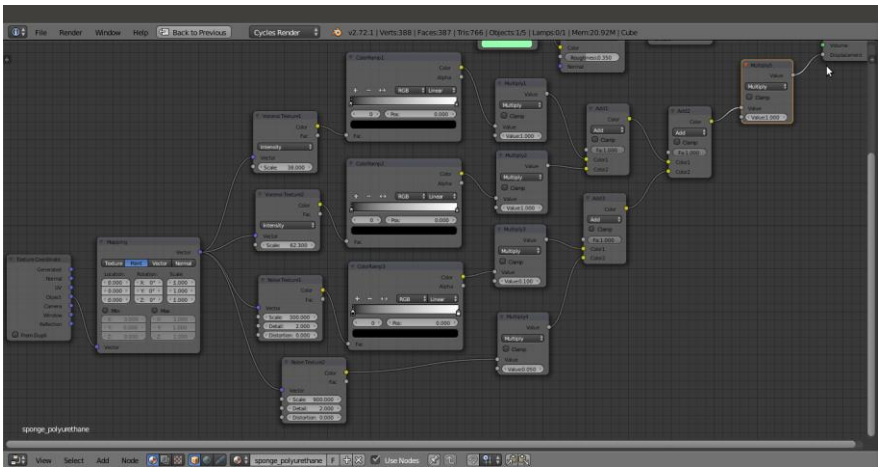

File Render Window Help Back to Previous Cycles Render
RGB
Color
Fresnel
Fac
IOR: 1.490
Normal
Diffuse BSDF
BSDF
Color
Roughness: 0.800
Normal
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.300
Normal
Anisotropic BSDF
BSDF
Color
Roughness: 0.100
Anisotropy: 0.500
Rotation: 0.000
Normal
Tangent
Tangent
UV Map
UVMap
Mix Shader1
Shader
Fac
Shader
Shader
Mix Shader2
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Leather_dark
View Select Add Node
Leather_dark
Use Nodes

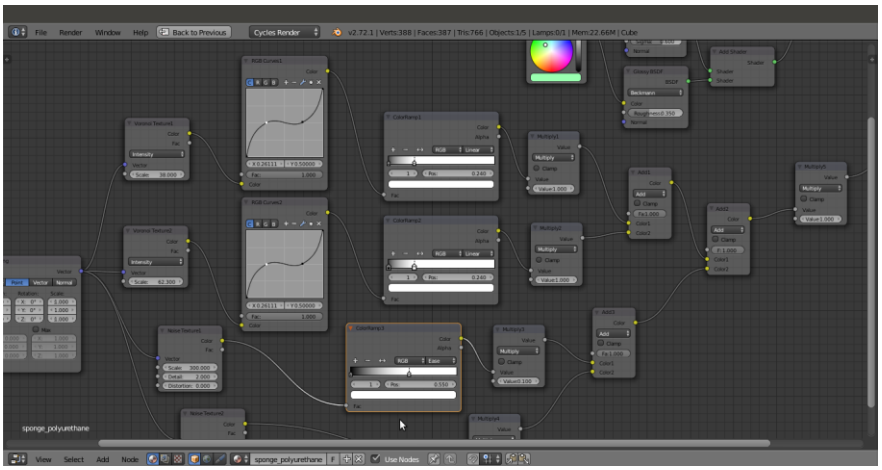

File Render Window Help Back to Previous Cycles Render
Leather_dark
View Select Add Node
Leather_dark
Use Nodes




Top Ortho
Camera Persp
(1) Lattice

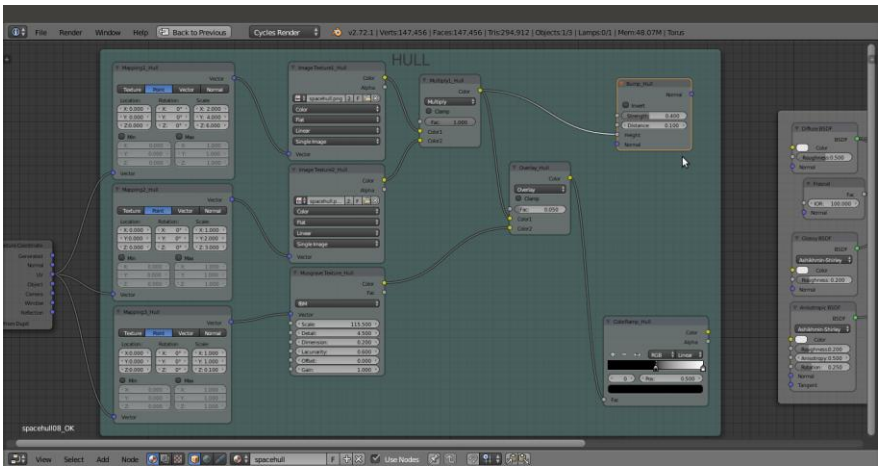

Diffuse BSDF
Color
Roughness: 1.000
Normal
Fresnel
Fac
IOR: 1.496
Normal
Mix Shader2
Shader
Fac: 0.500
Shader
Shader
Mix Shader1
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Velvet BSDF
Color
Sigma: 0.600
Normal
RGB
Color
Add Shader
Shader
Shader
Shader
Glossy BSDF
BSDF
Beckmann
Color
Roughness: 0.350
Normal
sponge_polyurethane

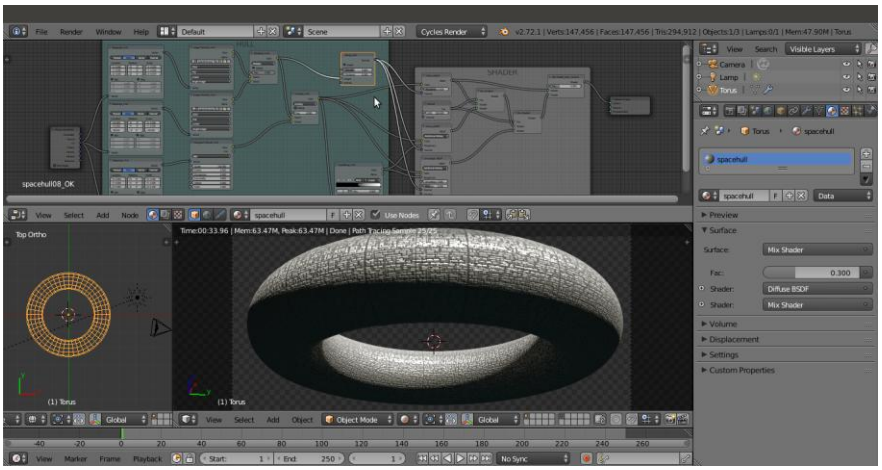

sponge_polyurethane



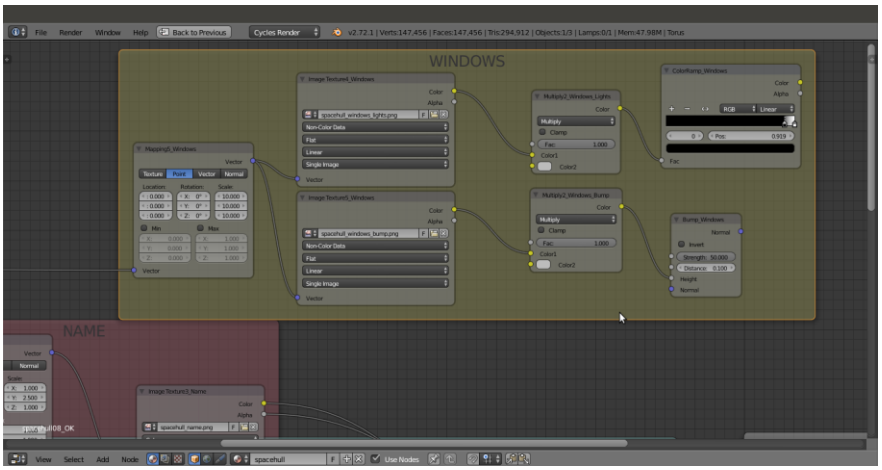
ARGUS

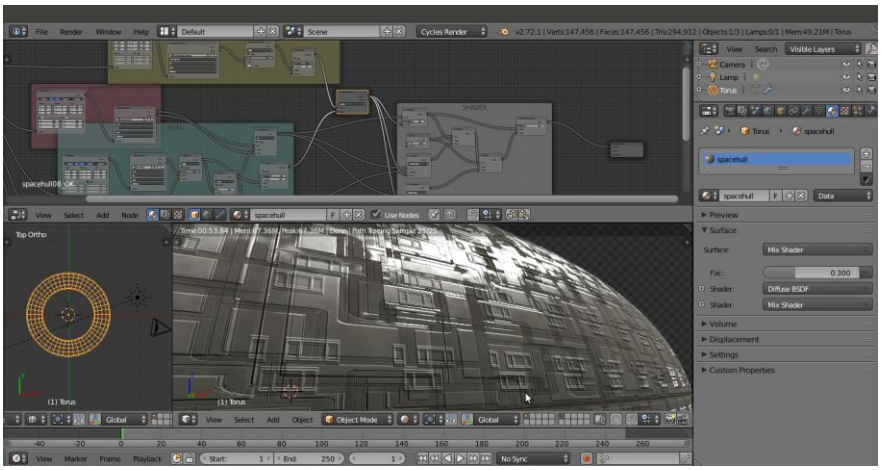
SHADER

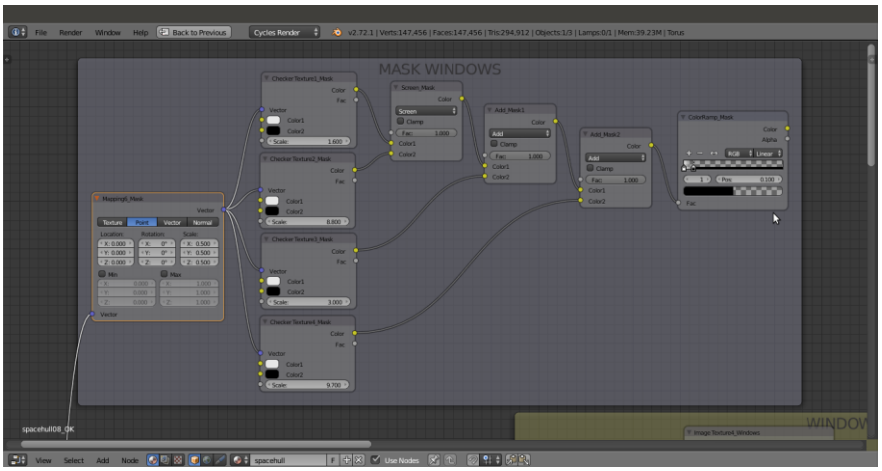

HULL
spacehull08_OK

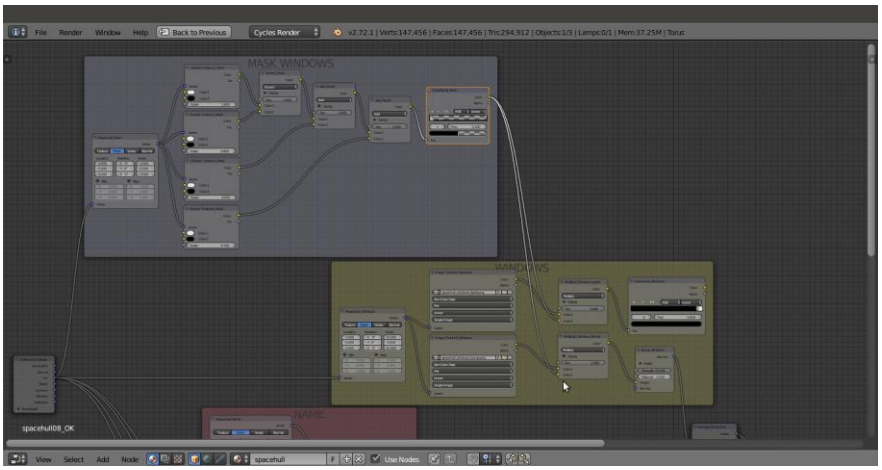

spacehull08_OK
Top Ortho
(1) Torus

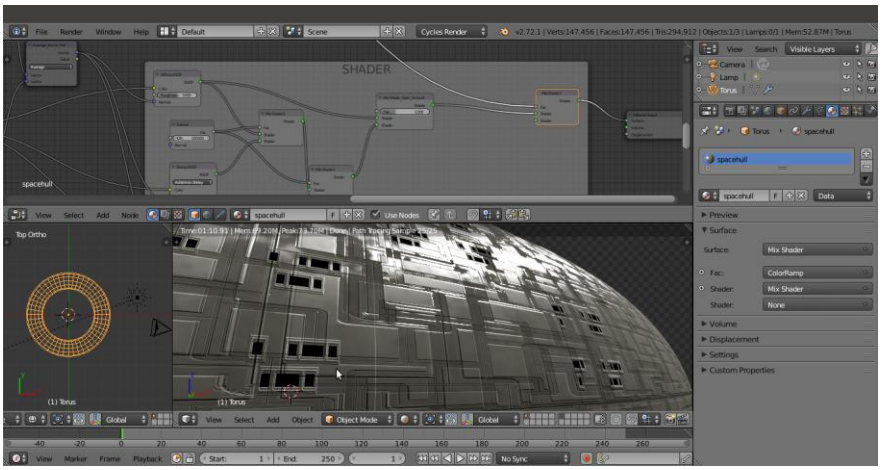
spacehull08_OK
Top Ortho
ARGUS
(1) Torus

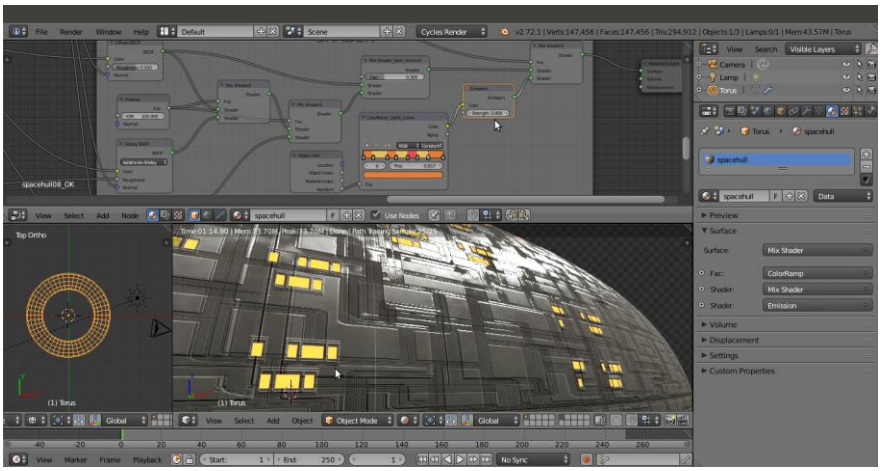

WINDOWS
NAME

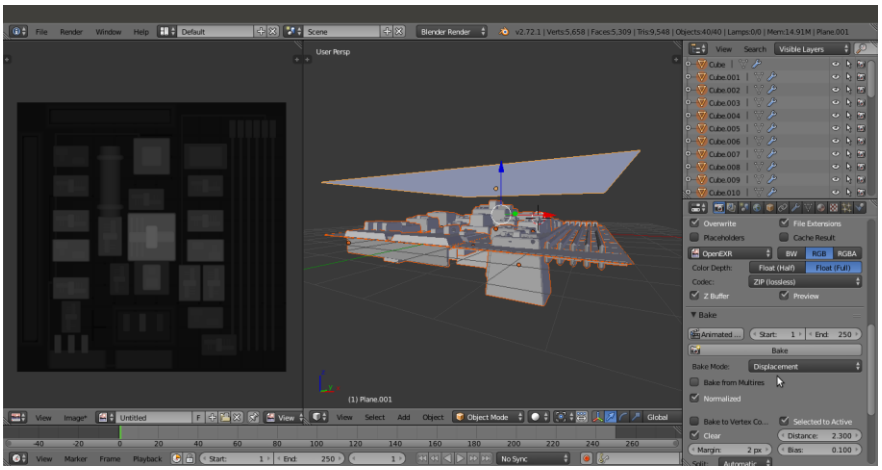

Top Ortho
(1) Torus

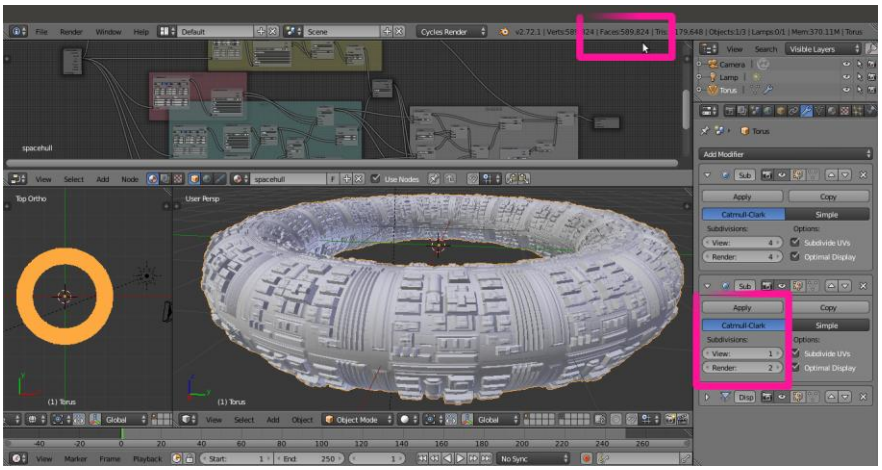

MASK WINDOWS


MASK WINDOWS
WINDOWS
NAME
spacehull08_OK

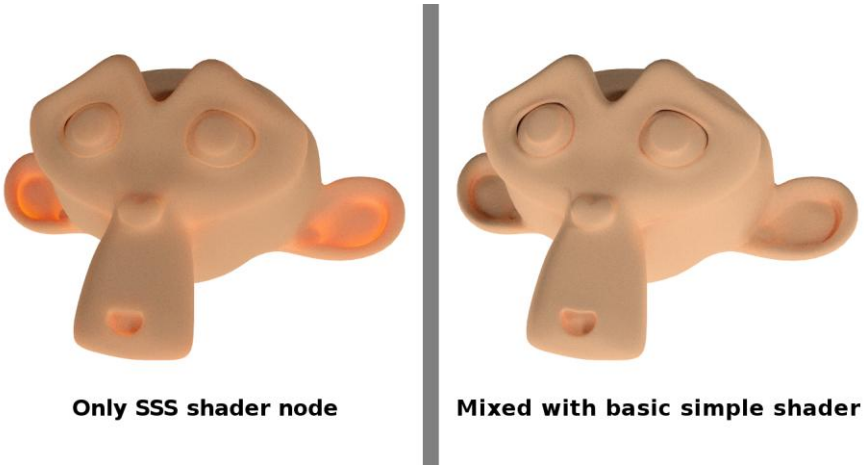

SHADER
spacehull
Top Ortho
(1) Torus

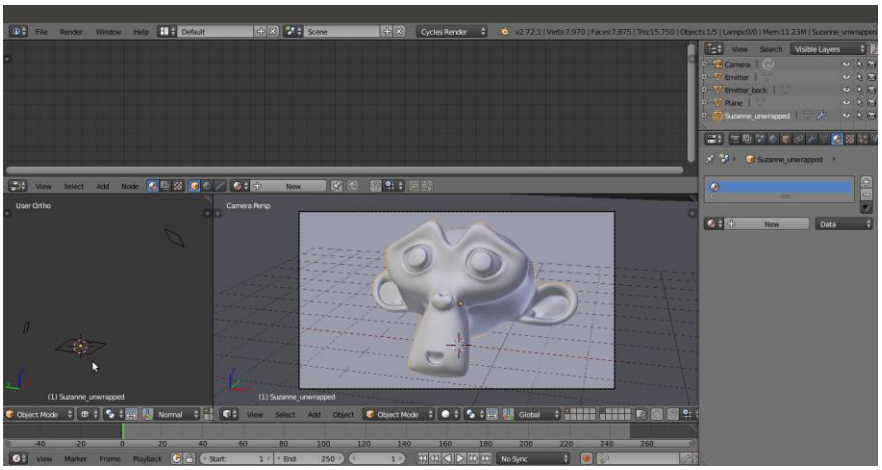

spacehull08_OK
Top Ortho
(1) Torus

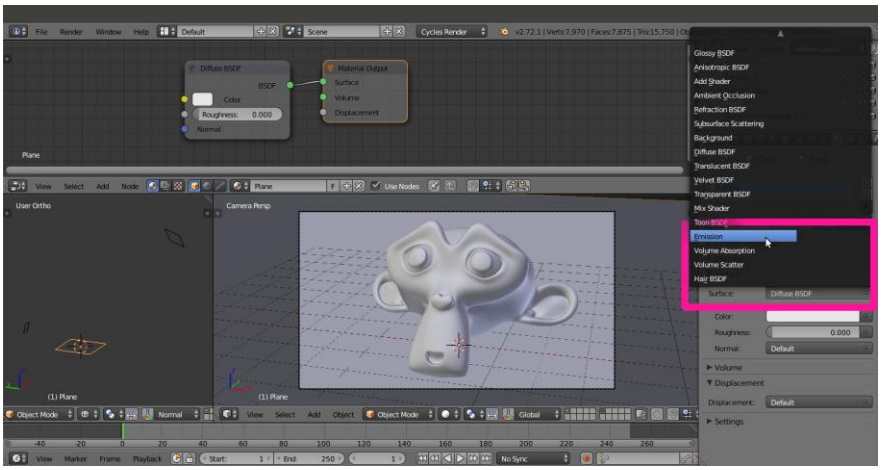


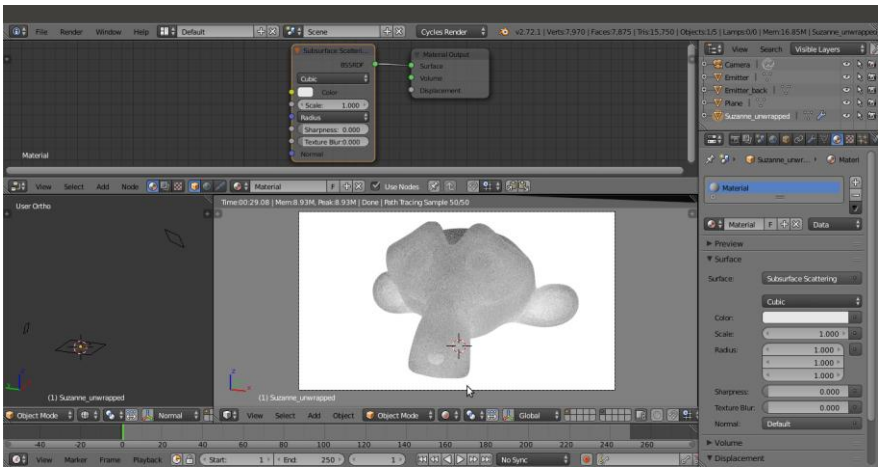


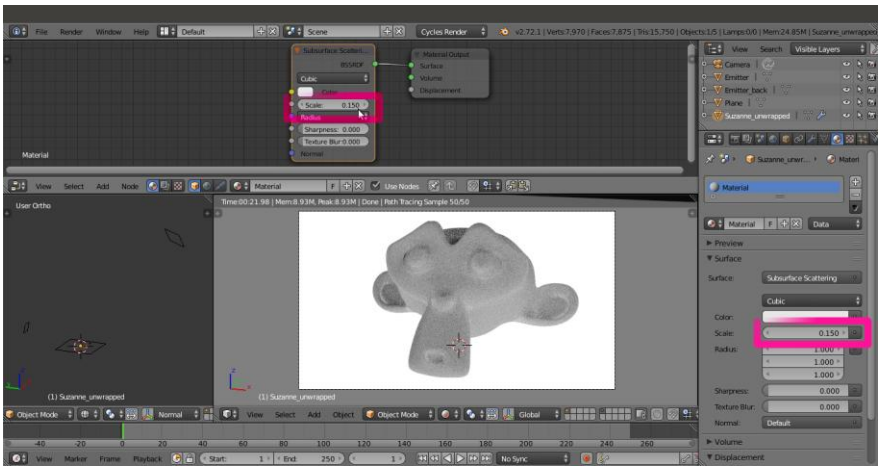
Chapter 7: Subsurface Scattering in Cycles

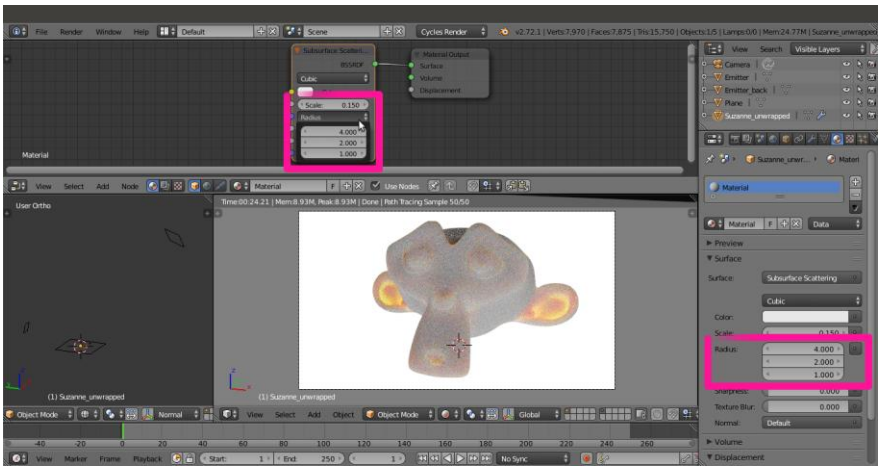


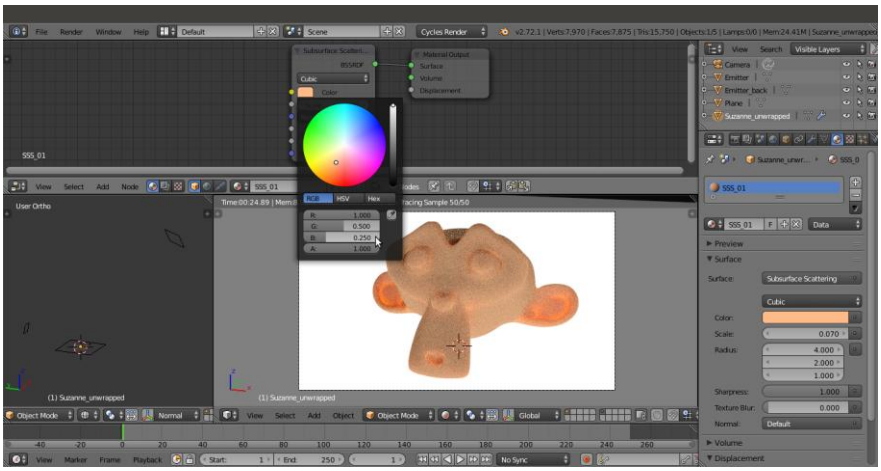


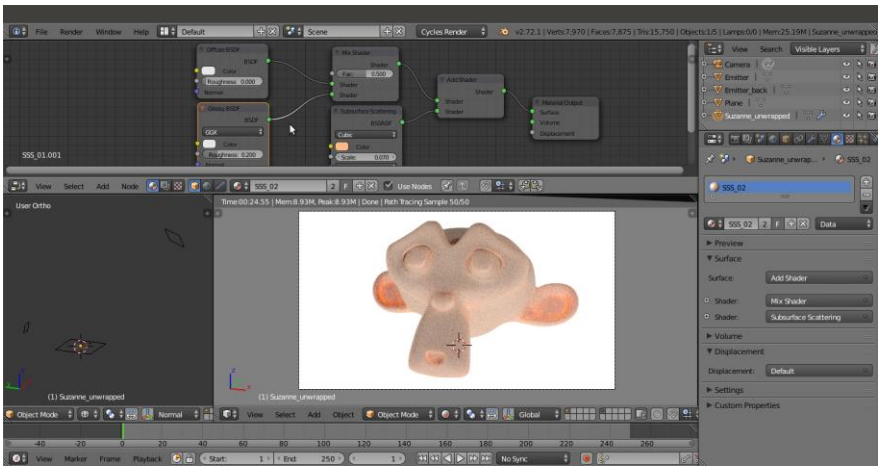


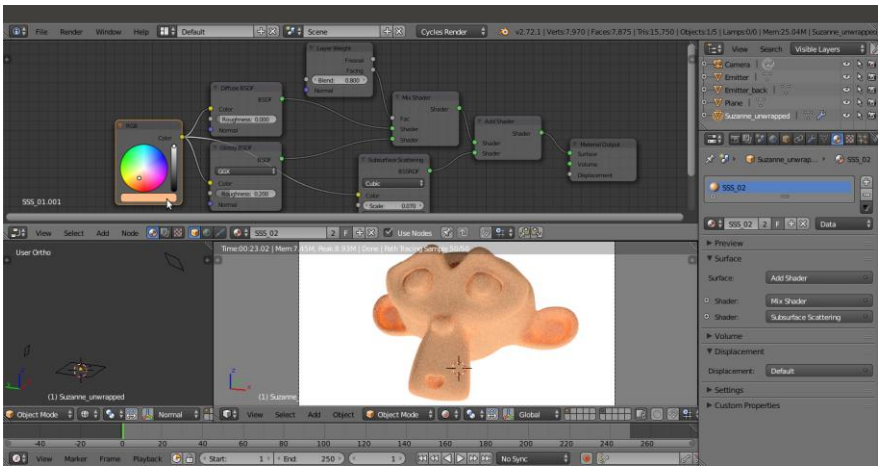


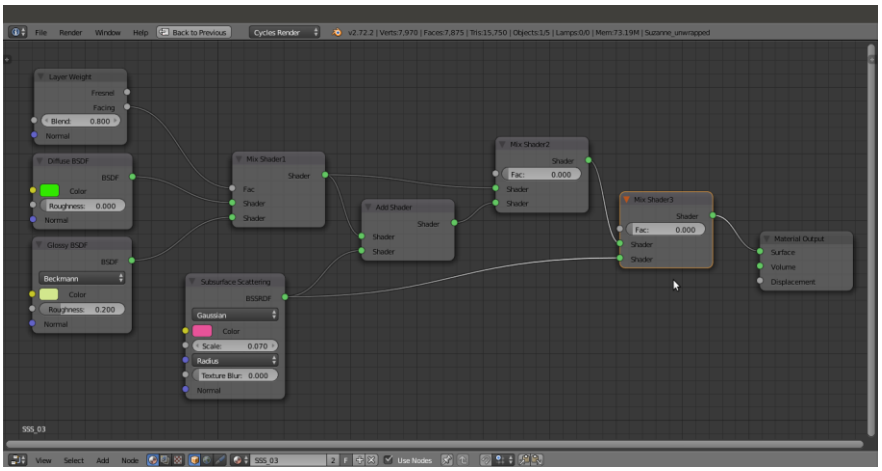


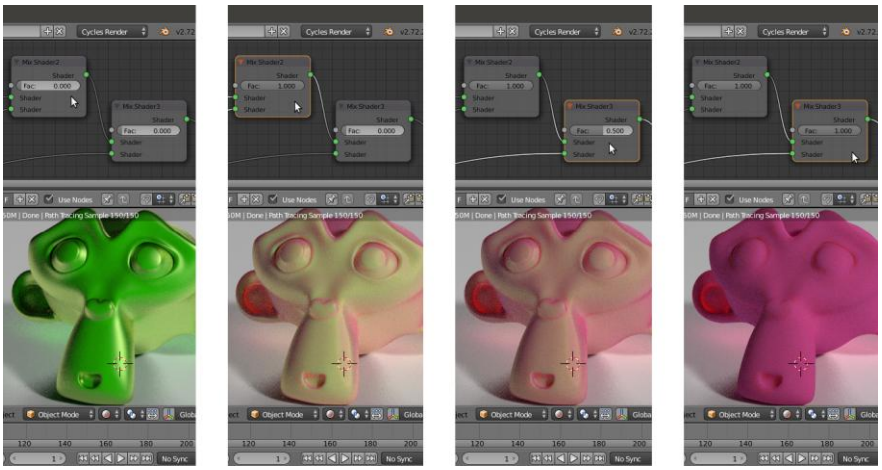


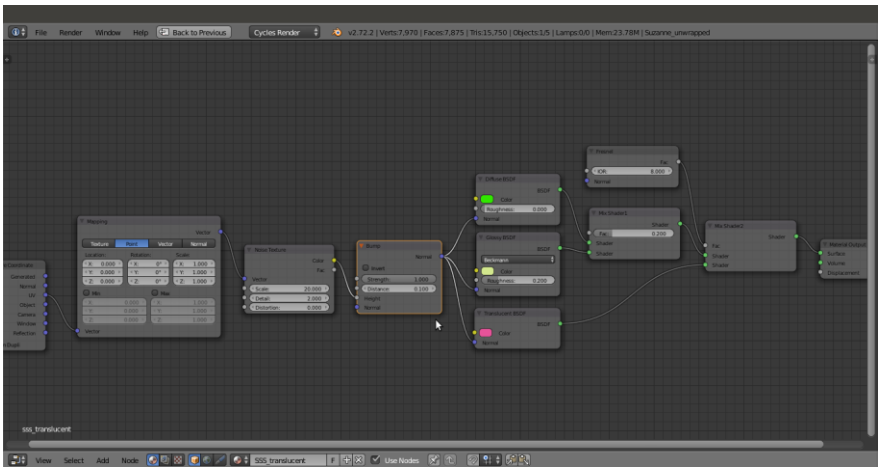


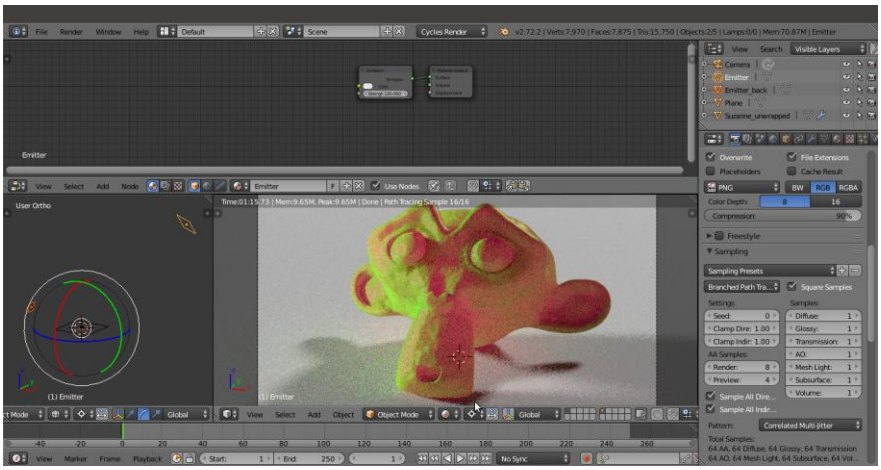


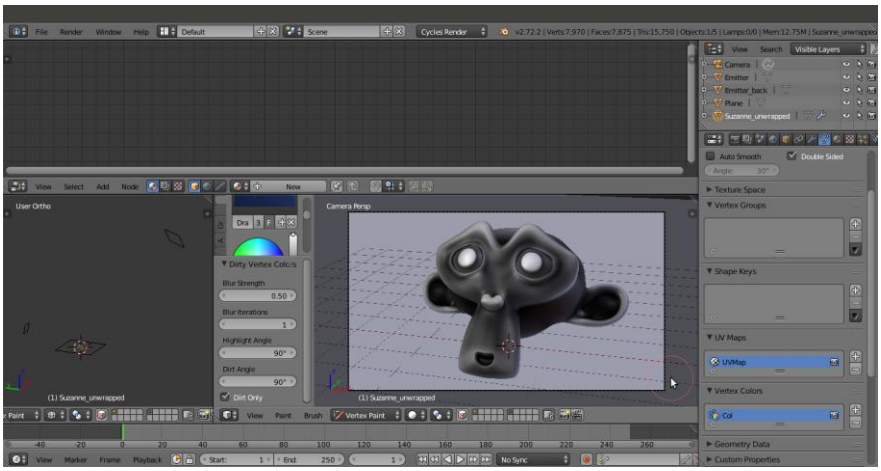


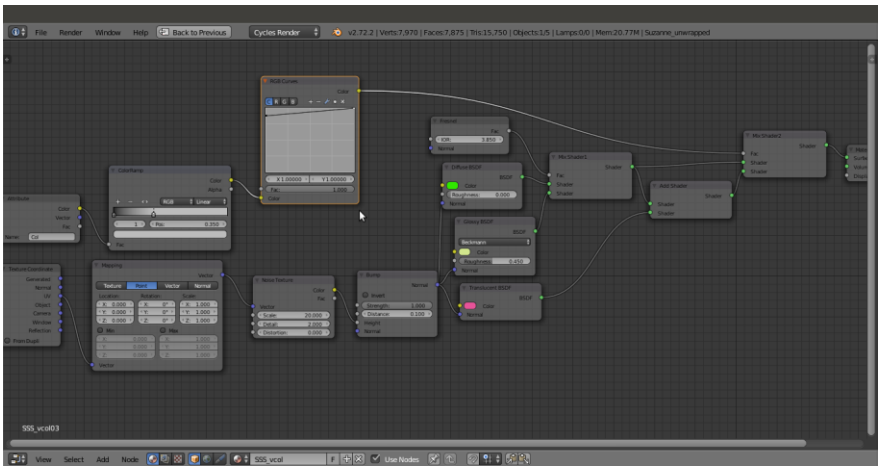


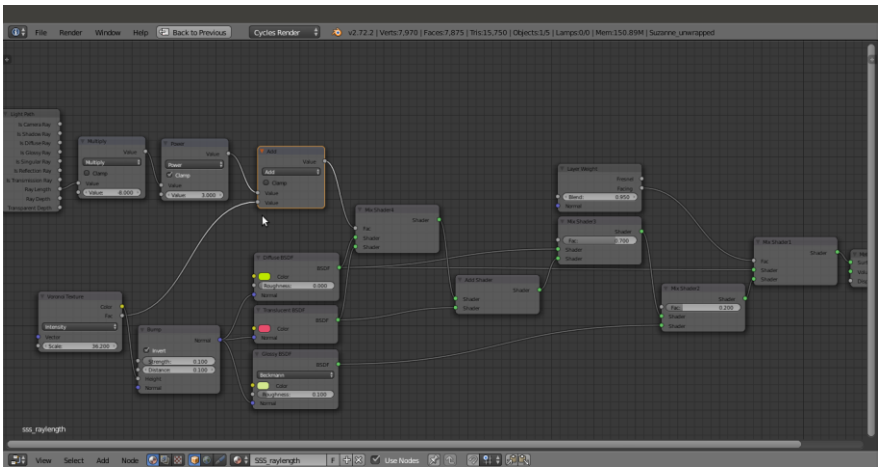









File Render Window Help Back to Previous Cycles Render
SSS_vcol03
View Select Add Node SSS_vcol Use Nodes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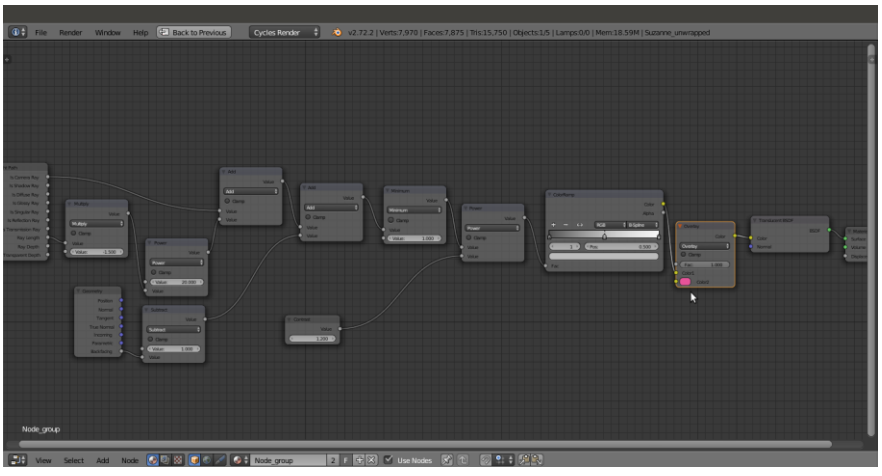
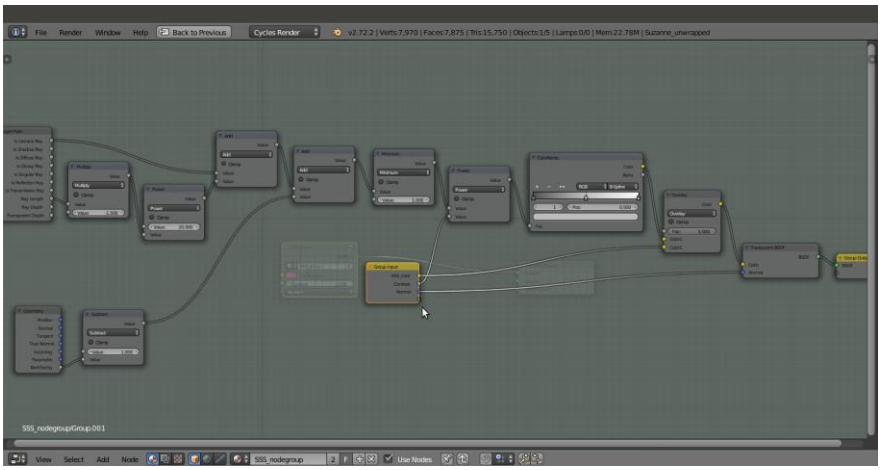
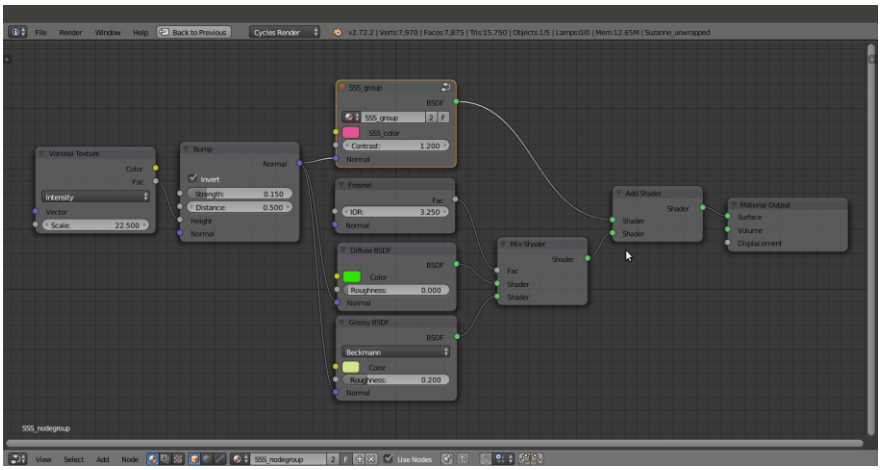
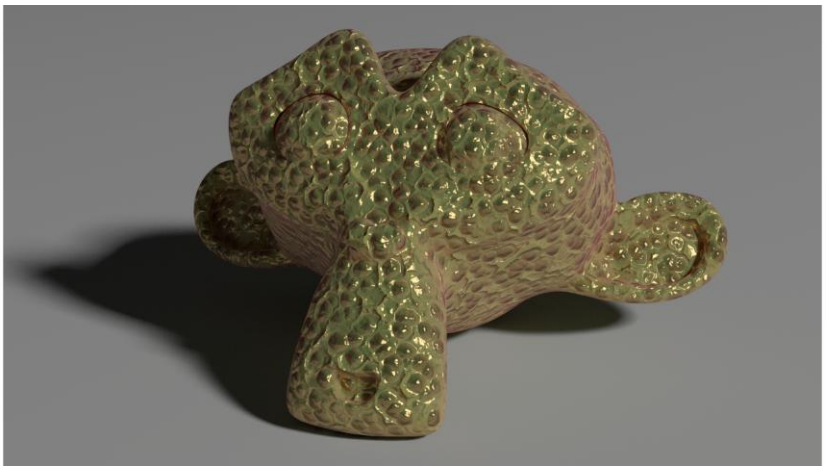
sss_raylength
View Select Add Node SSS_raylength Use Nodes

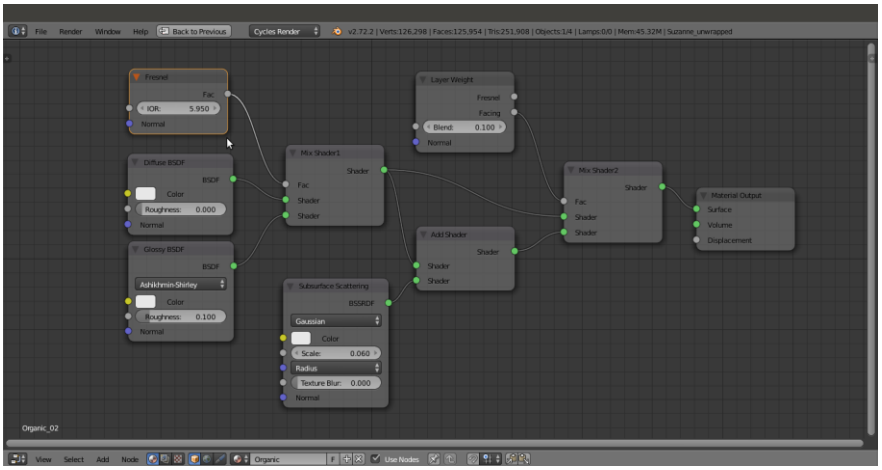

File
Render
Window
Help
Back to Previous
Cycles Render
Node_group
View
Select
Add
Node
Node group
Use Nodes

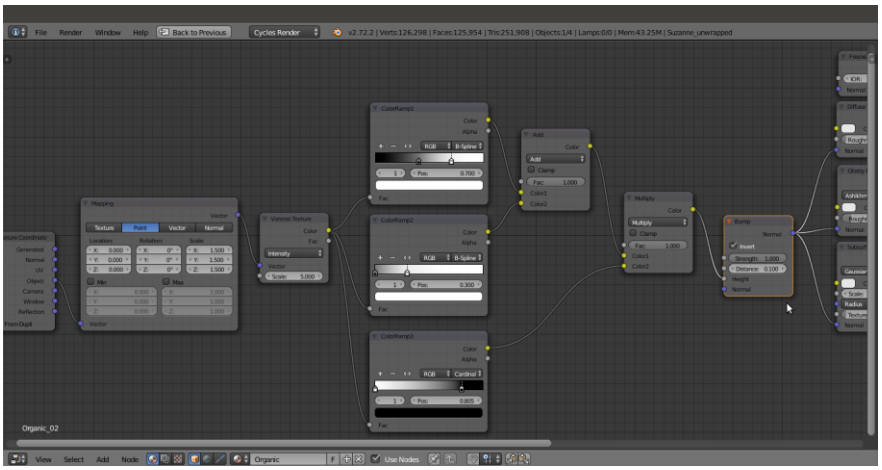


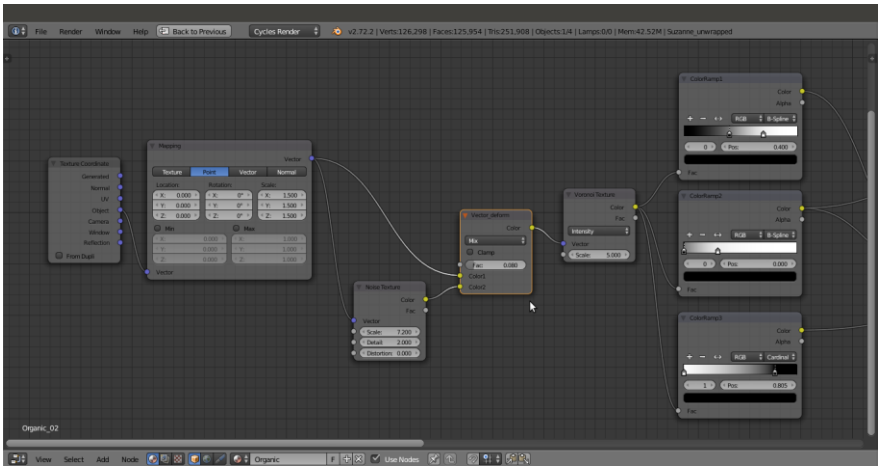


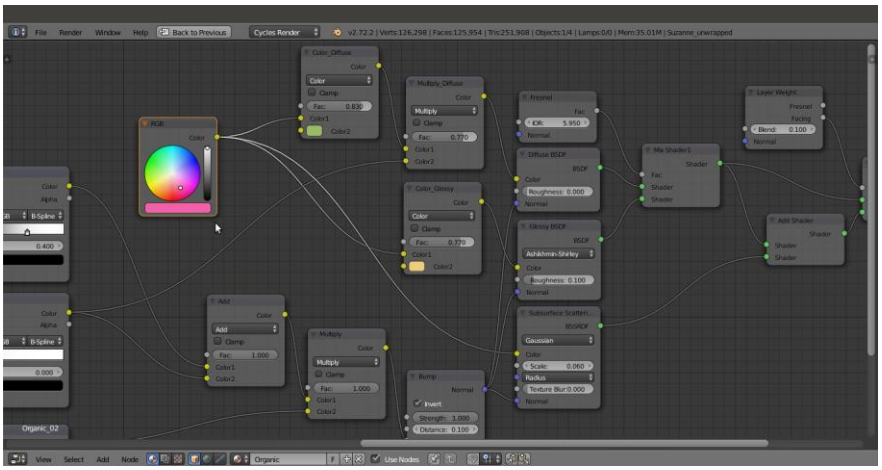
Chapter 8: Creating Organic Materials

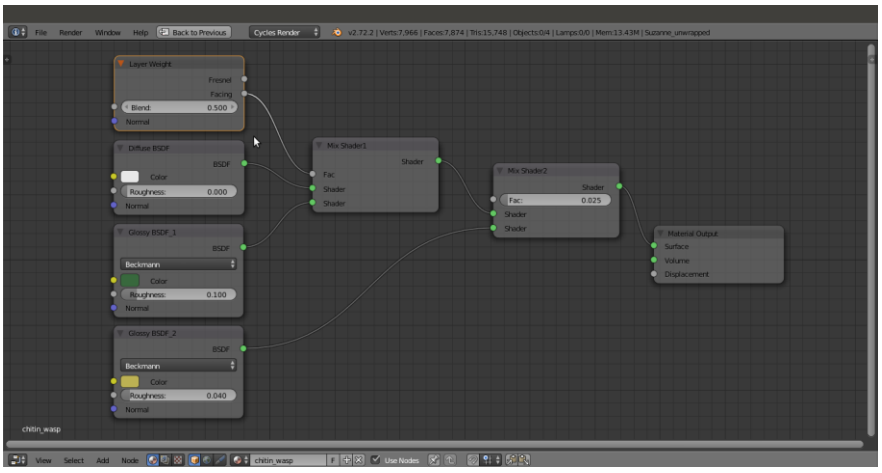


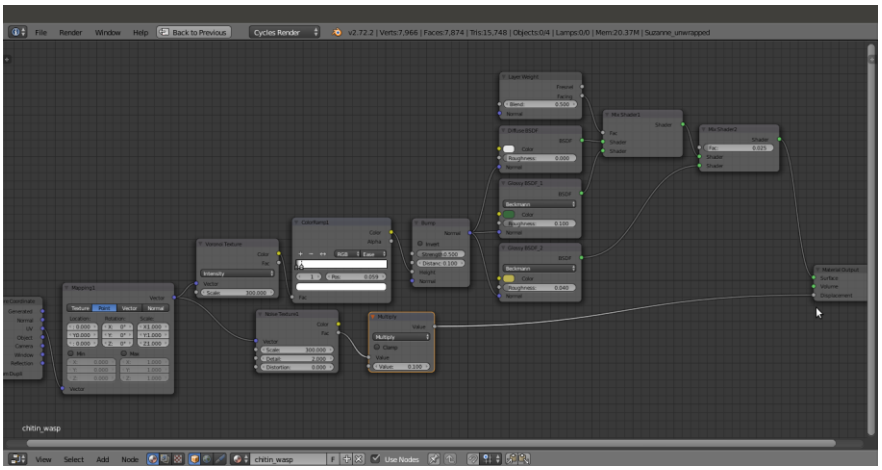

Fresnel
Layer Weight
Mix Shader1
Diffuse BSDF
Mix Shader2
Material Output
Glossy BSDF
Add Shader
Subsurface Scattering
Organic_02

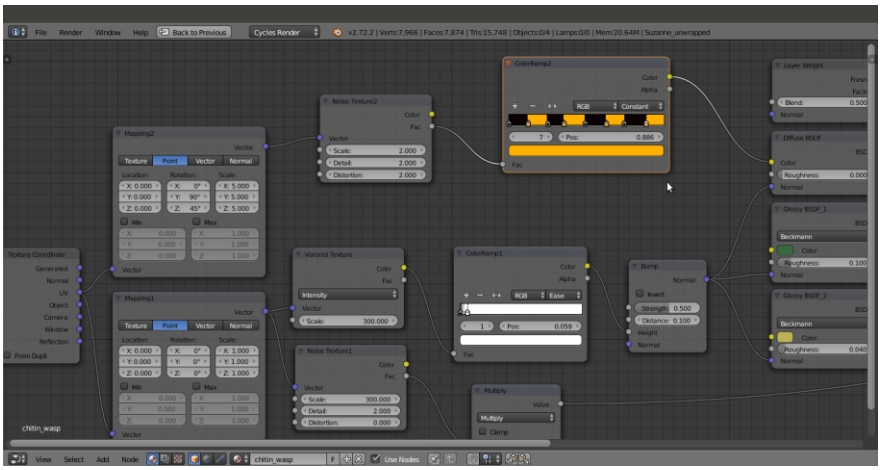

Mapping
Voronoi Texture
ColorRamp
Add
Multiply
Bump
Organic_02

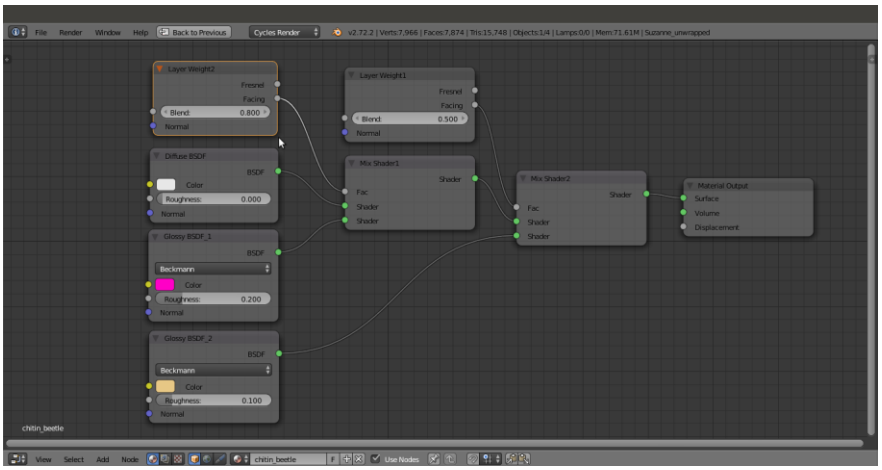

Texture Coordinate
Mapping
Vector_deform
Voronoi Texture
Noise Texture
ColorRamp
Organic_02

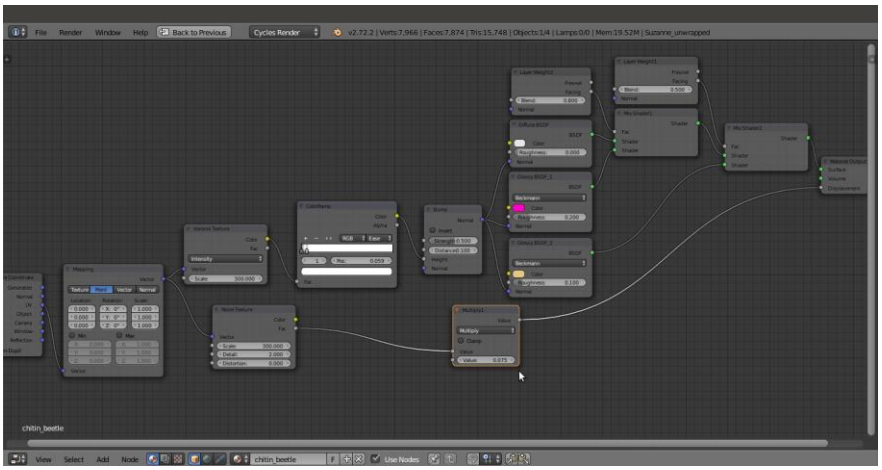

File Render Window Help Back to Previous Cycles Render
Color_Diffuse
Multiply_Diffuse
Fresnel
Layer Weight
RGB
Diffuse BSDF
Mix Shader1
Color_Glossy
Glossy BSDF
Add Shader
Add
Multiply
Subsurface Scatter...
Bump
Organic_02
View Select Add Node Organic Use Nodes

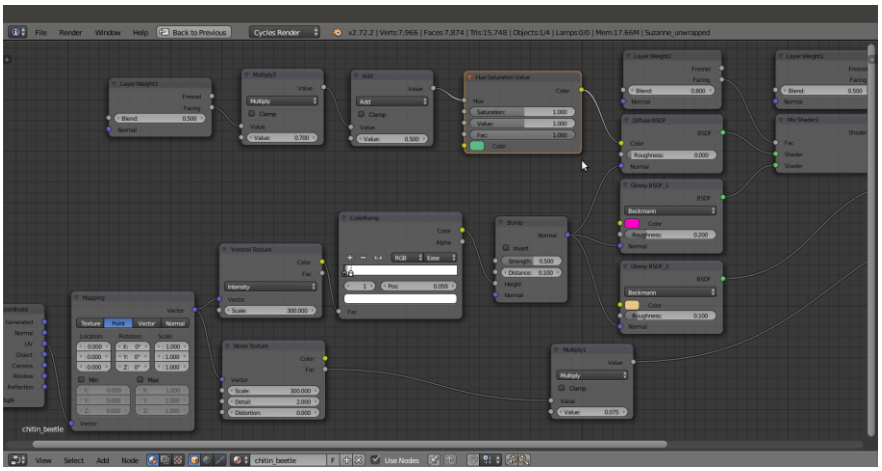

File Render Window Help Back to Previous Cycles Render
Layer Weight
Diffuse BSDF
Mix Shader1
Mix Shader2
Material Output
Glossy BSDF_1
Glossy BSDF_2
chitin_wasp
View Select Add Node chitin_wasp Use Nodes

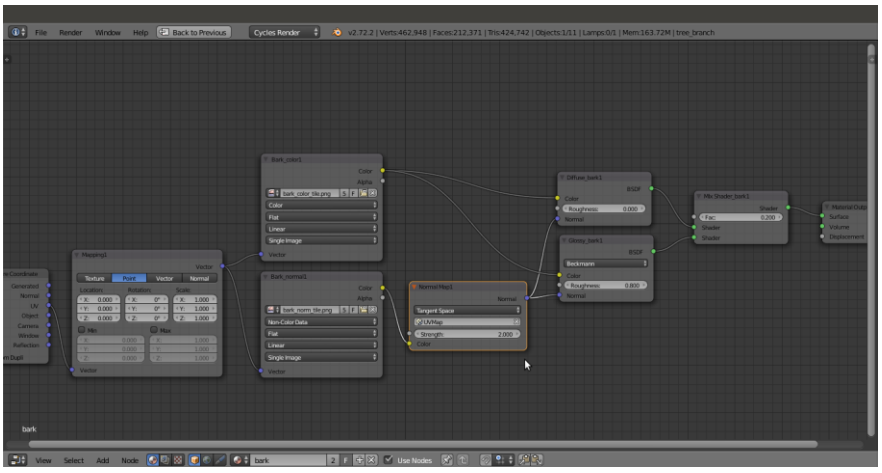


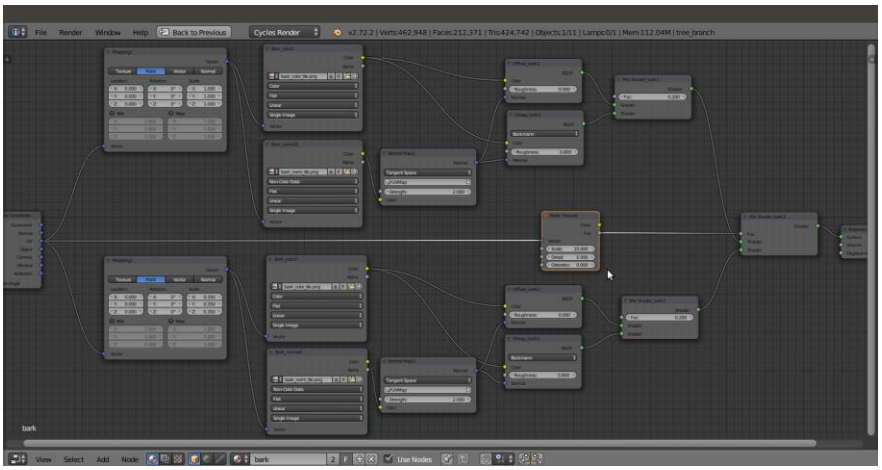


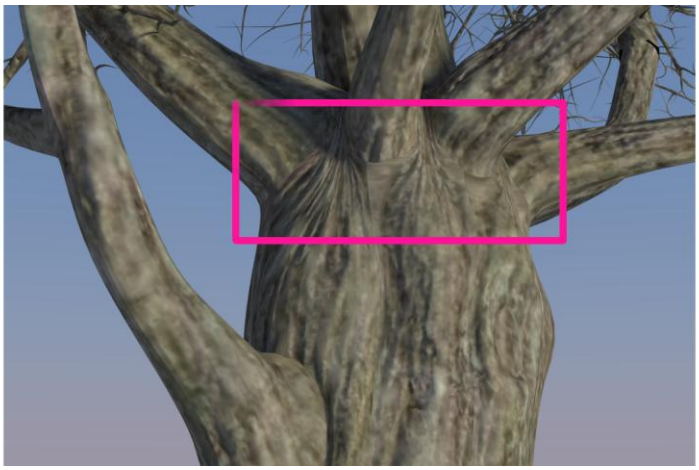

File Render Window Help Back to Previous Cycles Render
Layer Weight2
Fresnel
Facing
Blend: 0.800
Normal
Layer Weight1
Fresnel
Facing
Blend: 0.500
Normal
Diffuse BSDF
BSDF
Color
Roughness: 0.000
Normal
Mix Shader1
Shader
Fac
Shader
Shader
Mix Shader2
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
Glossy BSDF_1
BSDF
Beckmann
Color
Roughness: 0.200
Normal
Glossy BSDF_2
BSDF
Beckmann
Color
Roughness: 0.100
Normal
chitin_beetle
View Select Add Node chitin_beetle Use Nodes

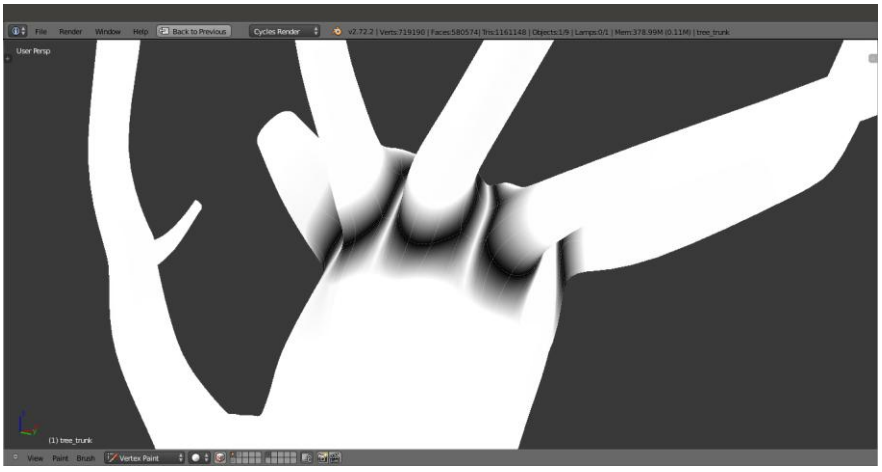

File Render Window Help Back to Previous Cycles Render
chitin_beetle
View Select Add Node chitin_beetle Use Nodes

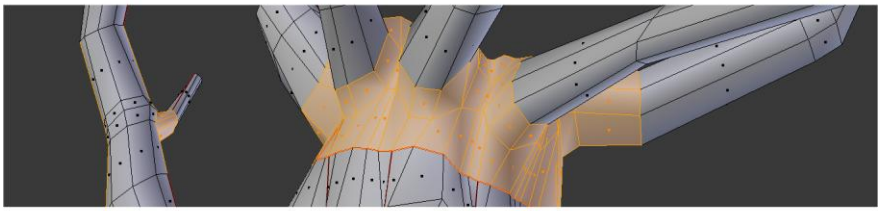

File Render Window Help Back to Previous Cycles Render
chitin_beetle
View Select Add Node chitin_beetle Use Nodes

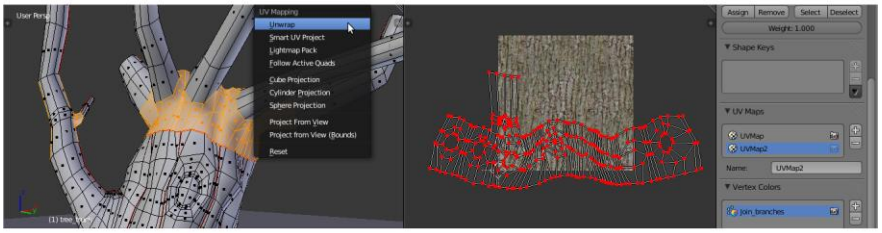

File
Render
Window
Help
Back to Previous
Cycles Render
bark
View
Select
Add
Node
Use Nodes

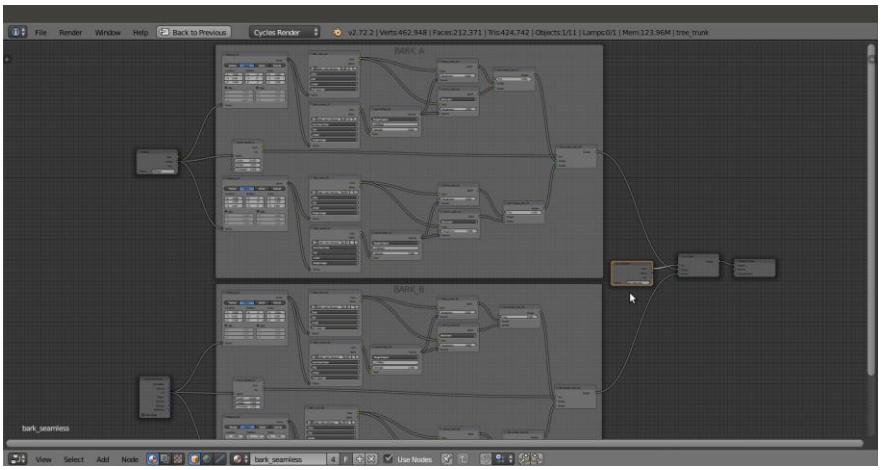

File Render Window Help Back to Previous Cycles Render
bark
View Select Add Node bark Use Nodes

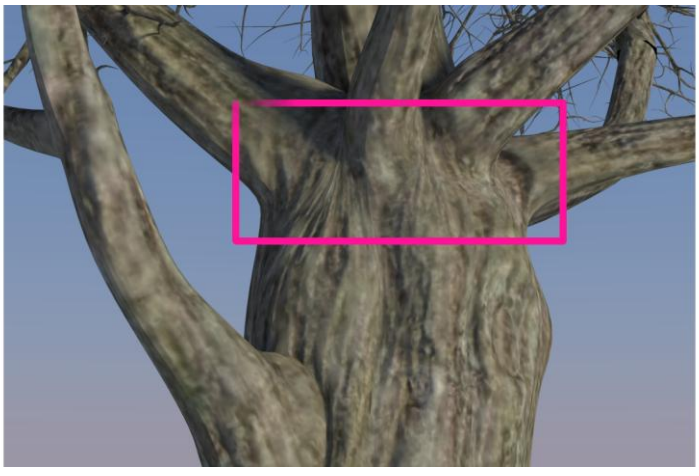


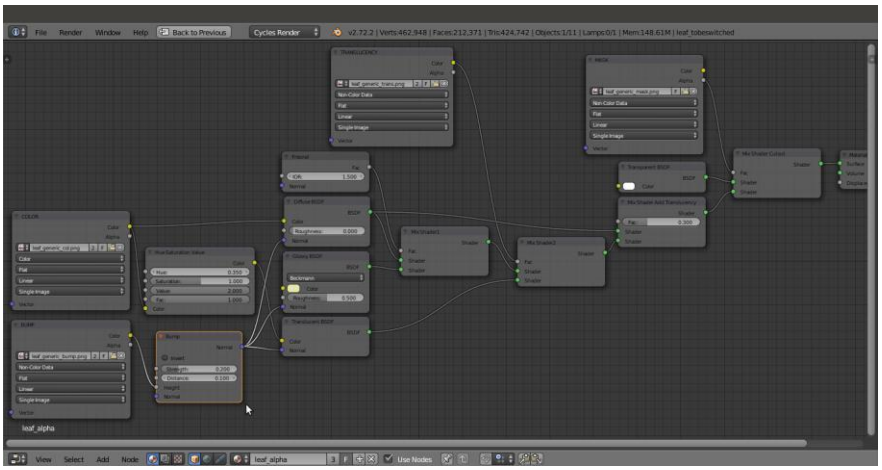

File Render Window Help Back to Previous Cycles Render
User Persp
(1) tree_trunk
View Paint Brush Vertex Paint

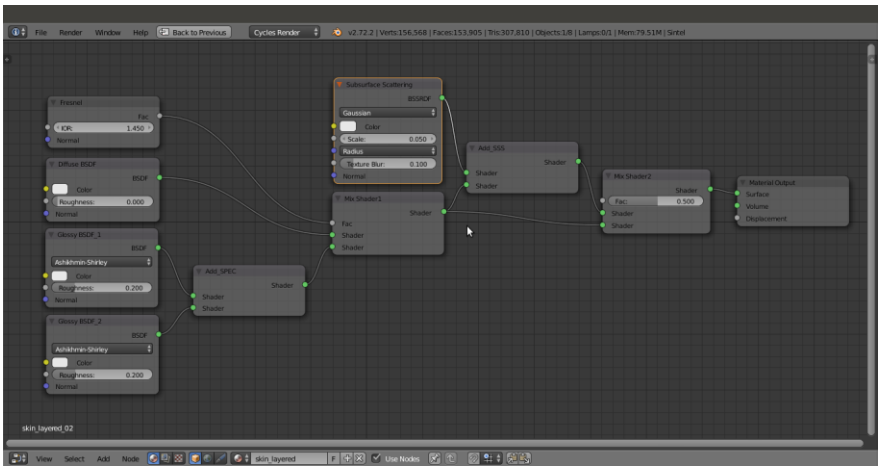


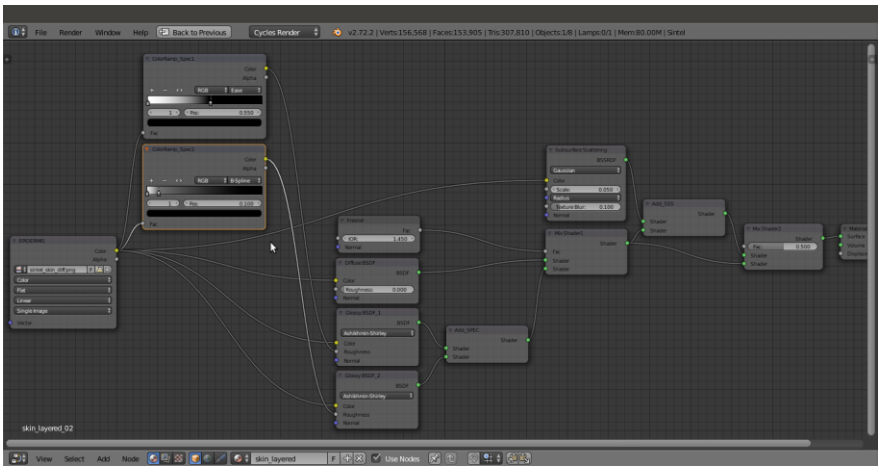

UV Mapping
Unwrap
Smart UV Project
Lightmap Pack
Follow Active Quads
Cube Projection
Cylinder Projection
Sphere Projection
Project From View
Project from View (Bounds)
Reset
Assign
Remove
Select
Deselect
Weight: 1.000
Shape Keys
UV Maps
UVMap
UVMap2
Name:
UVMap2
Vertex Colors
join_branches

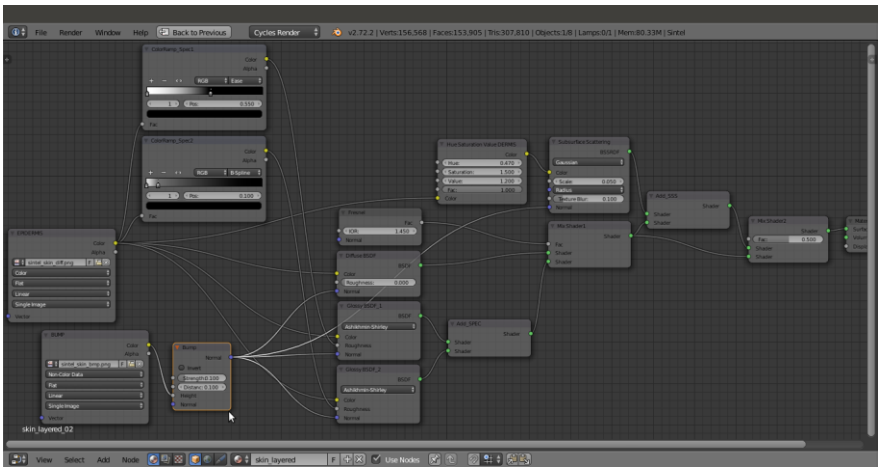

File
Render
Window
Help
Back to Previous
Cycles Render
BARK_A
BARK_B
bark_seamless
View
Select
Add
Node
Use Nodes

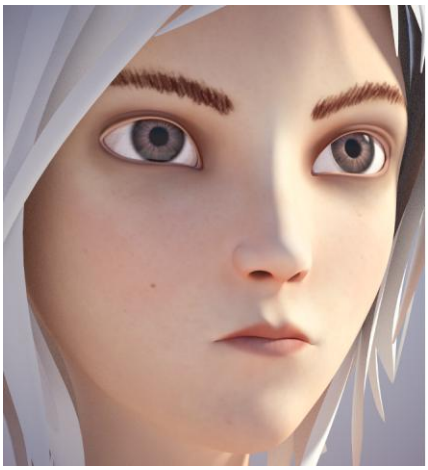


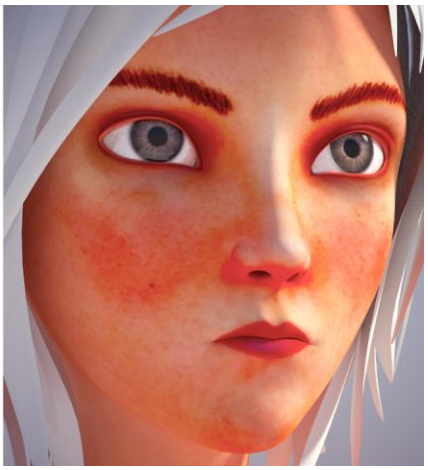

File
Render
Window
Help
Back to Previous
Cycles Render
leaf_alpha
View
Select
Add
Node
Use Nodes

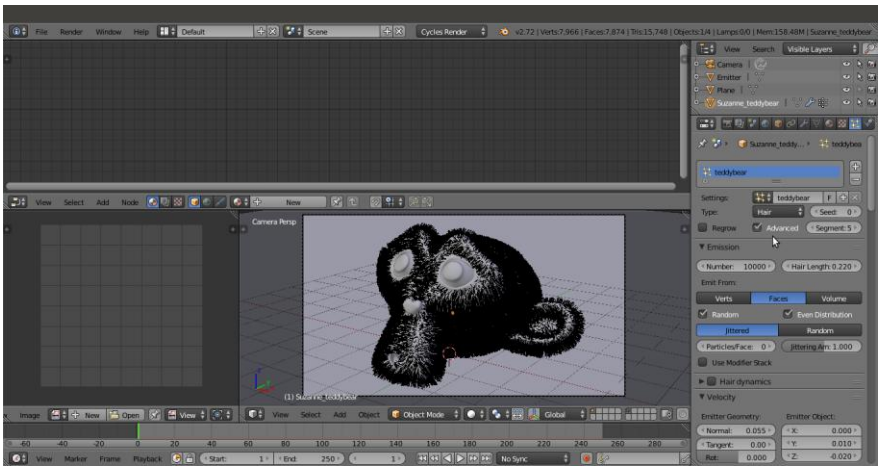

File Render Window Help Back to Previous Cycles Render
Fresnel
Diffuse BSDF
Glossy BSDF_1
Glossy BSDF_2
Subsurface Scattering
Mix Shader1
Add_SSS
Add_SPEC
Mix Shader2
Material Output
skin_layered_02
View Select Add Node skin_layered Use Nodes

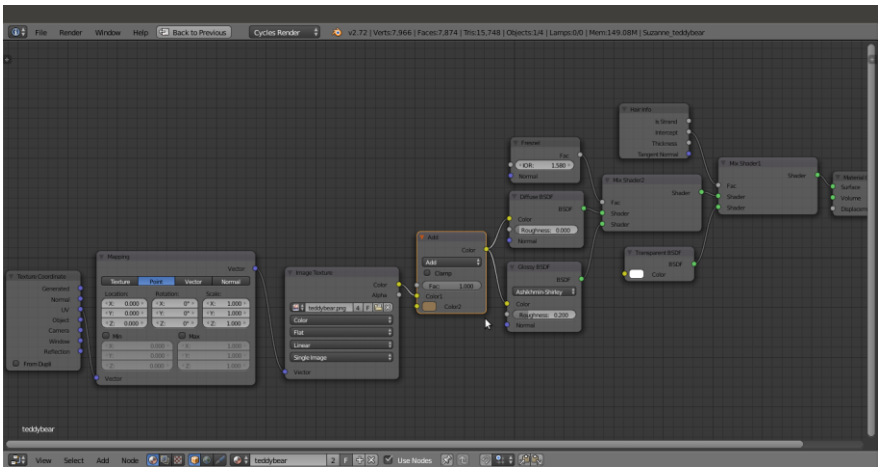

File Render Window Help Back to Previous Cycles Render
skin_layered_02
View Select Add Node skin_layered Use Nodes

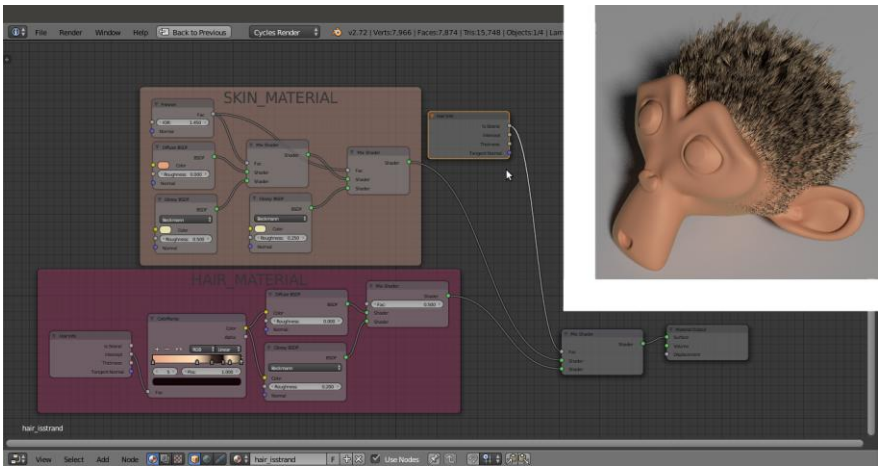

File Render Window Help Back to Previous Cycles Render
skin_layered_02
View Select Add Node skin_layered Use Nodes

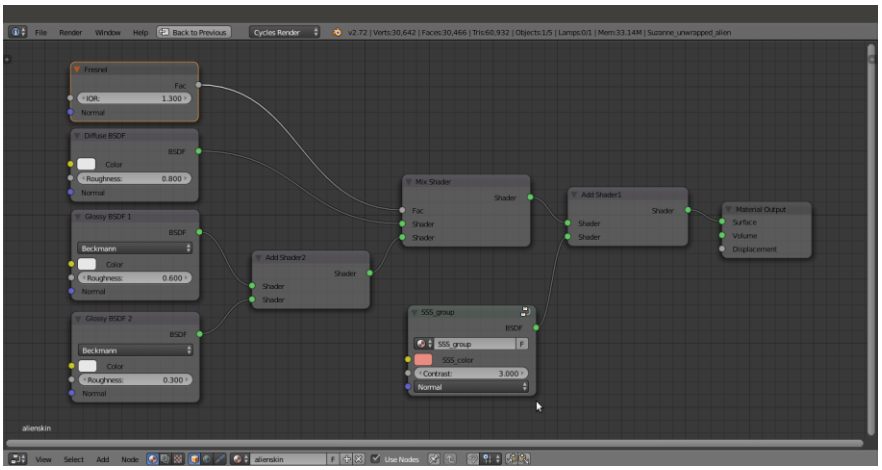


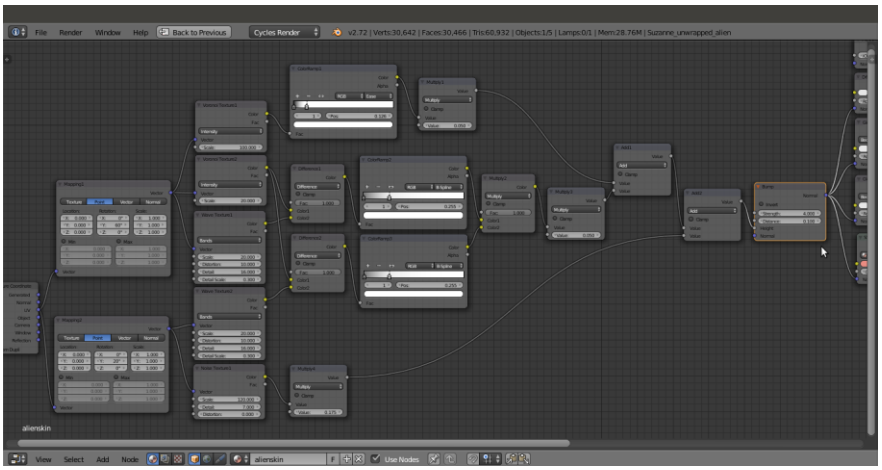


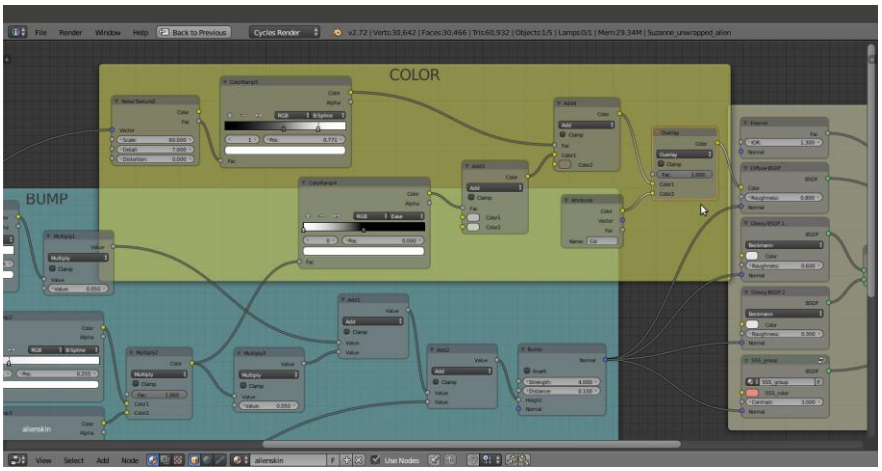




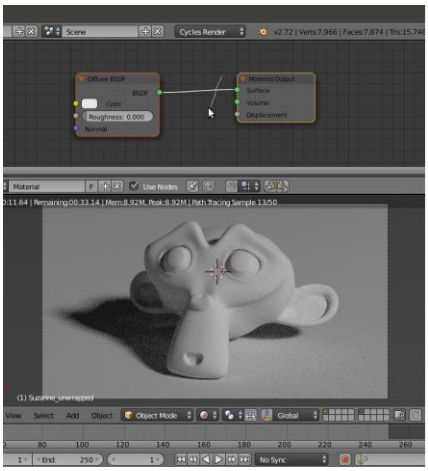

SKIN_MATERIAL
HAIR_MATERIAL

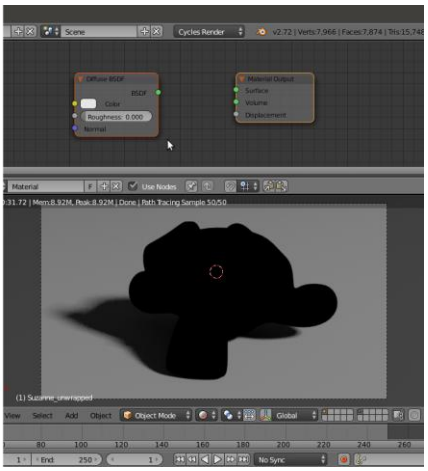

Fresnel
Diffuse BSDF
Glossy BSDF 1
Glossy BSDF 2
Mix Shader
Add Shader1
Add Shader2
Material Output
SSS_group
alienskin

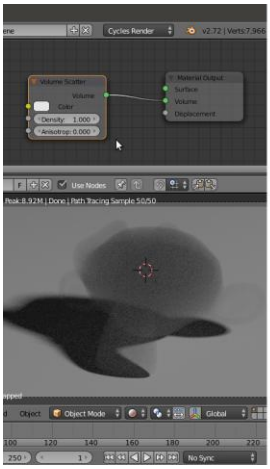

alienskin

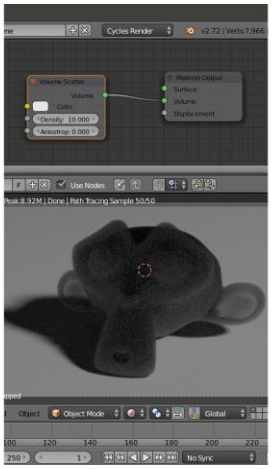

COLOR
BUMP
alienskin

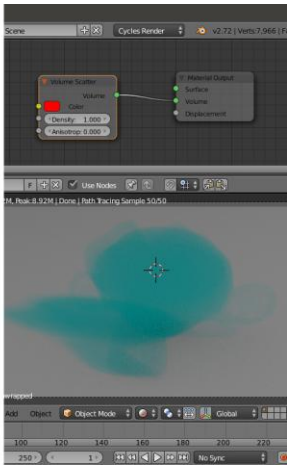
Chapter 9: Special Materials

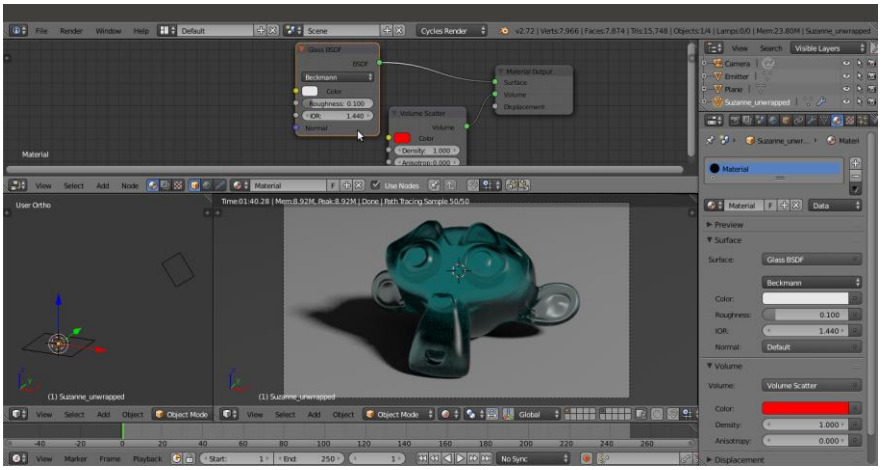


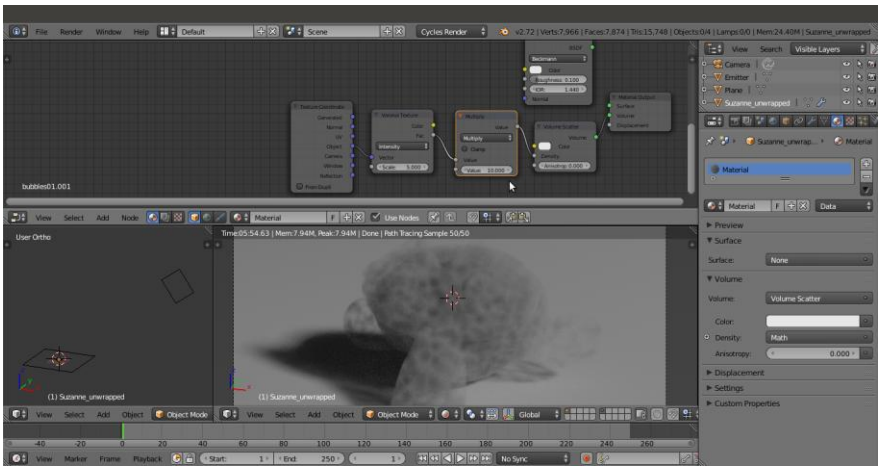


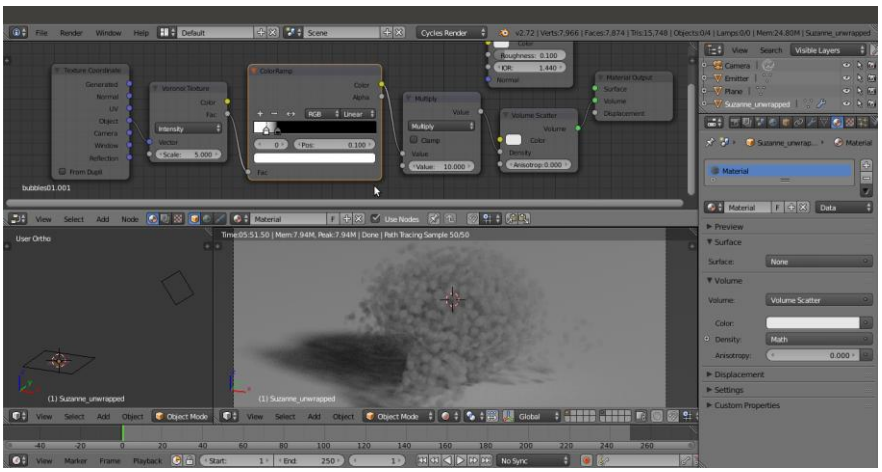


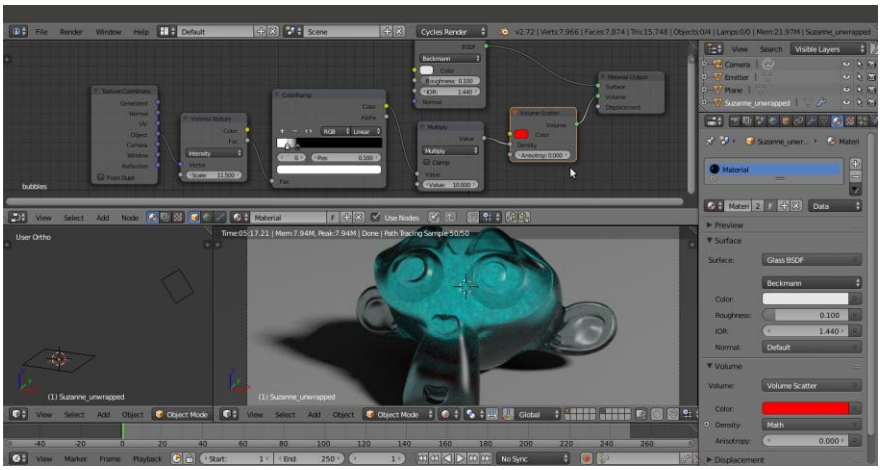


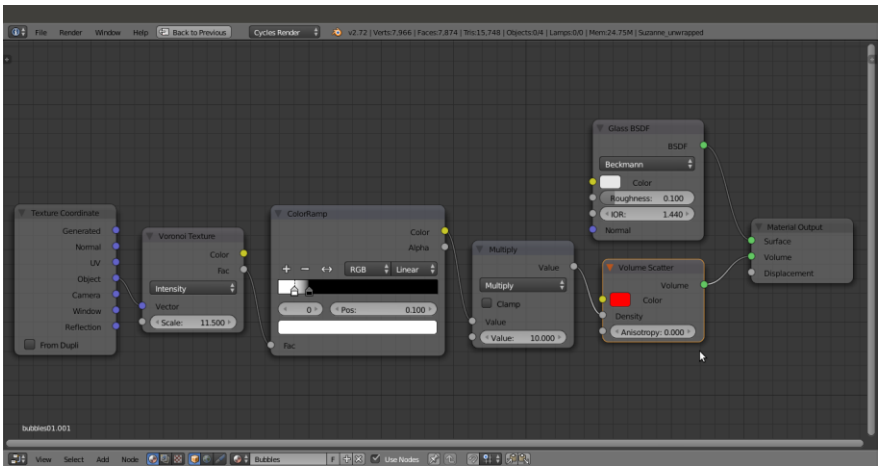


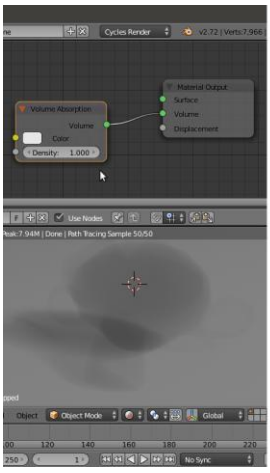


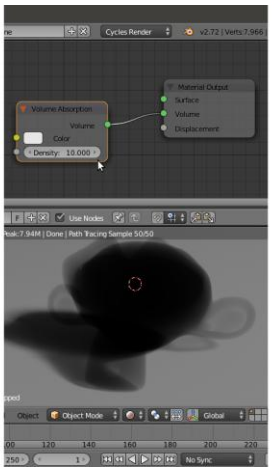


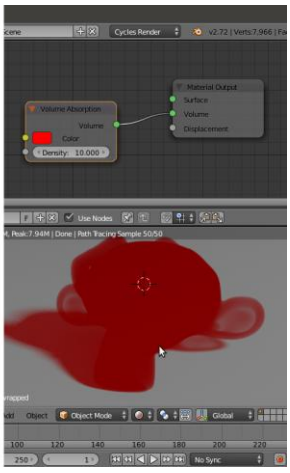


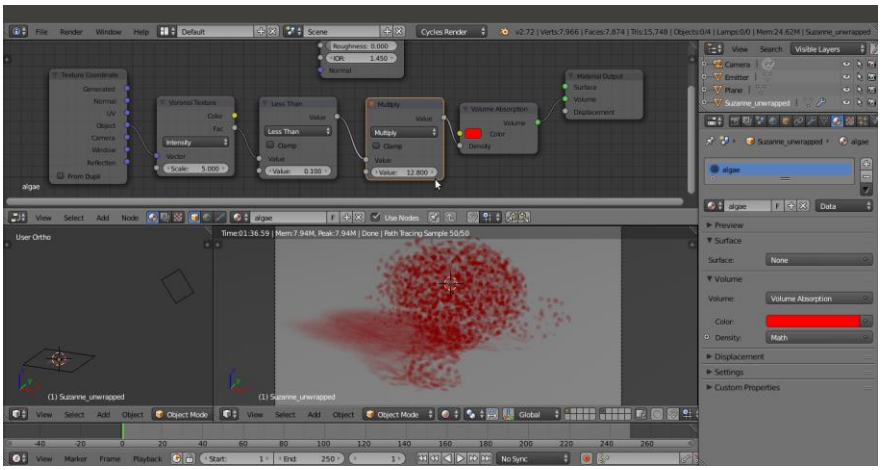


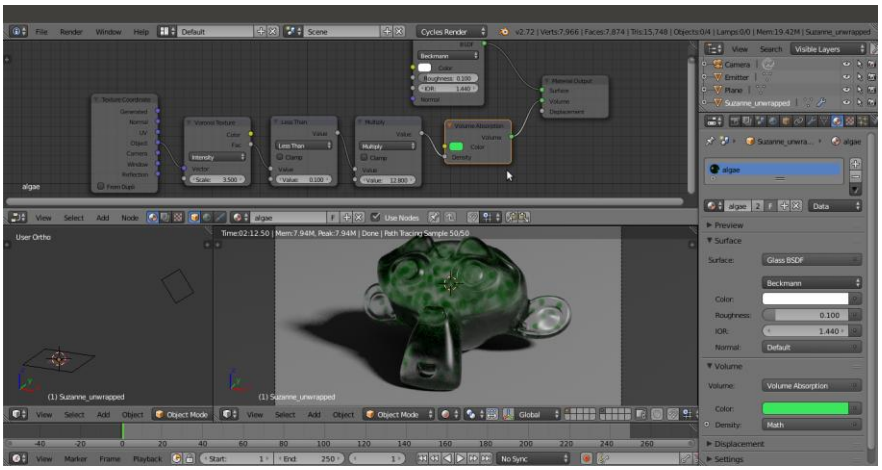


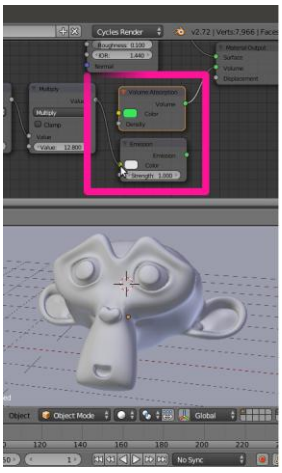


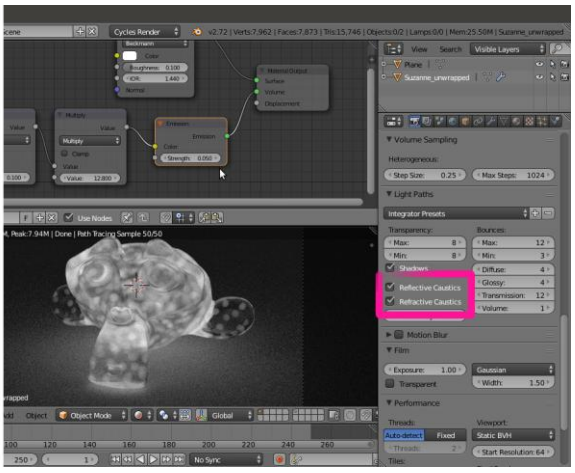


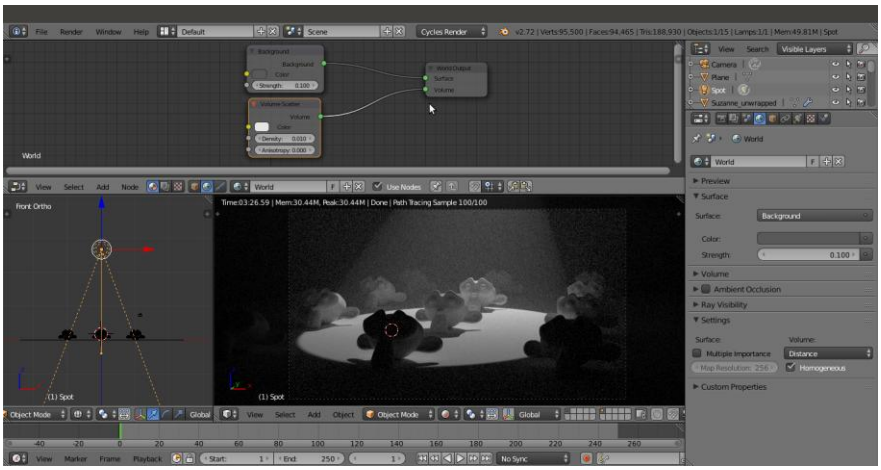


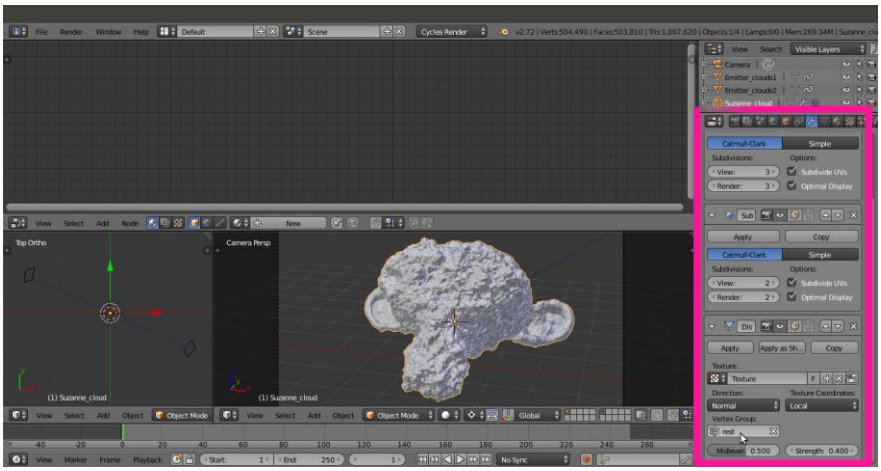


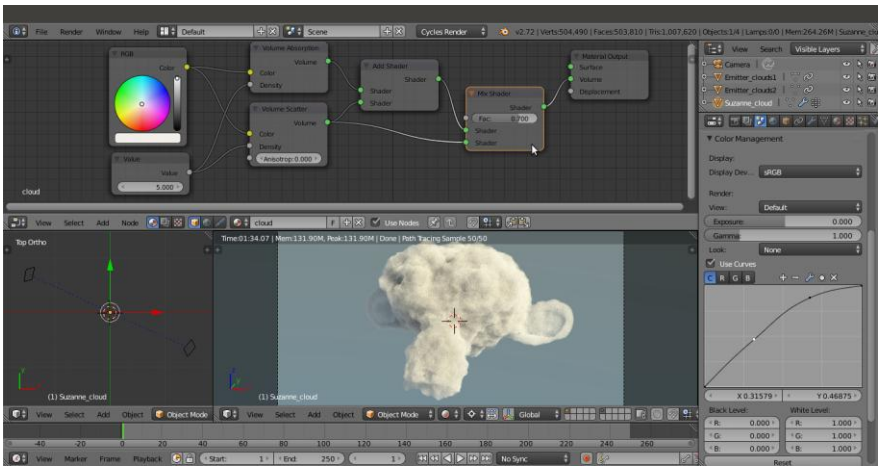


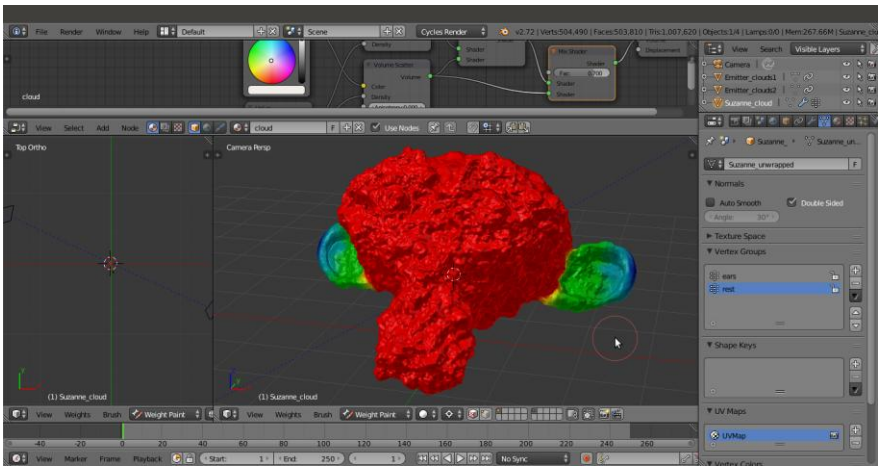


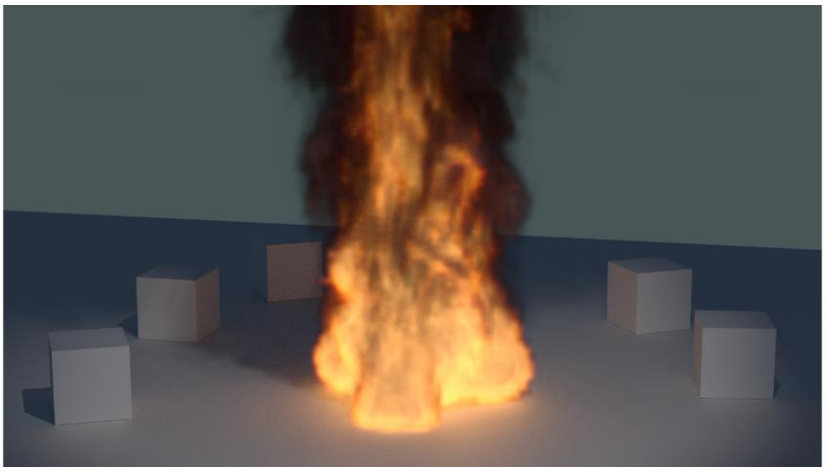


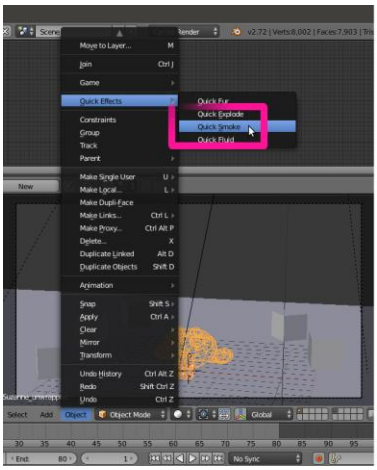


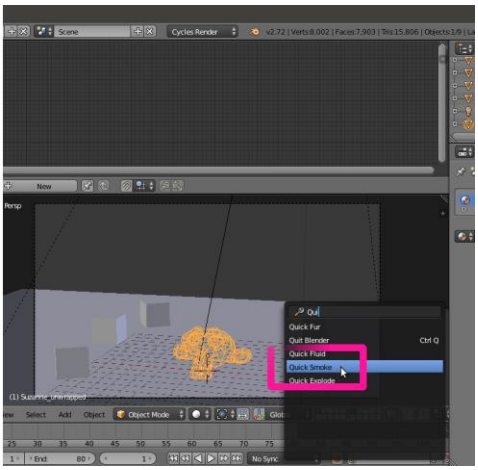


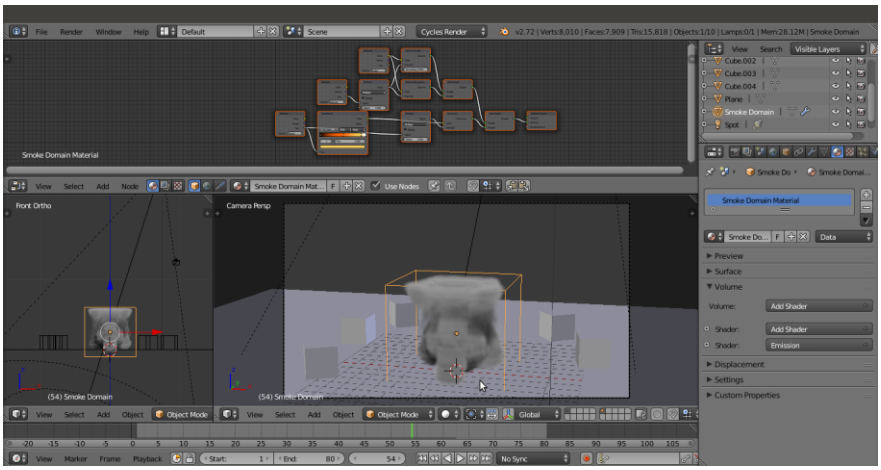


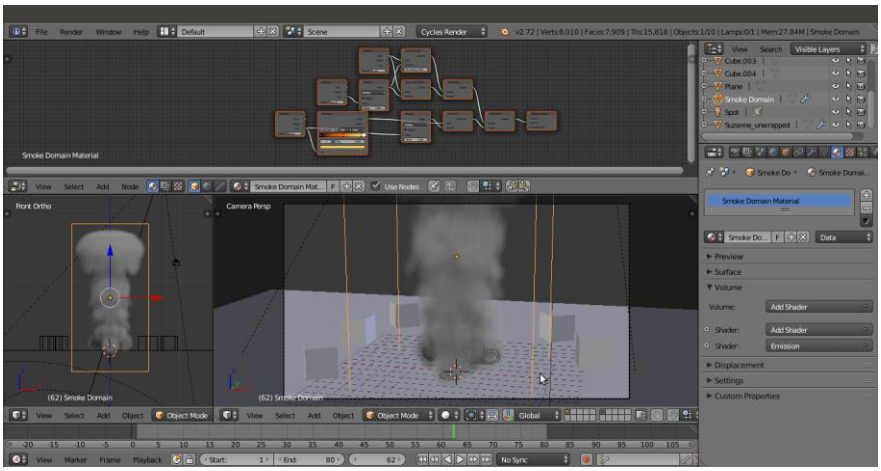


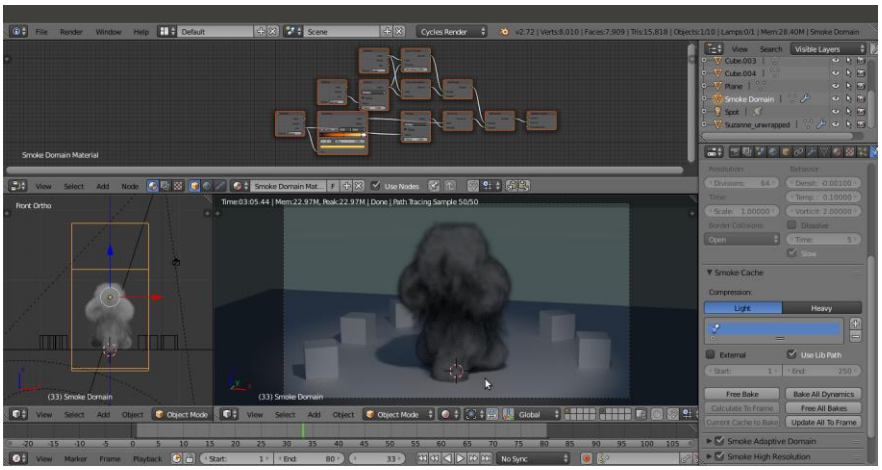


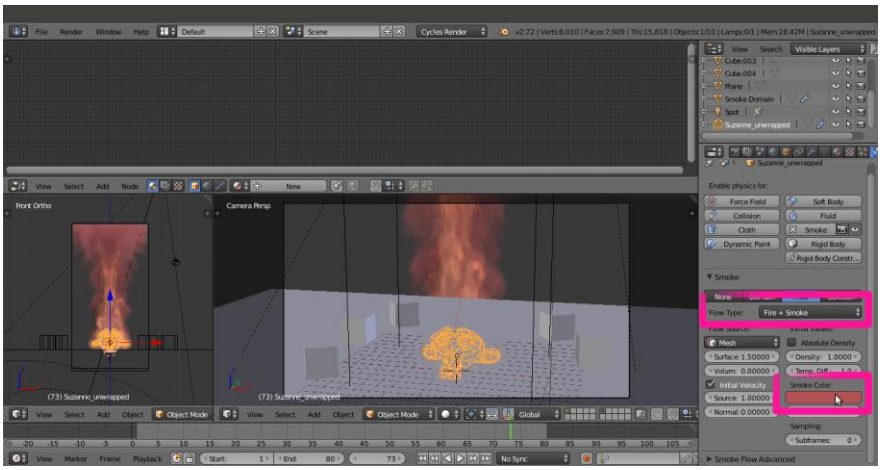

Move to Layer...
Join
Game
Quick Effects
Quick Fur
Quick Explode
Quick Smoke
Quick Fluid
Constraints
Group
Track
Parent
Make Single User
Make Local...
Make Dupli-Face
Make Links...
Make Proxy...
Delete...
Duplicate Linked
Duplicate Objects
Animation
Snap
Apply
Clear
Mirror
Transform
Undo History
Redo
Undo

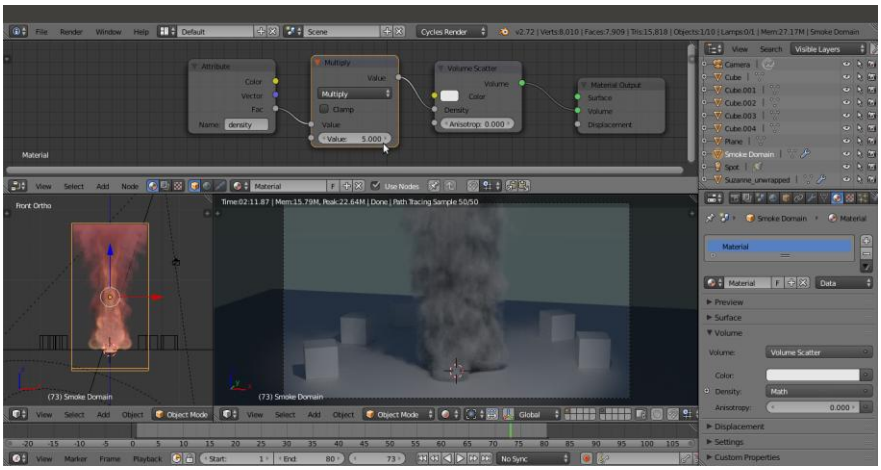

Quick Fur
Quit Blender
Quick Fluid
Quick Smoke
Quick Explode

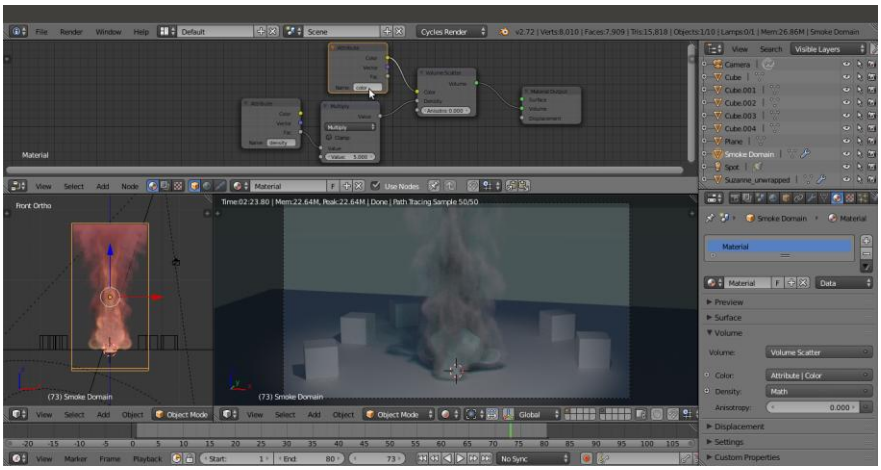

Smoke Domain Material
Front Ortho
Camera Persp
(54) Smoke Domain

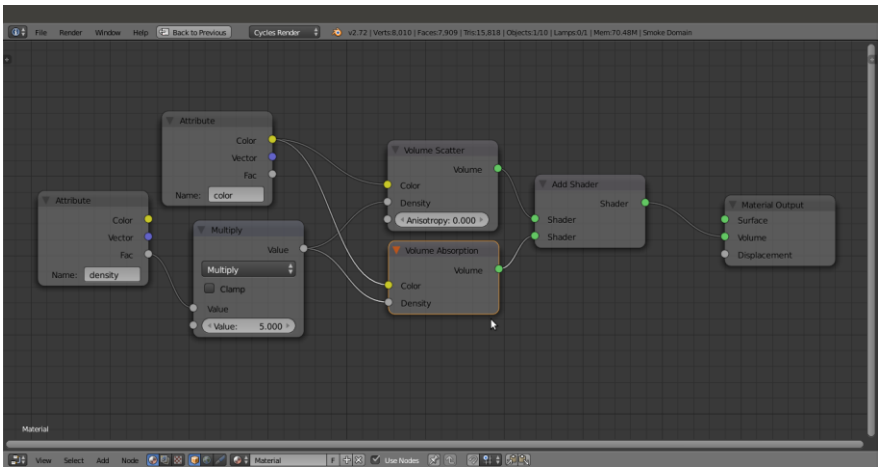

Smoke Domain Material
Front Ortho
Camera Persp
(62) Smoke Domain

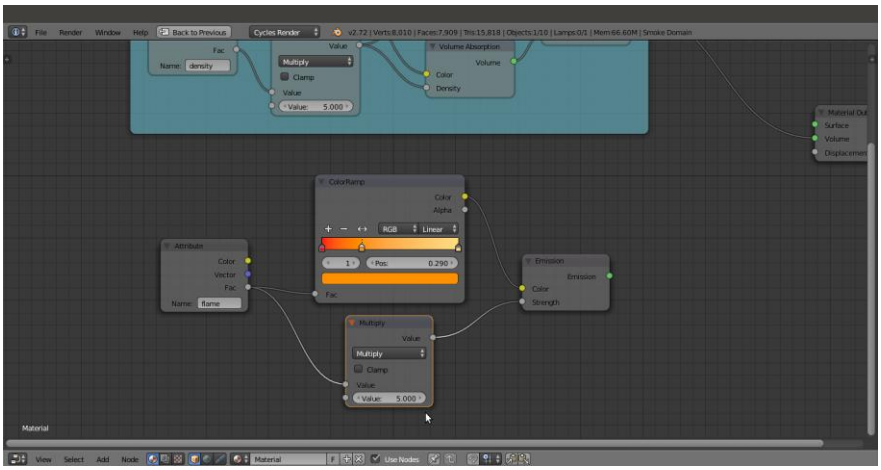


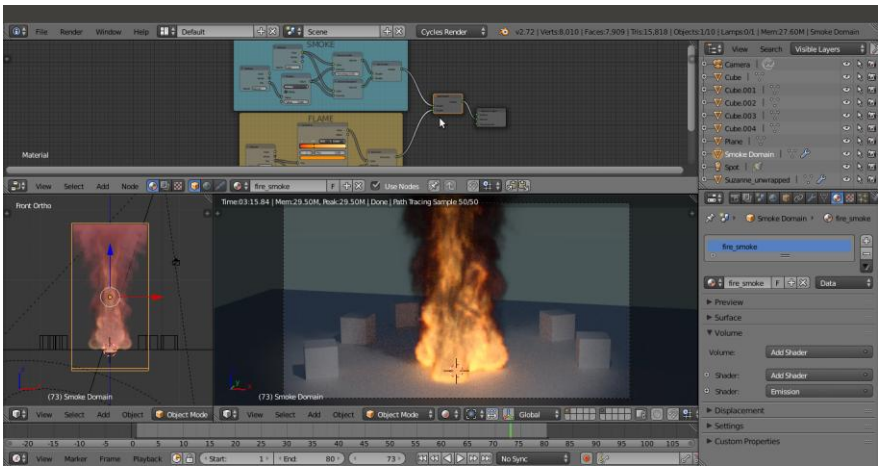


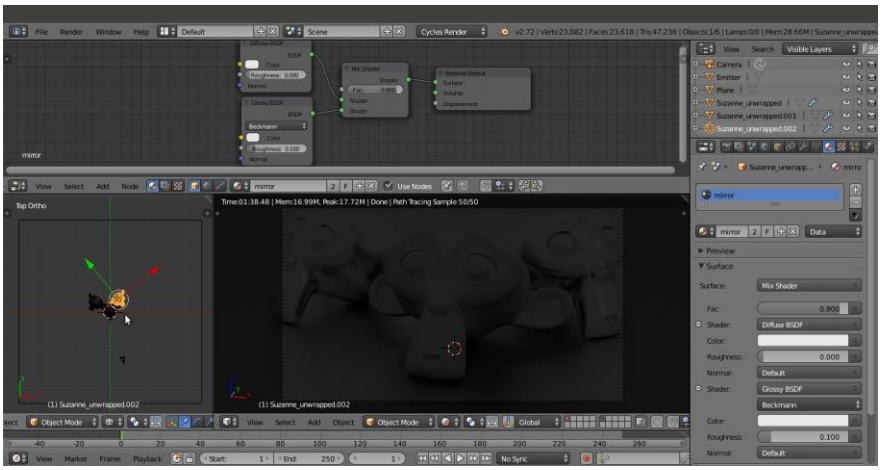


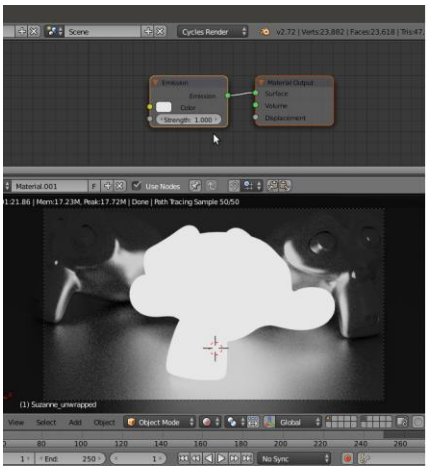


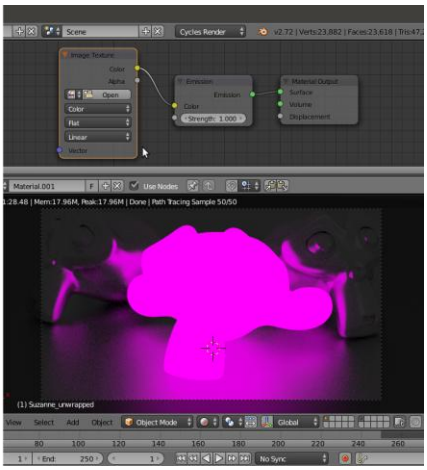

Attribute
Color
Vector
Fac
Name: color
Attribute
Color
Vector
Fac
Name: density
Multiply
Value
Multiply
Clamp
Value
Value: 5.000
Volume Scatter
Volume
Color
Density
Anisotropy: 0.000
Volume Absorption
Volume
Color
Density
Add Shader
Shader
Shader
Shader
Material Output
Surface
Volume
Displacement
Material

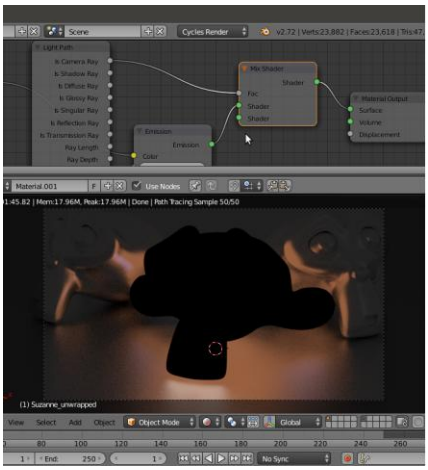

Material
ColorRamp
Attribute
Emission
Multiply
Volume Absorption
Material Output

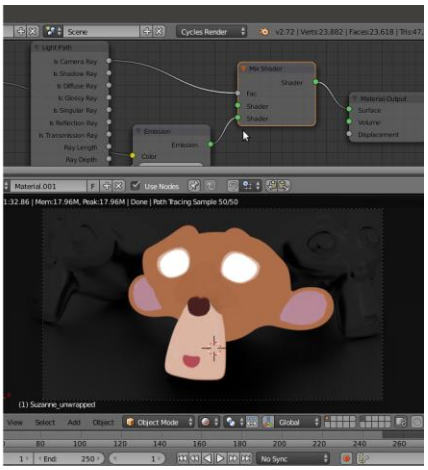

Material
Front Ortho
(73) Smoke Domain
(73) Smoke Domain
Time:03:15.84 | Mem:29.50M, Peak:29.50M | Done | Path Tracing Sample 50/50

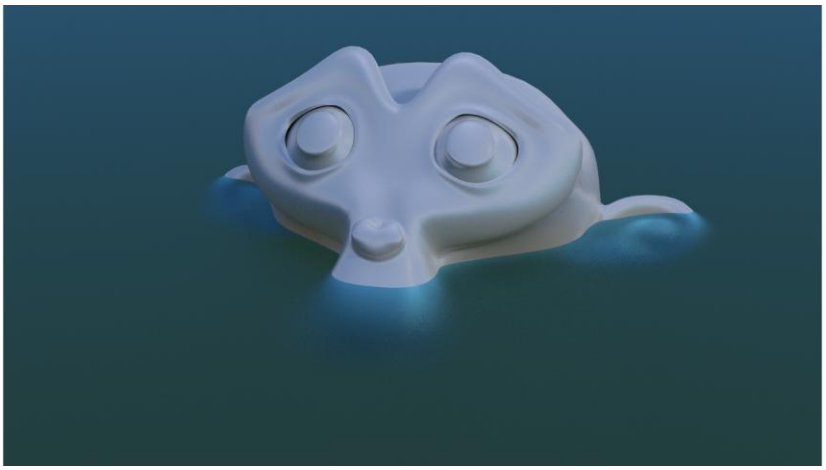


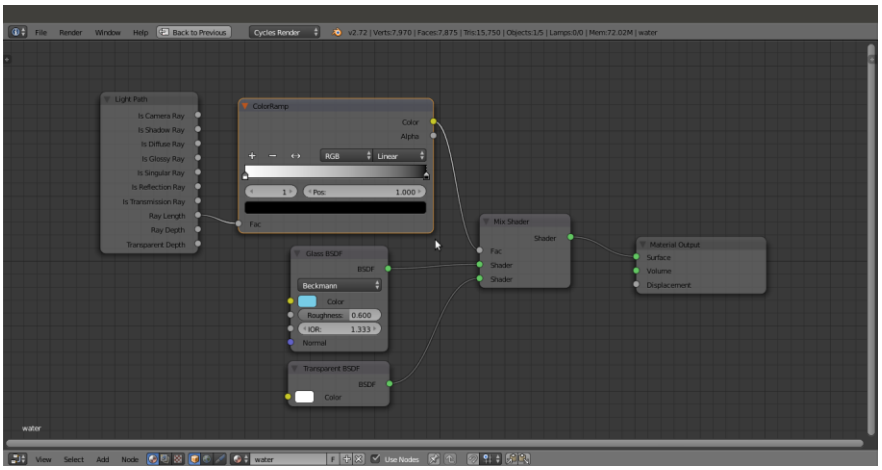


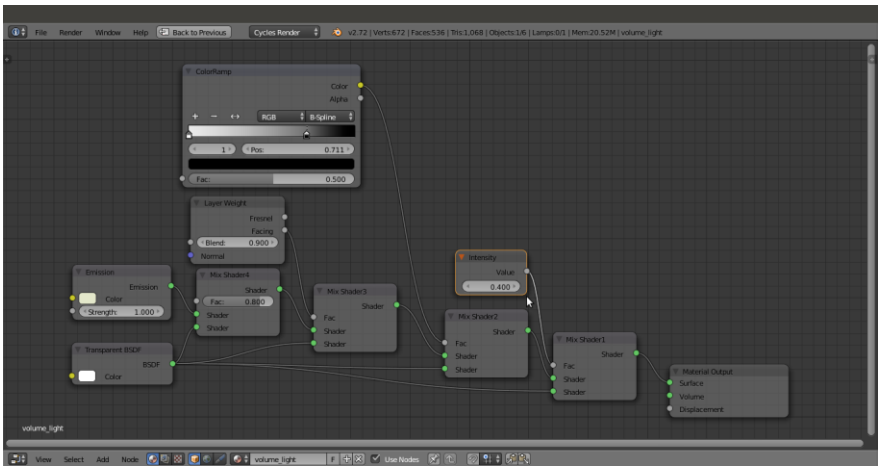









File
Render
Window
Help
Back to Previous
Cycles Render
Light Path
Is Camera Ray
Is Shadow Ray
Is Diffuse Ray
Is Glossy Ray
Is Singular Ray
Is Reflection Ray
Is Transmission Ray
Ray Length
Ray Depth
Transparent Depth
ColorRamp
Color
Alpha
RGB
Linear
Pos:
1.000
Fac
Glass BSDF
BSDF
Beckmann
Color
Roughness:
0.600
IOR:
1.333
Normal
Transparent BSDF
BSDF
Color
Mix Shader
Shader
Fac
Shader
Shader
Material Output
Surface
Volume
Displacement
water
View
Select
Add
Node
water
Use Nodes


File
Render
Window
Help
Back to Previous
Cycles Render
v2.72 | Verts:672 | Faces:536 | Tris:1,068 | Objects:1/6 | Lamps:0/1 | Mem:20.52M | volume_light
ColorRamp
Color
Alpha
RGB
B-Spline
Pos: 0.711
Fac: 0.500
Layer Weight
Fresnel
Facing
Blend: 0.900
Normal
Intensity
Value
0.400
Emission
Emission
Color
Strength: 1.000
Mix Shader4
Shader
Fac: 0.800
Shader
Shader
Mix Shader3
Shader
Fac
Shader
Shader
Mix Shader2
Shader
Fac
Shader
Shader
Mix Shader1
Shader
Fac
Shader
Shader
Transparent BSDF
BSDF
Color
Material Output
Surface
Volume
Displacement
volume_light
View
Select
Add
Node
volume_light
Use Nodes