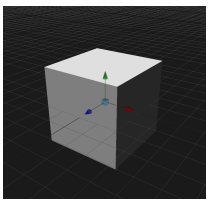
3D in Fusion Cheat Sheet

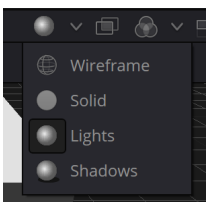


Adjusting things in 3D space

ALT + RMB ··· **Orbit Camera**

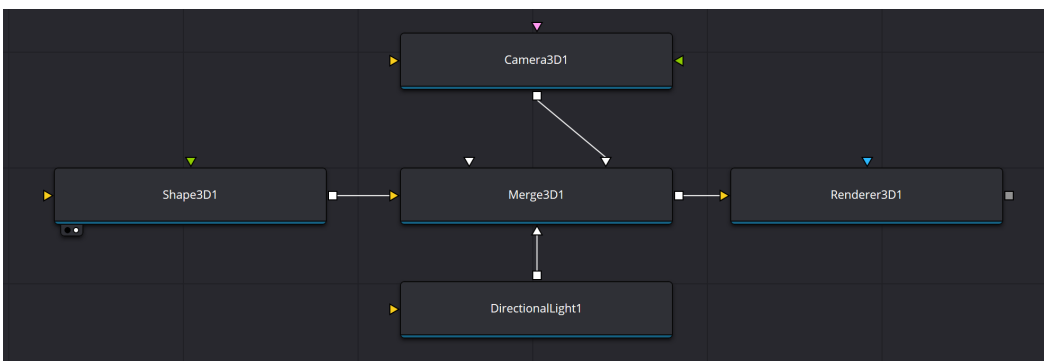
ALT + MMB ··· **Pan Camera**

ALT + LMB ··· **Zoom Camera**



Enable Lighting in the ViewPort

Don't forget to set your viewport shading to "Lights" or "Shadows"



Essential 3D Nodes

Shape3D: This makes a primitive shape like cube, sphere, etc.

Merge3D: Attach 3D objects to this node to add them to the same 3d world. This is how you combine objects, lighting, cameras, etc.

Camera3D: The digital 3D camera that the renderer3D node uses to frame the scene.

Renderer3D: Converts the 3D data into an actual 3D image that can be merged with 2D images in Fusion or piped into a MediaOut node.

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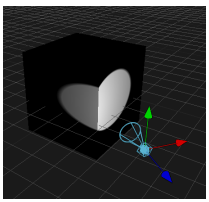
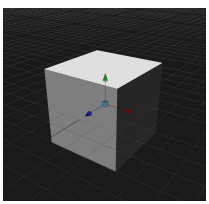


Lighting in 3D

Lighting is what makes a 3D scene ACTUALLY LOOK 3D. So, it's essential that you get the right kinds of lights in the right places!

3D Light Nodes:

- Directional Light - Shoots light in one direction all over the scene. Doesn't matter where the light is located.
- Spot Light: Most like a real light, it has direction, a cine angle, rotation, and can be used like a physical spotlight on objects.
- Ambient Light: Gives an overall, directionless, light to the scene. Often used to bring up the darkness of shadows.
- Point Light: An invisible sphere of light that can add pops of light in areas of the scne. Has no rotation, only a physical location.



The USD 3D System

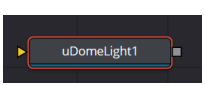
The USD system in Fusion is a higher quality and more flexible system to bring in assets, as well as add realistic texturing. The system includes a very powerful uShader node, which can replicate many of the PBR textures like roughness, normal maps, metallic finishes and more!

This is great for VFX artists who may be using other software to bring 3D scenes into Fusion. It's ALSO great for making graphics and visuals WITHIN Fusion because of the Storm Renderer, which can give more realistic and detailed renders of 3D scenes.

Differences: Most of the workflow for creating 3D within the USD system in Fusion is very similar to traditional 3D nodes, most nodes have a counterpart in the USD system and work in a similar way.

Camera3D = uCamera
Merge3D = uMerge
Transform3D = uTransform
Shape3D = uShape

DirectionalLight3D = uDistantLight
PointLight3D = uSphereLight
Spotlight3D = uSpotLight



HDRI Lighting with uDomelight:
Use this node to add realistic bounce light and reflections to your USD scenes. THIS IS THE SAUCE for great looking 3D in Fusion.