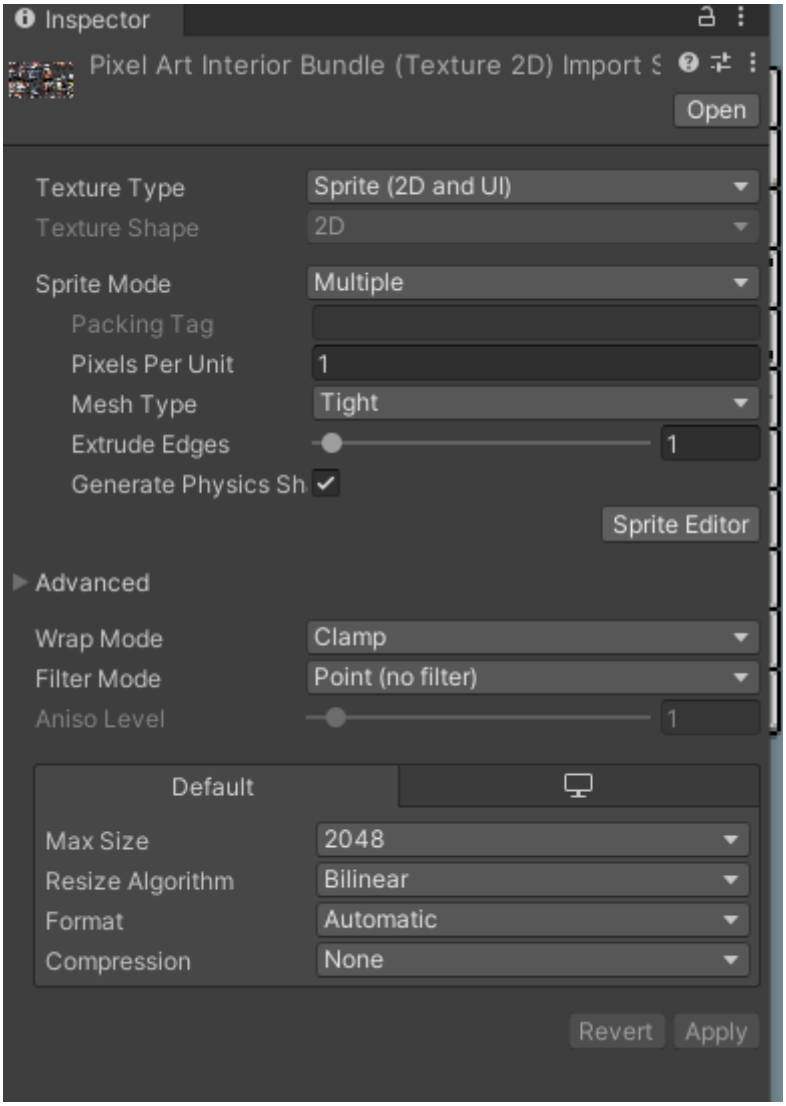
Unity Guide

This is a guide on how to use the furniture pack in Unity. This is not a beginner's Unity guide, I expect you have some familiarity with Unity (for example knowing how to make an animation and how to edit an animation controller). I will explain how to slice the spritesheet and show you when a certain pivot point is important for animations/ states. I will also teach you how to recolor sprites down below!

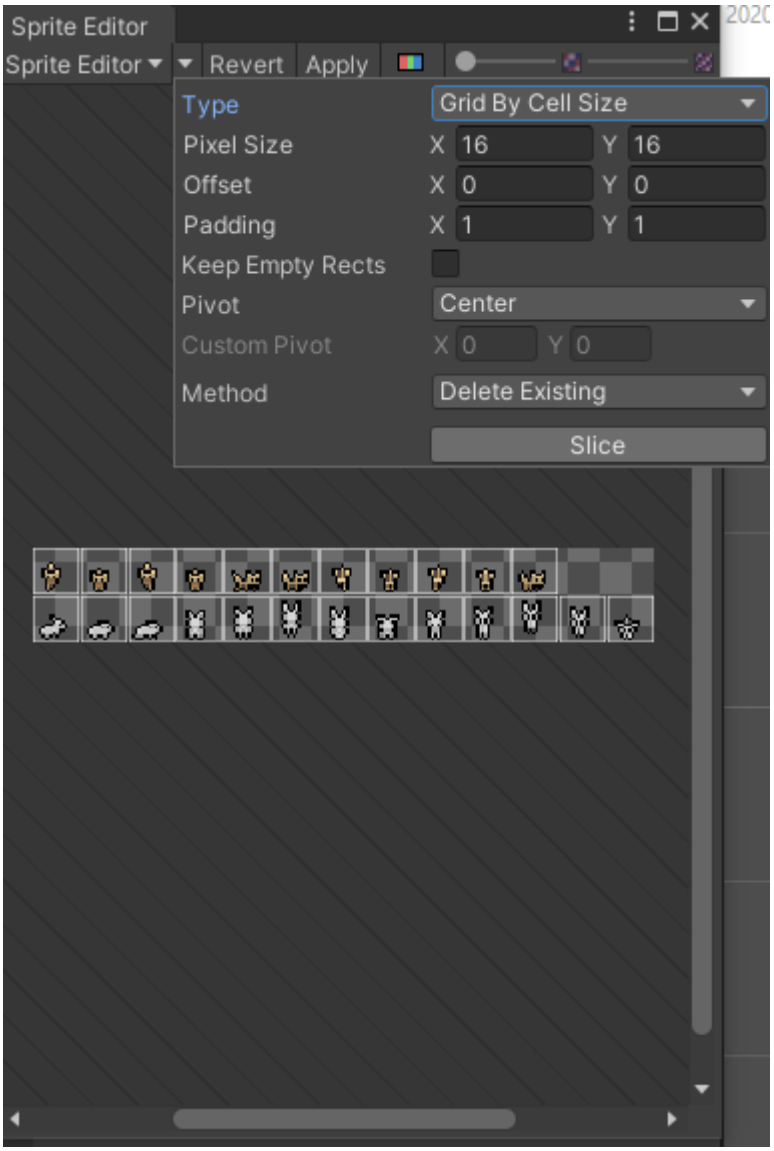
Import the spritesheet as a new asset in Unity. When you click on it you can change the settings. Here are the settings (see first image) I mostly use, the most important one being the Texture Type and the Sprite Mode. Putting the Sprite Mode to multiple allows you to extract multiple sprites from the spritesheet. Next up click Sprite Editor and check the next image in this guide.



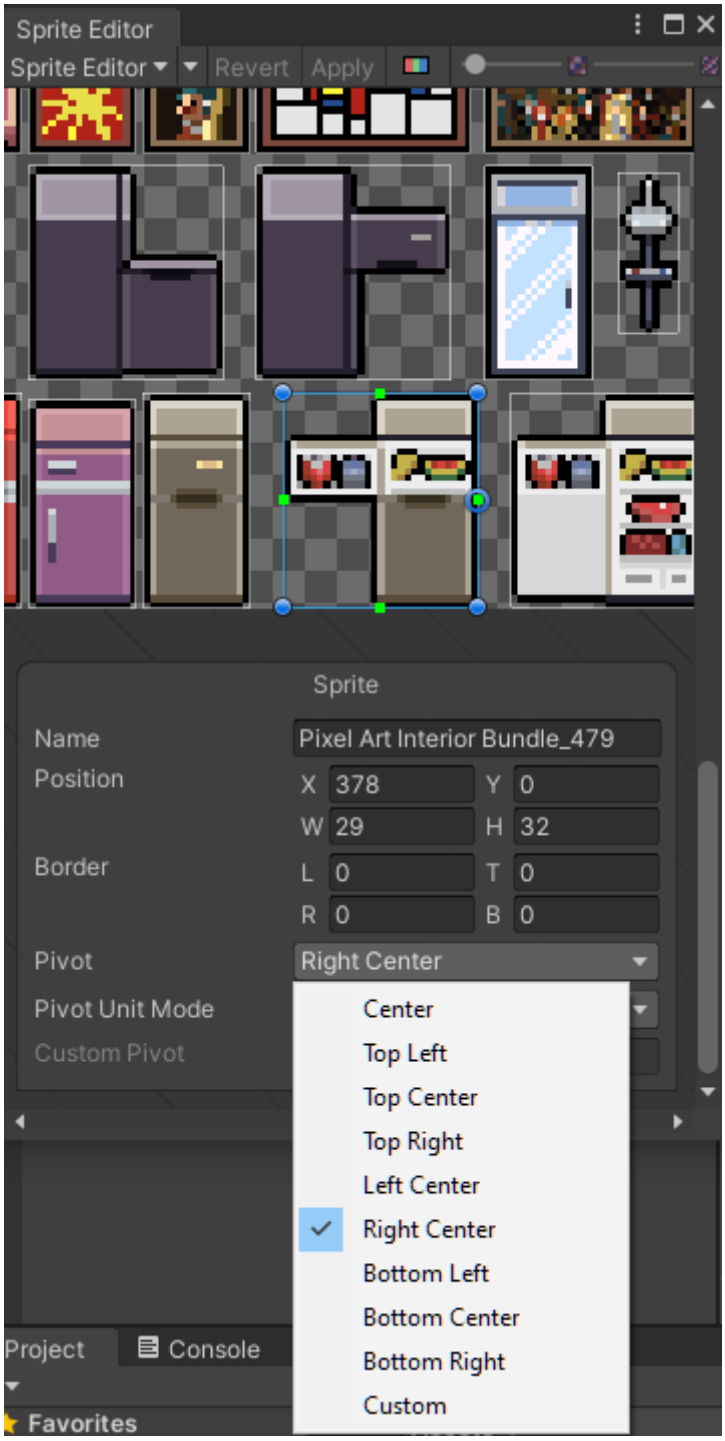
When you've opened the sprite editor click the little downward arrow that is top left. Use the following settings and click slice. After you see an outline among all the sprites you can click apply. In your Unity folder there will now be an arrow next to the asset and when you expand it you will see all the individual sprites that you can drag to your scene.


Sprite Editor
Sprite Editor
Revert
Apply
Type
Automatic
Pivot
Center
Custom Pivot
X 0
Y 0
Method
Delete Existing
Slice

When you use the above method Unity automatically chooses the right size for the sprites. Any transparent/ empty area is not used. However this transparent/ empty area is important for the pet animations, else every frame will jump places. Therefore there is a separate pet spritesheet. Import with the settings like above. Click Sprite Editor. This time we will use these settings so that every sprite will use exactly the same space. Click slice and then apply again.



For some animations/ states you might notice a jump. This is caused when the sprite size changes. This for example happens with the fridge. It’s open state is way bigger than the closed state. Go to your spritesheet settings, click sprite editor. Go to the fridge sprite and click it, you will see a blue outline and its settings. Change the pivot to Right Center. Why do we choose Right Center? The sprite expands to the left upon its open state, which means our right side is the anchor, the part that stays still. Don’t forget to click apply. Now the animation shouldn’t be jumping anymore.

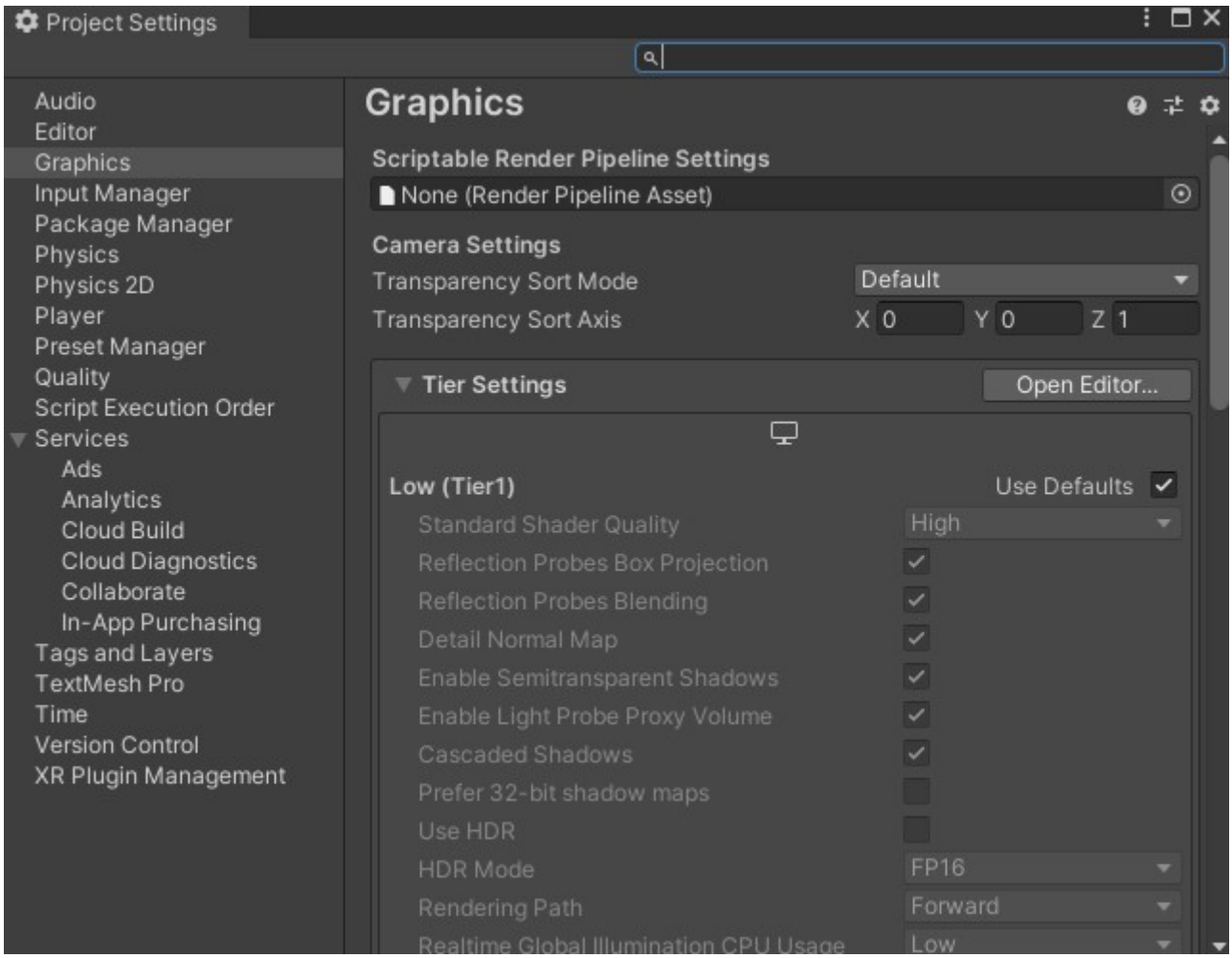


Recoloring sprites in Unity

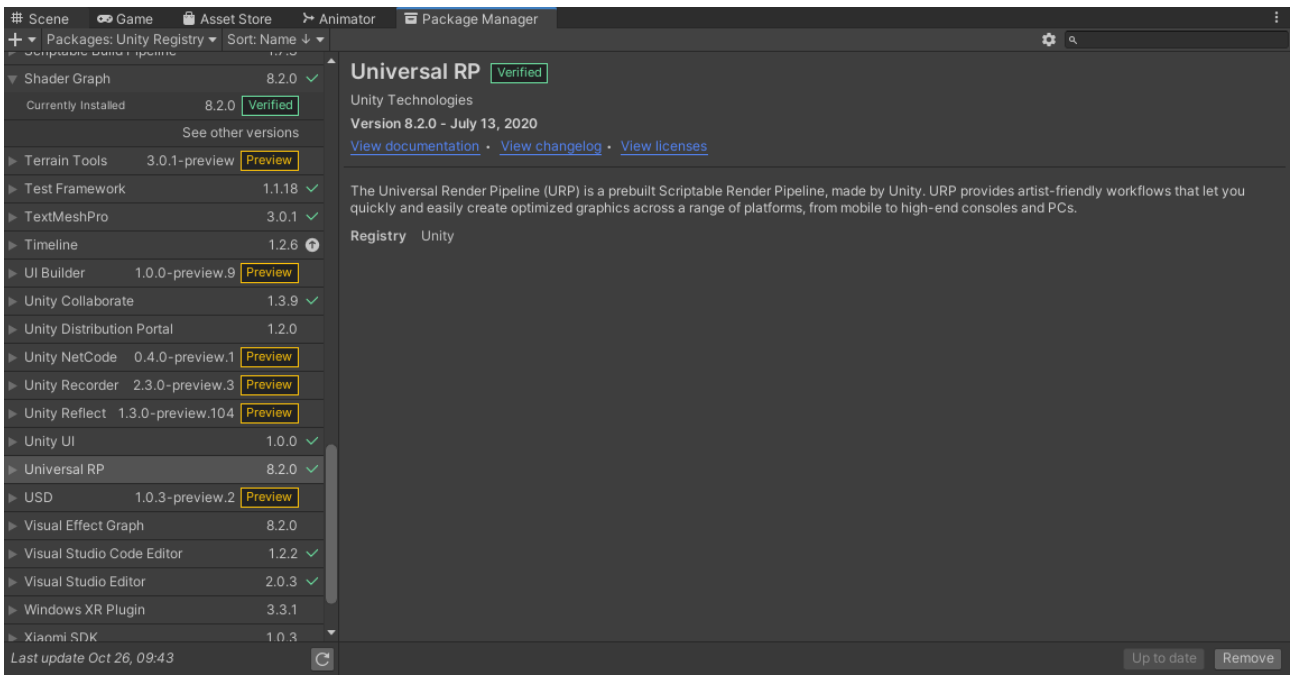
Next up what I consider the best part of this guide. How to recolor any sprite in Unity. Think of it as making your own Pokemon shiny variants for any kind of sprite! Next to my guide I also really recommend watching some youtube videos on shaders as they are really powerful and allow for a lot of customization. I really like the brackeys tutorial [https://www.youtube.com/watch?v=Ar9eIn4z6XE]. My guide is based on this youtube tutorial [https://www.youtube.com/watch?v=kA48uriRJQk] but I made it a little more optimized. If you rather follow a video, I have made a "Skip until here VIDEO" subtitle that you can scroll down to after the video hits 8:39. I strongly recommend following this guide once the video hits that timestamp as the nodes being used in the video are a bit convoluted, it could be simpler.

Install shadergraph via the package manager.

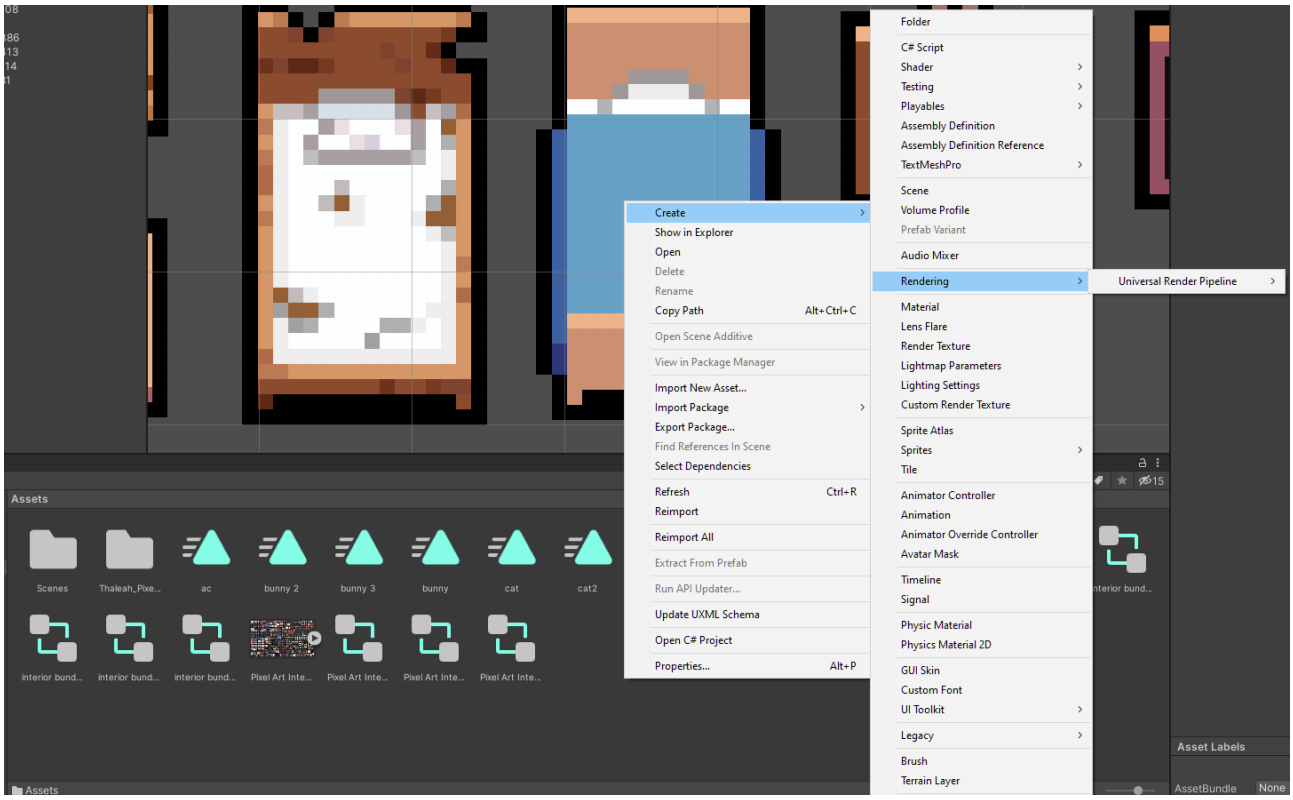
As the description says, shadergraph is compatible with the HD Rendering Pipeline and with the Universal Rendering Pipeline (this is something you select when you create a new project). You can check whether your project is using one of these pipelines by going to Edit > Project Settings > Graphics and checking the Scriptable Render Pipeline Settings. If it displays as "None" you are not using these. Follow the next step, else skip the next step until the text "Skip until here OPTIONAL STEP".

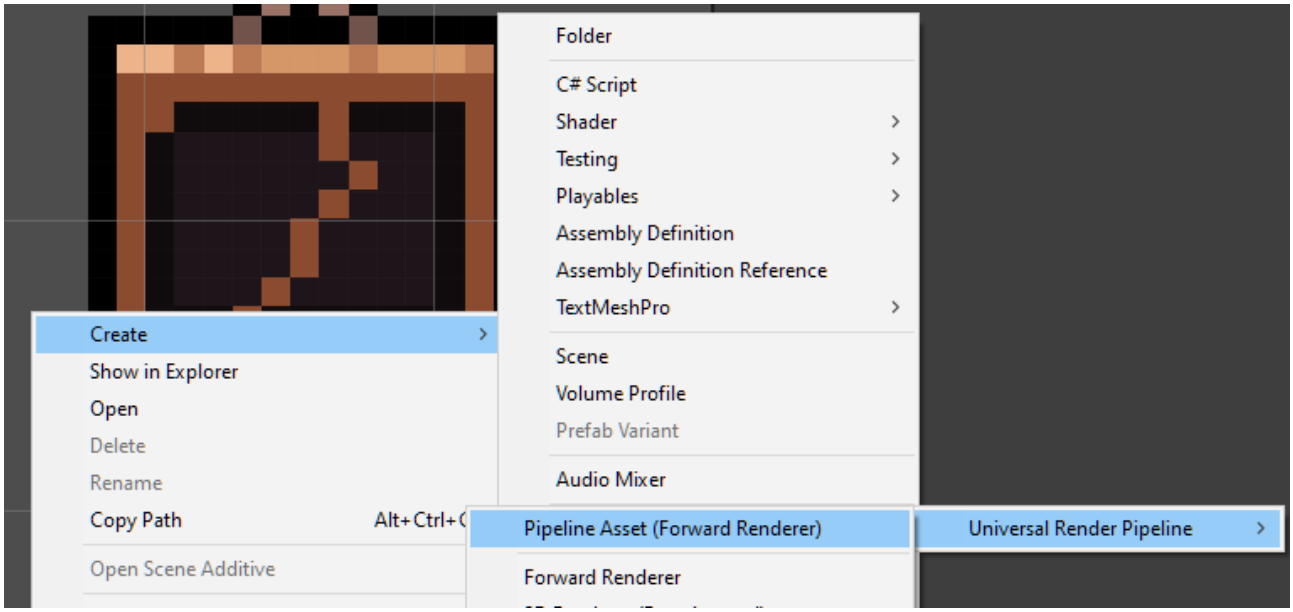


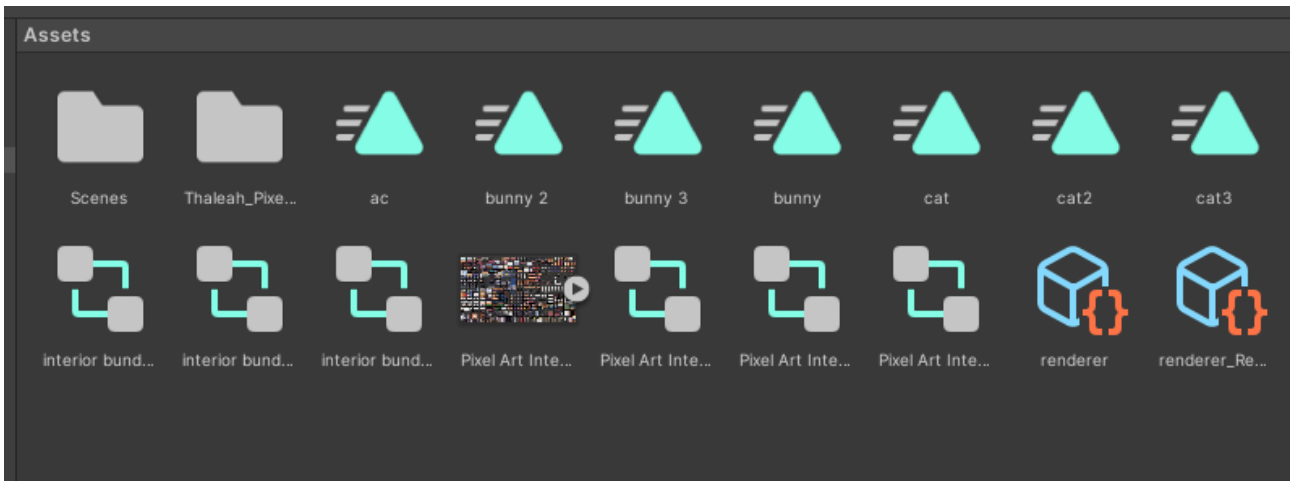
Go to package manager. Choose any pipeline you prefer and install. I will show the Universal RP but the steps are the same for the other one.



Go to your Assets folder and right click. Choose create > rendering > universal render pipeline > pipeline asset. In your assets folder their should now be a renderer and a renderer data.



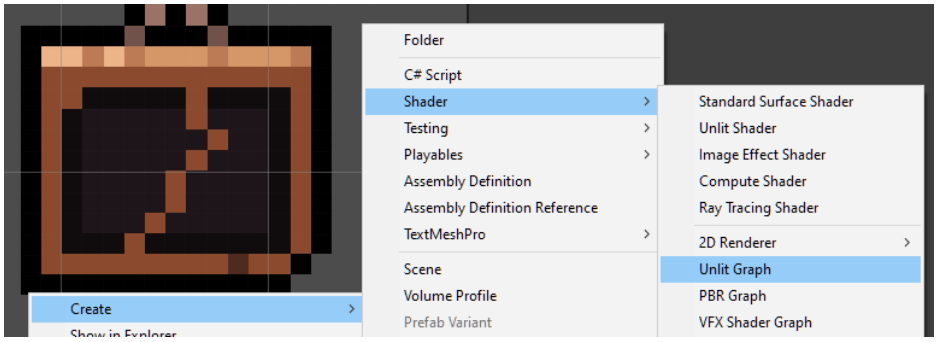




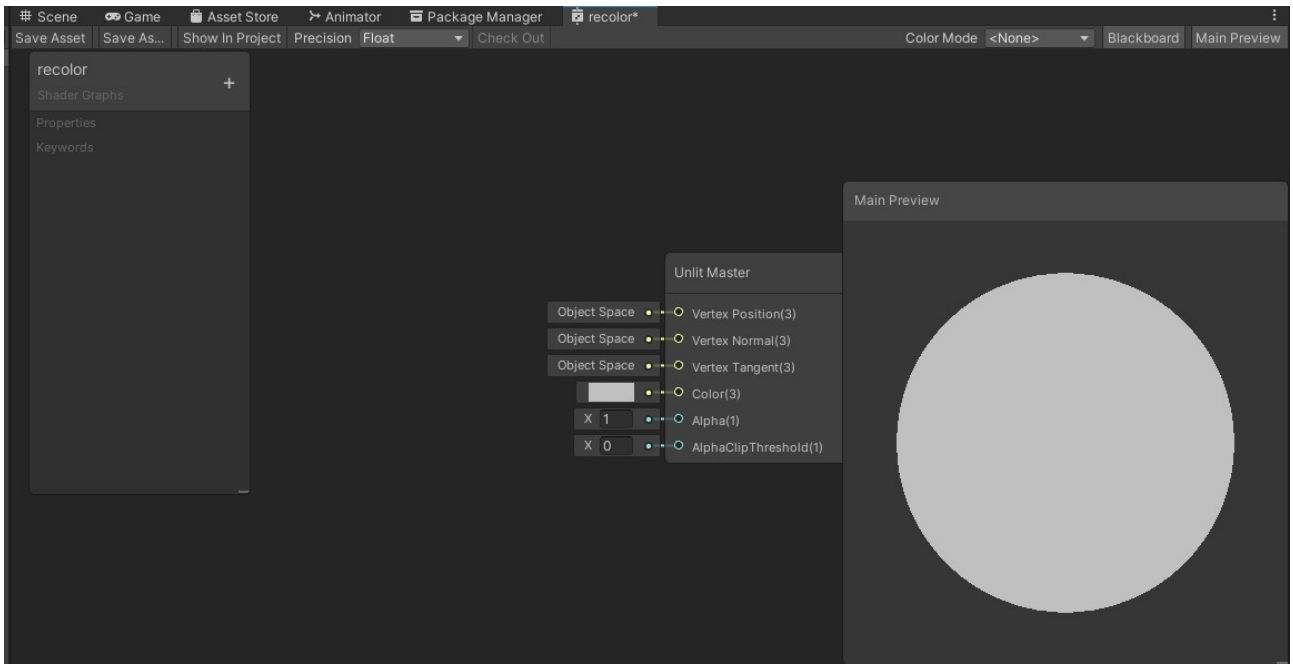
Go to edit > project settings > graphics and drag the renderer to the “None” field. You can close the project settings window now.

Skip until here OPTIONAL STEP

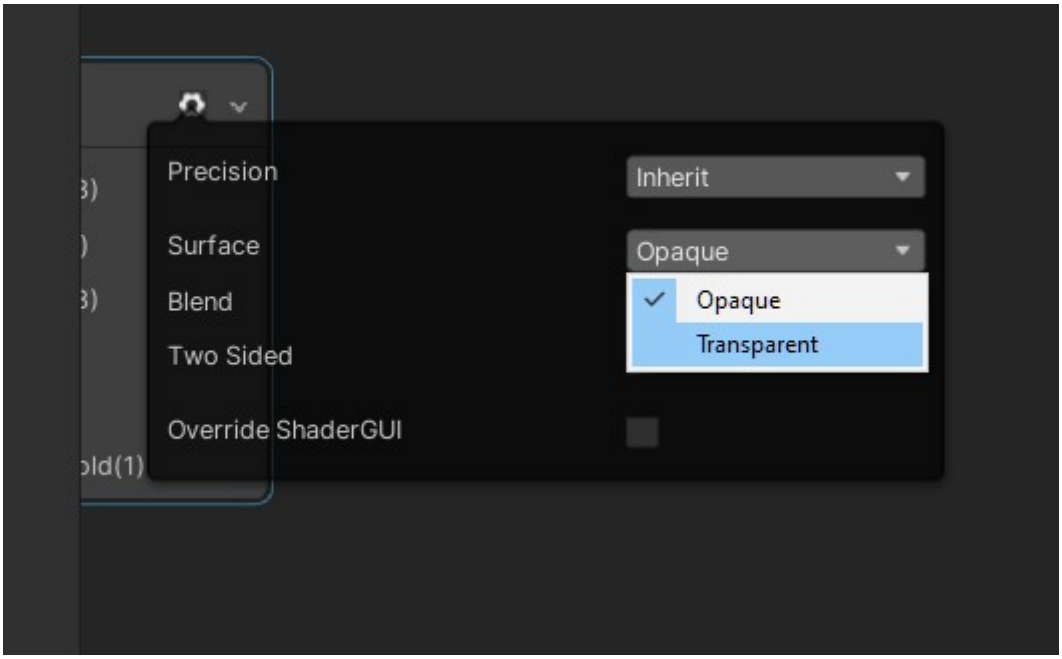
Go to your assets folder. You might want to make a nice shader folder here but that’s all up to you. Right click and select create > shader > unlit graph. I’m gonna name it recolor but you can choose any name you would like. It should now show up in your assets folder.



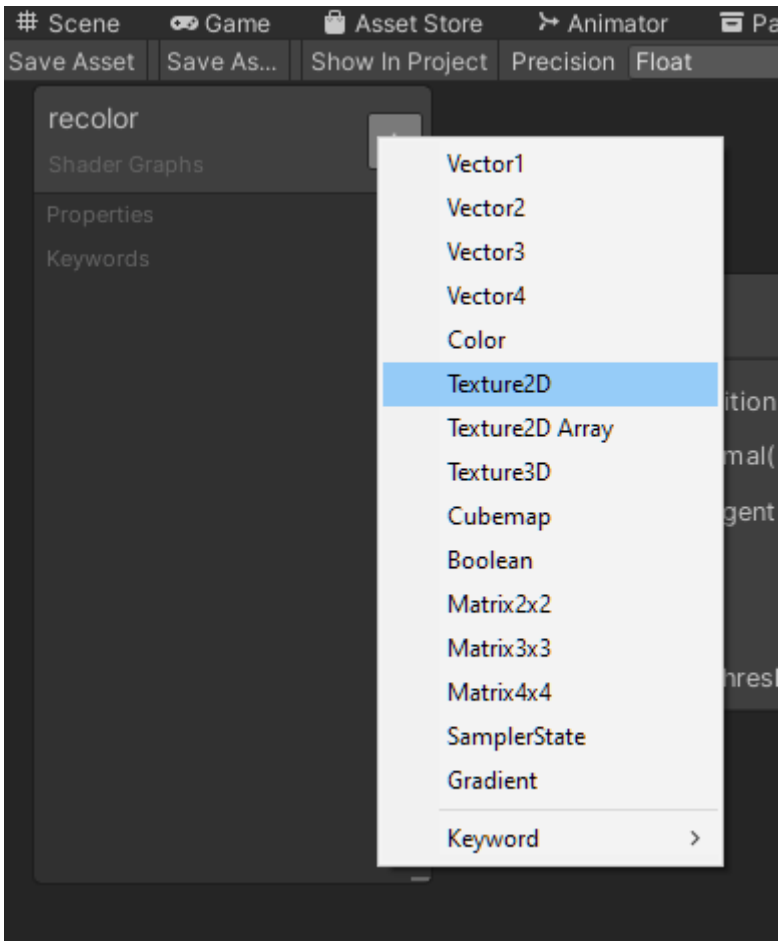
Double click it to go to the shader editor. Use the mouse wheel to navigate in this editor.

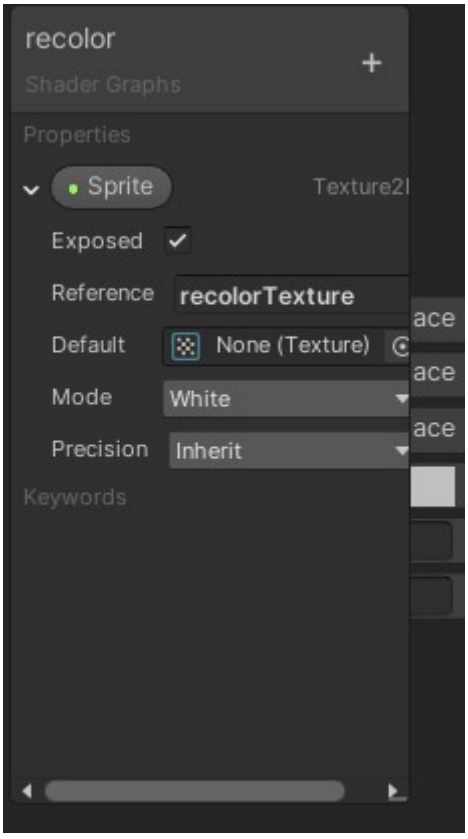


At the top right of the Unlit Master node there's a cog. Click it, click the surface selection and select transparent.

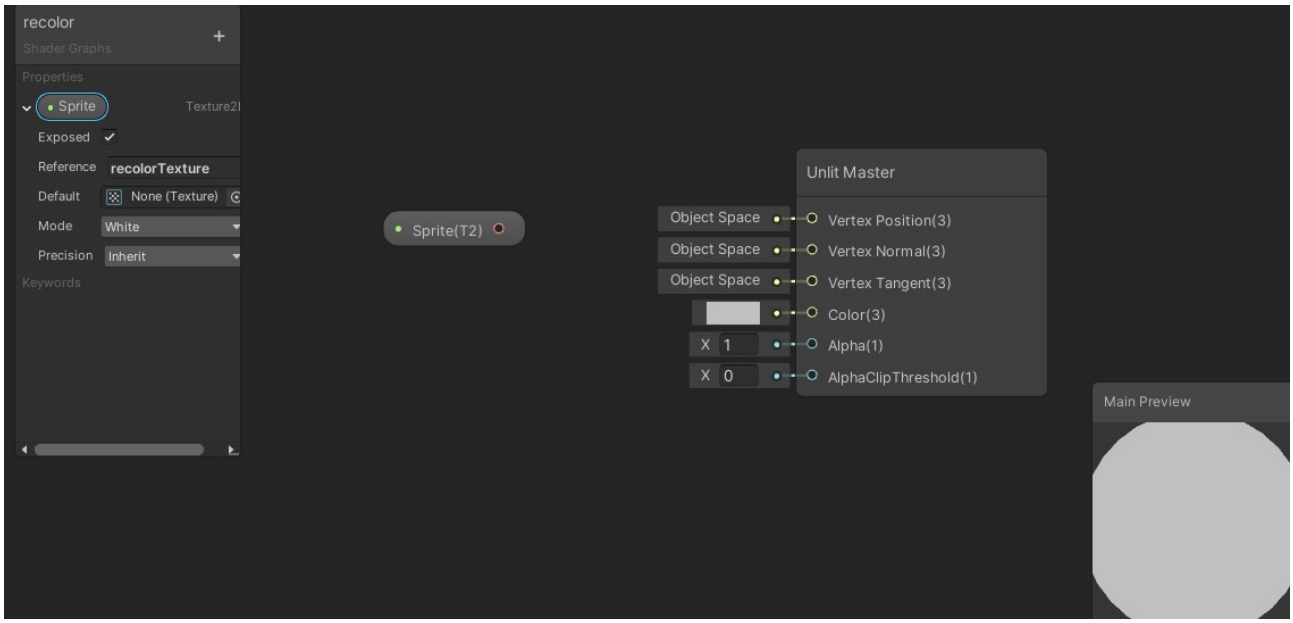


Next we want to make sure we can input any sprite into the shader. Click on the + icon of the floating menu to the left. The menu to the left will contain all fields/ properties that are editable from the unity editor. So all the fields/ properties that you might want to change (like the sprite or the color). Select Texture2D. I really recommend to give the two fields readable names. The first one is the name (I've named it Sprite) you see in the Unity editor. The second name (I've named it recolorTexture) is the name that you can see when accessing the shader from a script.

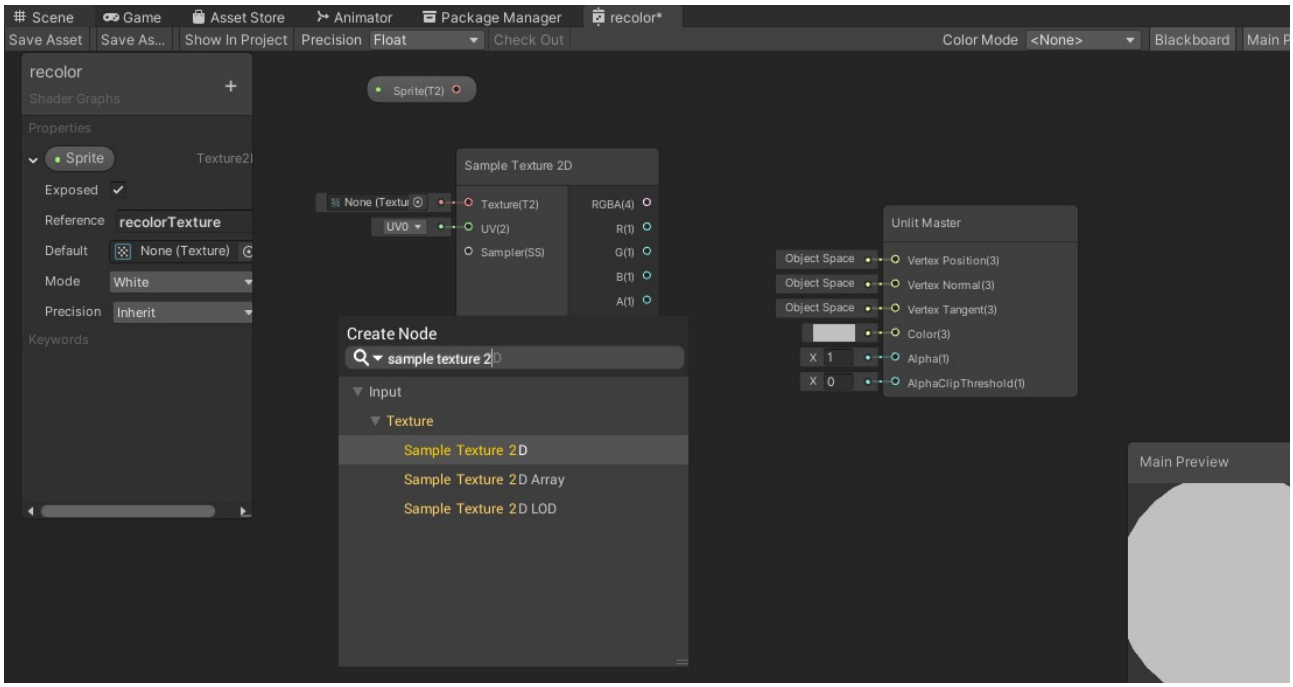

Scene
Game
Asset Store
Animator
Save Asset
Save As...
Show In Project
Precision
Float
recolor
Shader Graphs
Properties
Keywords
Vector1
Vector2
Vector3
Vector4
Color
Texture2D
Texture2D Array
Texture3D
Cubemap
Boolean
Matrix2x2
Matrix3x3
Matrix4x4
SamplerState
Gradient
Keyword


recolor
Shader Graphs
Properties
Sprite
Exposed
Reference
recolorTexture
Default
None (Texture)
Mode
White
Precision
Inherit
Keywords

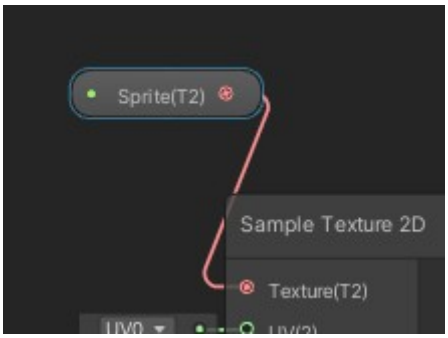
Drag the rounded button that says sprite outside of the menu area and release it. It will now show up as a node in your editor.



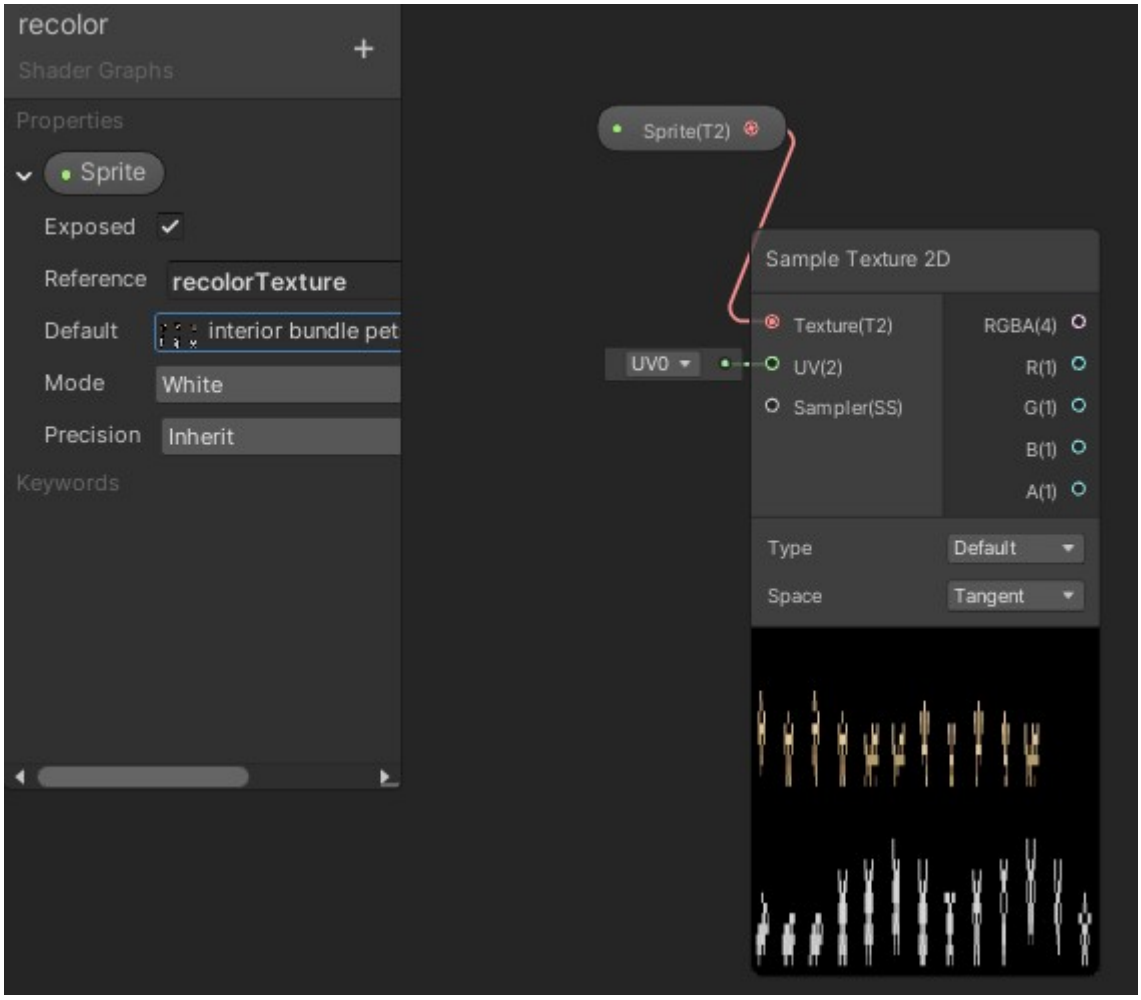
When you hit spacebar you can create any node. Let's create a "Sample Texture 2D" so we can visually see what we are doing. Hit spacebar and type sample texture 2d and click it. A Sample texture 2d node should now show up in our editor.



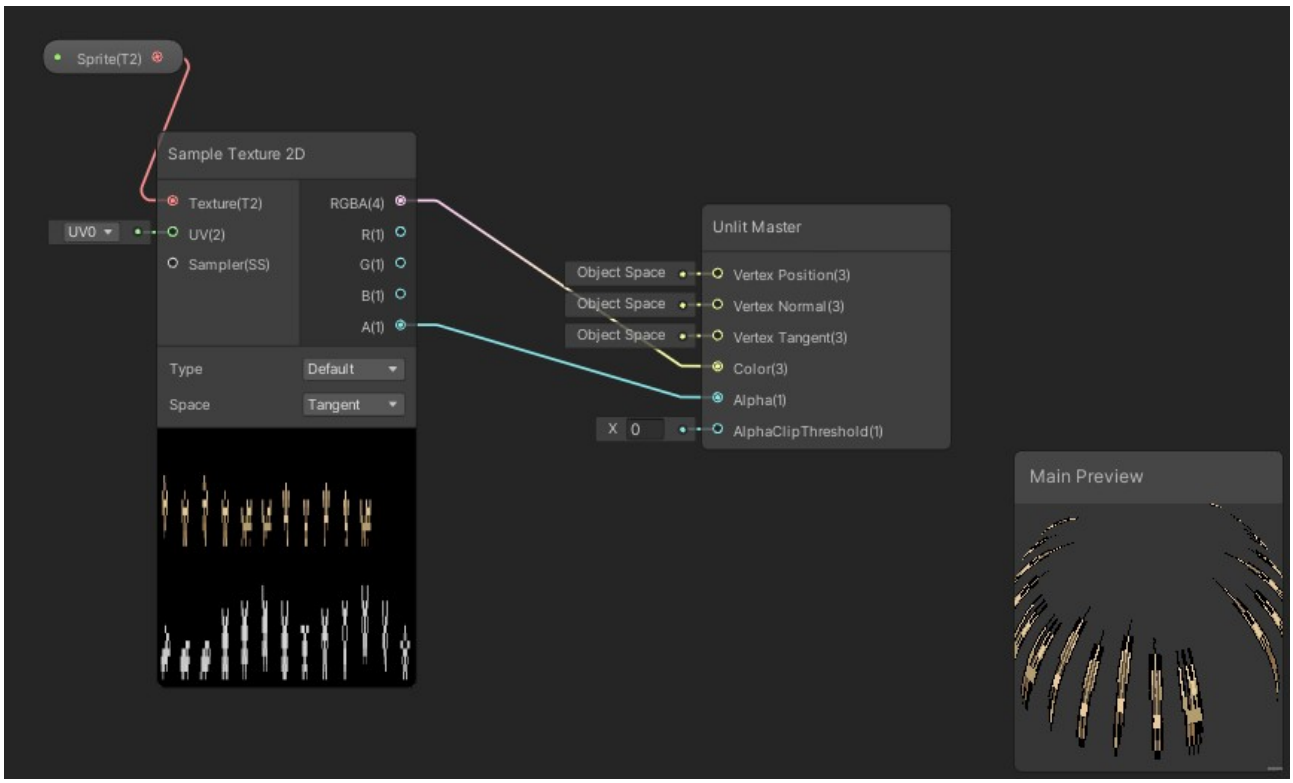
Connect the pink/red dot of the Sprite node to the pink/red dot of the Sample Texture 2D node.



In the left menu lets select a sprite so we can see our changes. For now I will use the pet spritesheet because it’s not too big but you can also choose the entire furniture spritesheet if you want. In the options of the sprite node in the left menu, click default (see blue outline in screenshot), a window will open up and you can select a texture. Once selected the Sample Texture 2d node will display our selected texture.



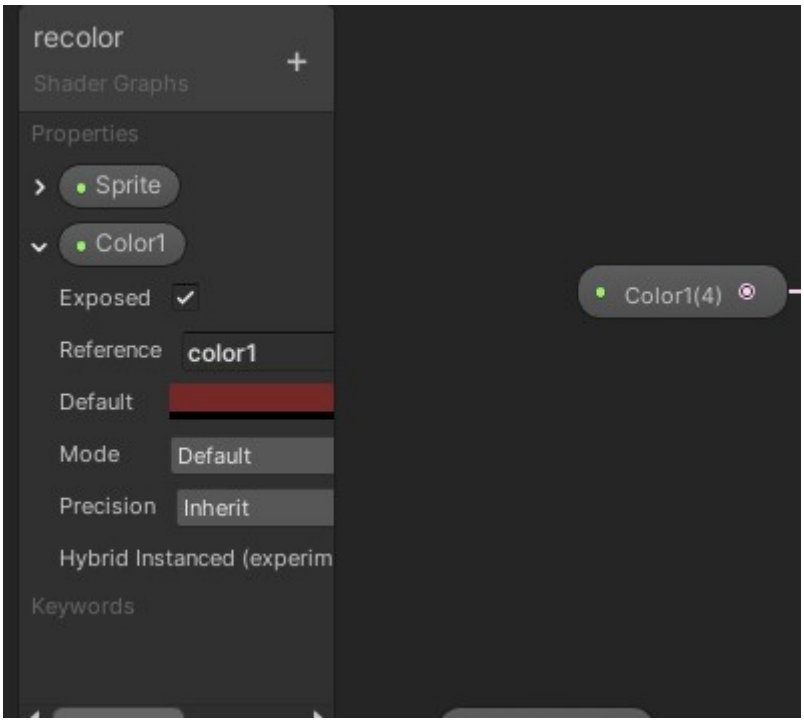
Let’s connect some more nodes. Connect the RGBA dot on the Sample Texture 2d node with the Color dot on the Unlit Master node. Also connect the A dot with the Alpha dot. We now also see the Main Preview changing. Congrats, we have a working shader (that does nothing! :p).



Skip until here VIDEO

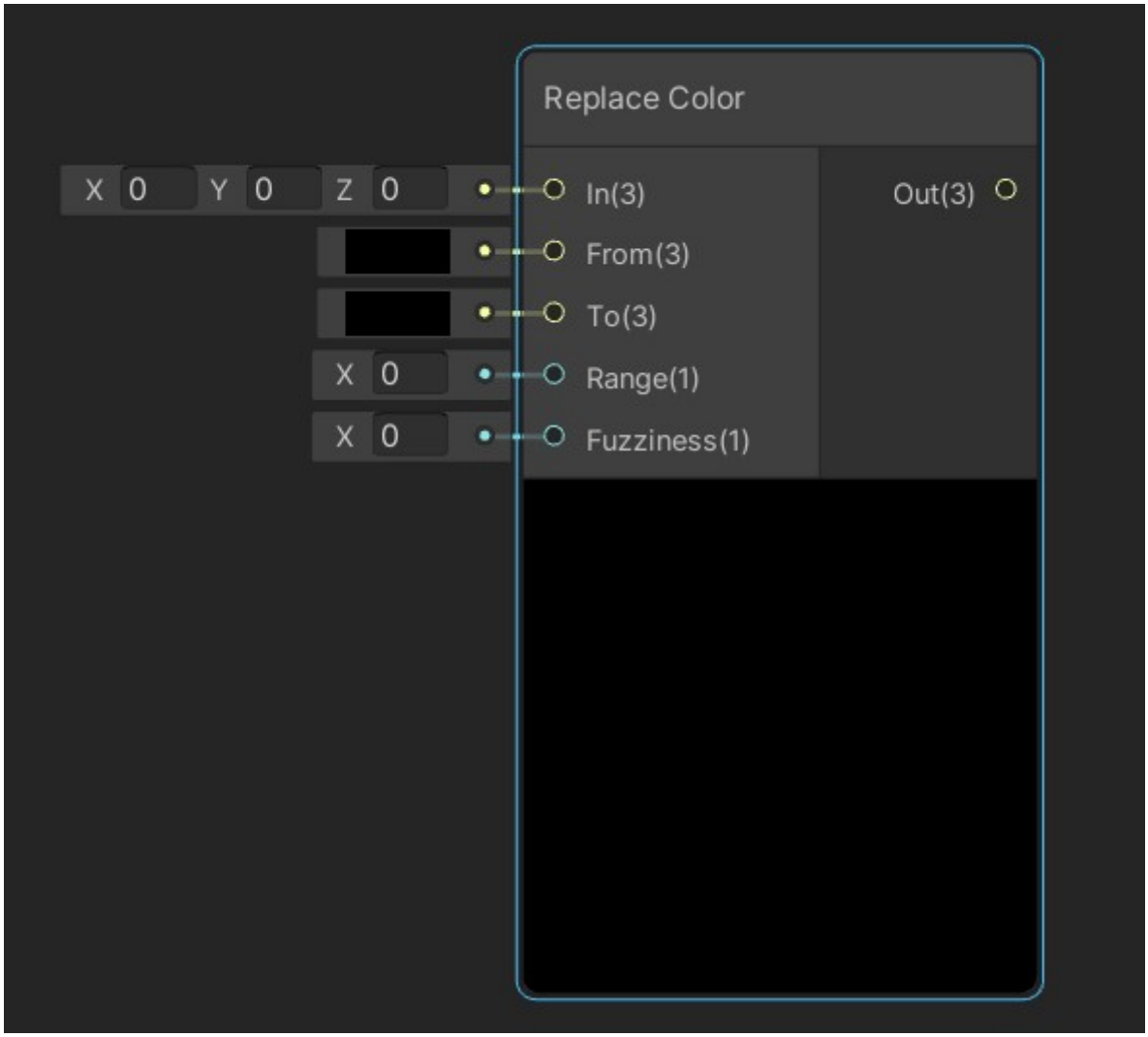
Up until now there were no differences between the video up to 8:39 and this guide. Here I will optimize what the video does. The video chooses a lot of nodes to be finally able to select a color. I think the person didn't know that in shadergraph there is a Replace Color node, or maybe it didn't exist at the time of making the video.

We want to be able to choose what color we change something to. In the left menu create a Color node using the +. Choose any color for now, something that is different from the sprite (so not brown or white). Give it a readable name, I will call it Color1 for now. And then drag the node onto the editor.

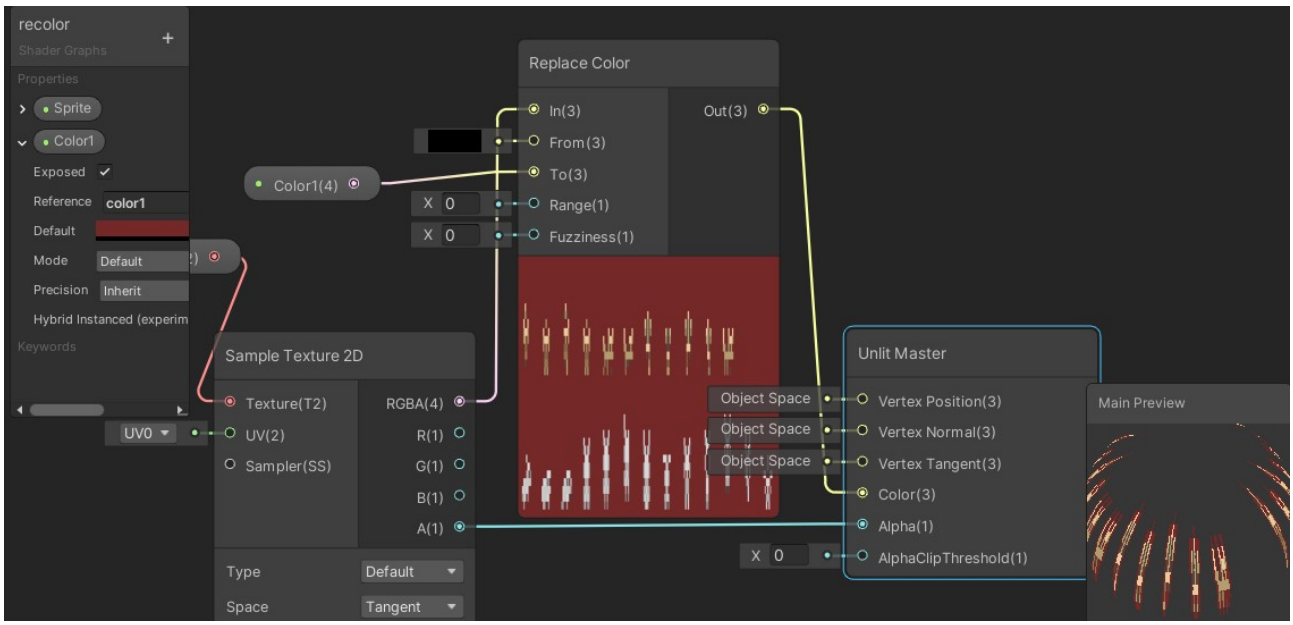


Replace color does exactly what it says. You input the colors, the color you want to change (“from) and the color you want to change into (“to”). There’s also a “range” property. If you’ve ever used a program that has a sort of magical wand/ magical selection tool this should be familiar to you. Range is the threshold for which a certain color will be seen as part of the range. So if you put it to 1 (100%) everything will be seen as the “from” color (the color that we want to change). If you put it to 0.1 a color can only be a little bit different than the “from” color. For example if you want to change a specific color of brown this value should be very low. If you want to change all browns this value should be a little higher.

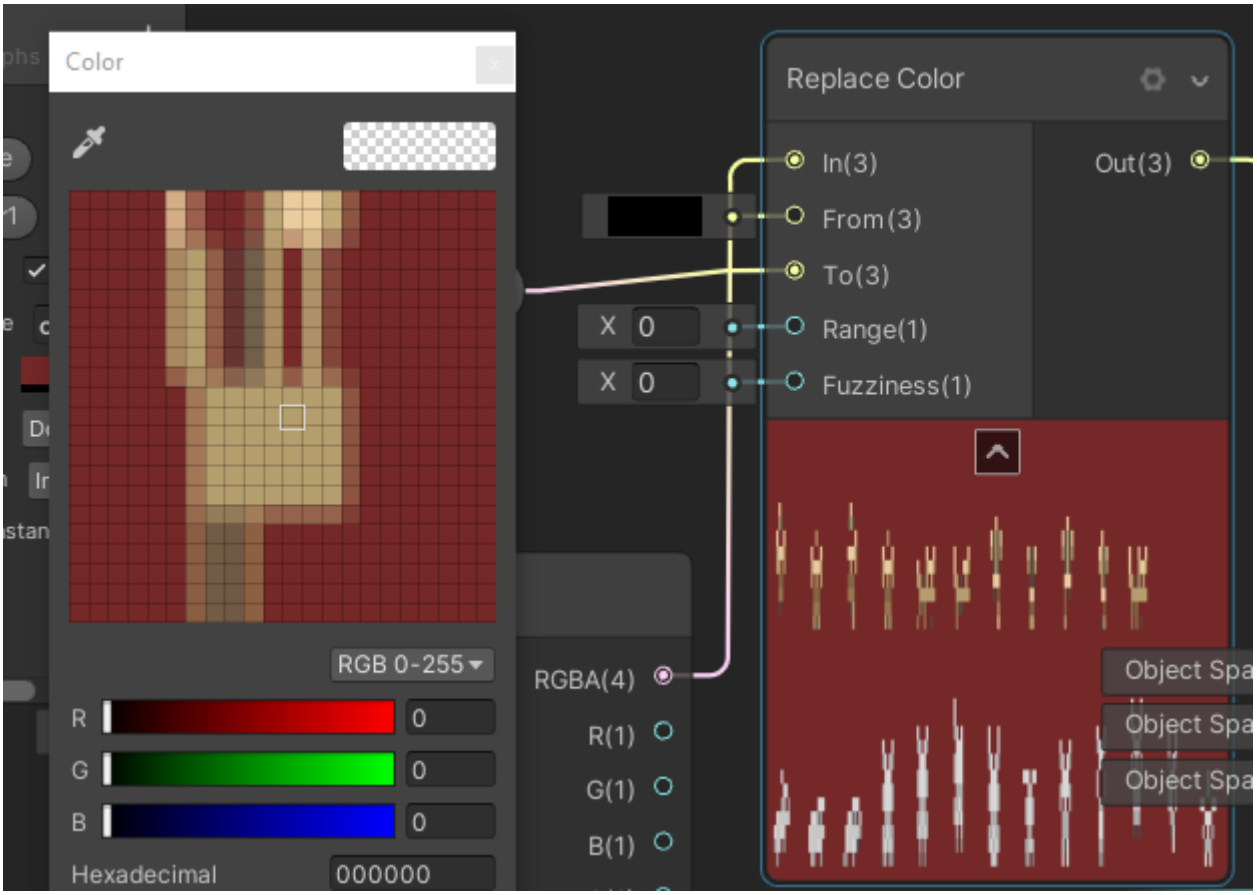
Create a Replace Color node (hit space bar and search).



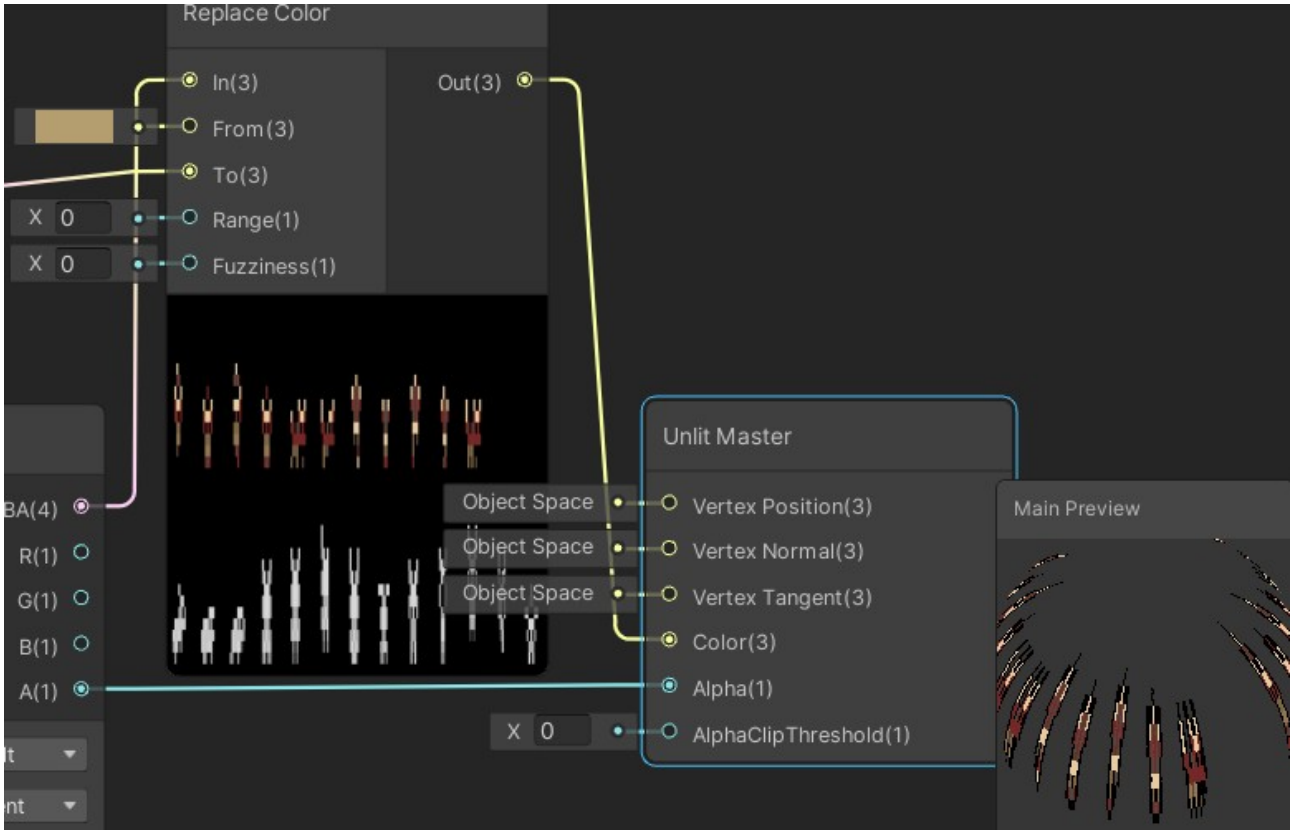
Let’s connect the right nodes. The RGBA from the Sample Texture 2D goes into the In dot of the Replace Color node. Our Color node dot should connect to the To dot of the Replace Color Node. The Out dot of the Replace Color node can now connect to the Color dot of the Unlit Master.



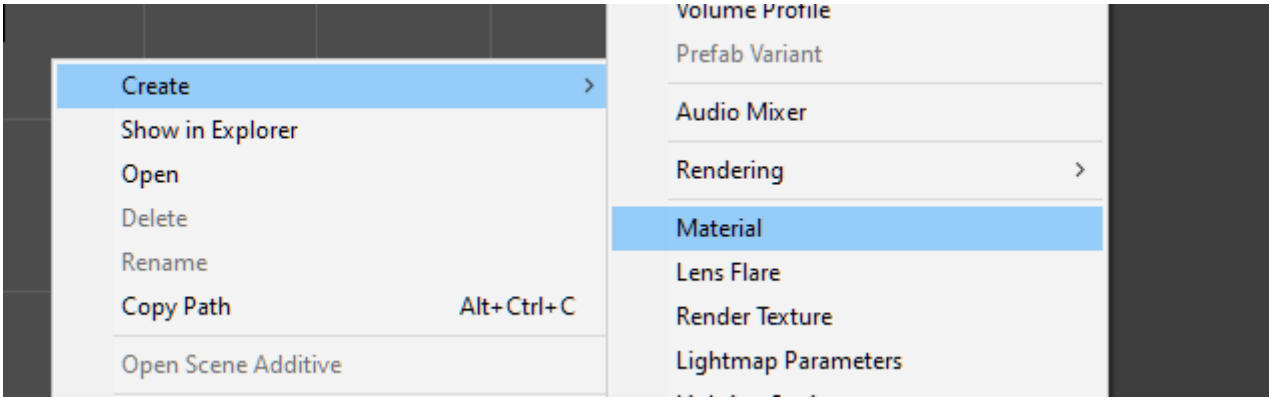
You should now notice that the black background has turned red (I choose red for my color but you can choose any other color). In our preview we see that the pet's outline has changed from black to red. This is because the default "from" color is black. We can select any other color from the pet that we would like to change. Click the "from" color box. Top left there is the color picker tool. Click that and now move your mouse to the pet sprite. You can now click a color within the pet sprite.



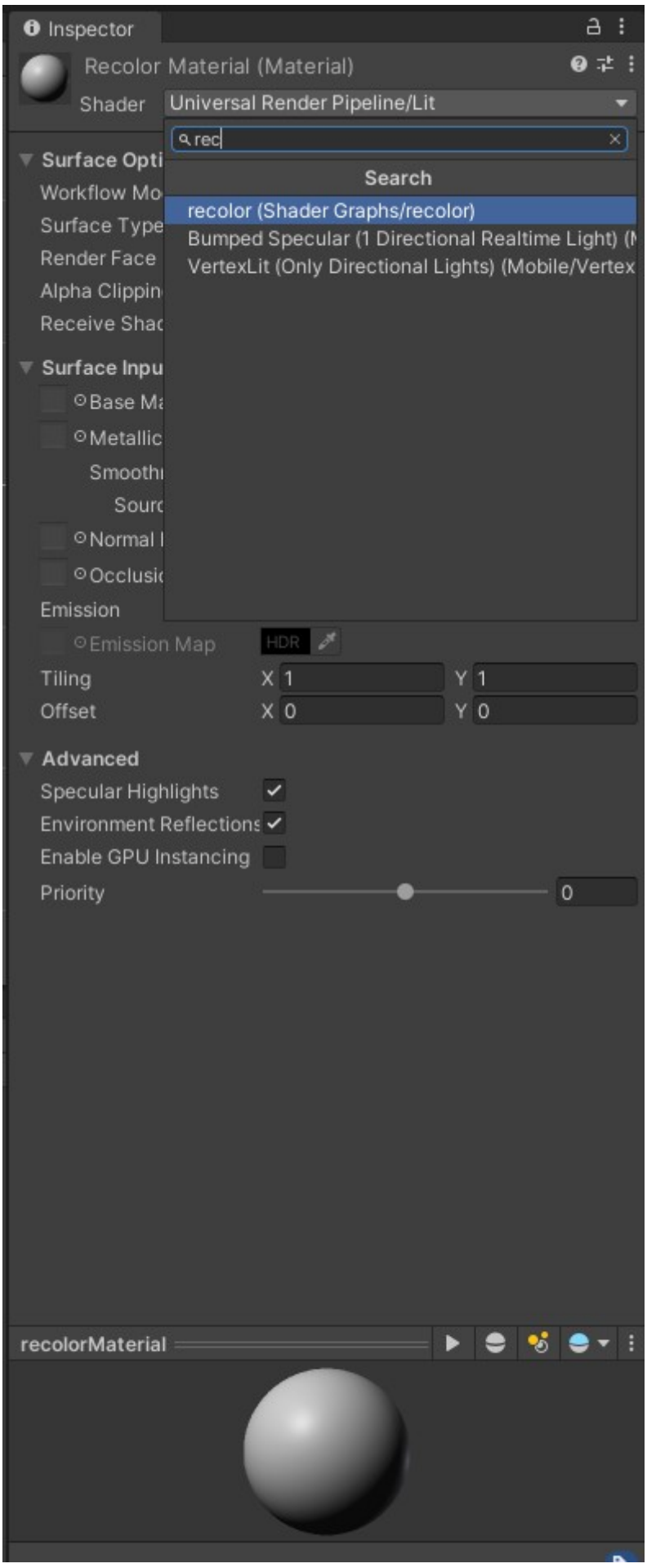
After selecting a color within the pet you should see part of the pet change.



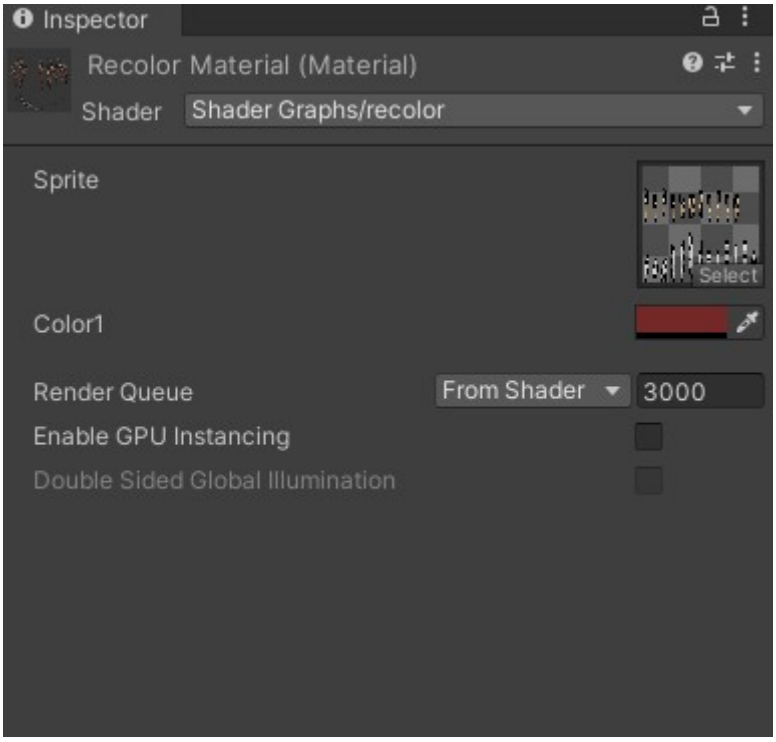
Let’s see if we can view these changes within a Unity scene. Don’t forget to click save asset in the top left of the shader editor. Let’s click back to scene. We will create a material that contains our shader that we will be able to drag upon any sprite. In my scene I already have the pet sprites (animated, doesn’t need to be animated). Within the Assets folder (probably within a shader folder that you might have created) right click and select create > material. I will name it recolorMaterial but you can choose any name.



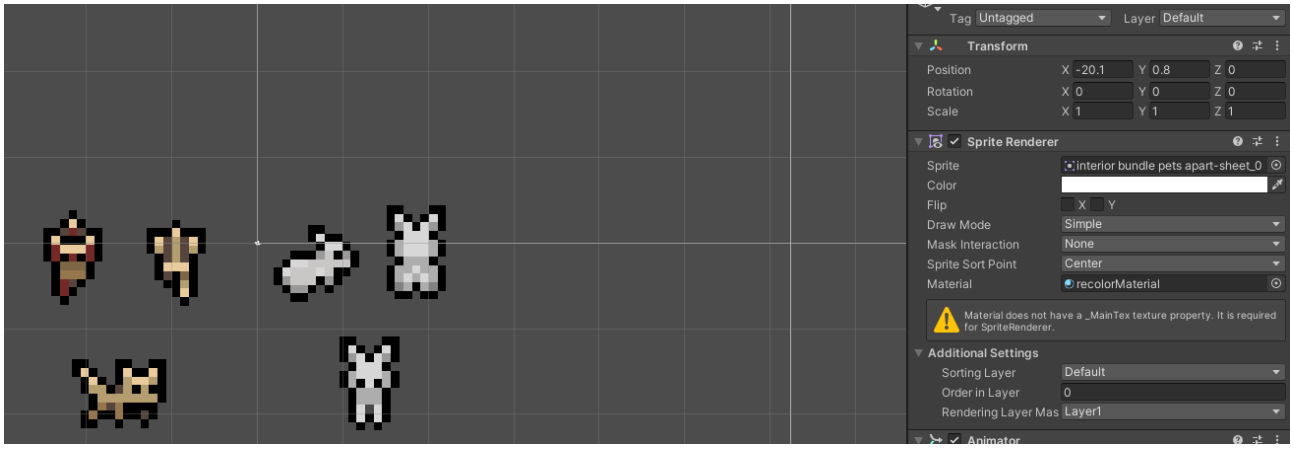
When you click on the material you will see its settings in the Inspector window. Go to the shader dropdown and search and select our shader.


Inspector
Recolor Material (Material)
Shader
Universal Render Pipeline/Lit
rec
Search
recolor (Shader Graphs/recolor)
Bumped Specular (1 Directional Realtime Light) (
VertexLit (Only Directional Lights) (Mobile/Vertex
Surface Opti
Workflow Mo
Surface Type
Render Face
Alpha Clippin
Receive Shac
Surface Inpu
Base Ma
Metallic
Smoothi
Sourc
Normal
Occlusi
Emission
Emission Map
HDR
Tiling
X 1
Y 1
Offset
X 0
Y 0
Advanced
Specular Highlights
Environment Reflections
Enable GPU Instancing
Priority
0
recolorMaterial

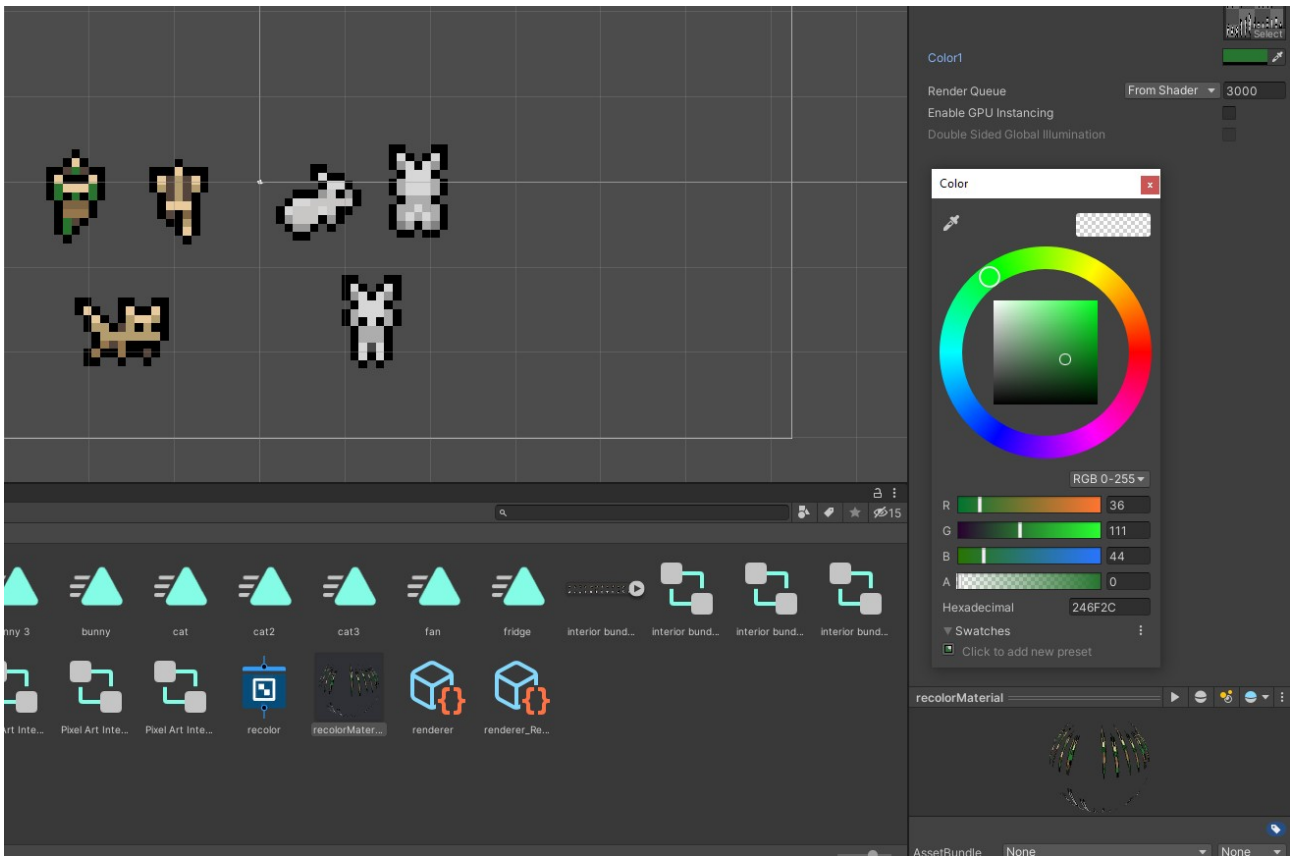
After selecting our shader the inspector window will now look like this.



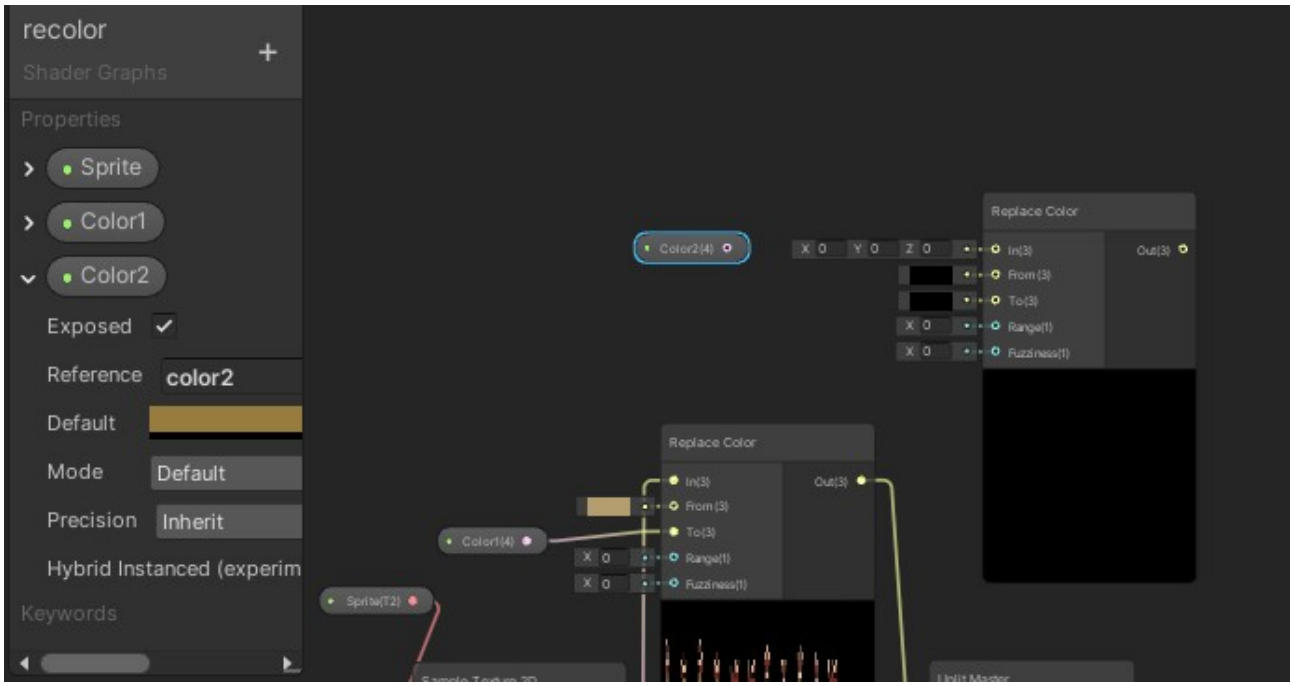
See that the names (Sprite - Color1) that we used are editable properties in the inspector? Let’s click a pet sprite in our scene (drag one from assets to the scene if you haven’t already). In the inspector you will see a Sprite Renderer object. Drag our recolorMaterial onto the Material field of the Sprite Renderer. You will now see that one of my pets has some red patches!



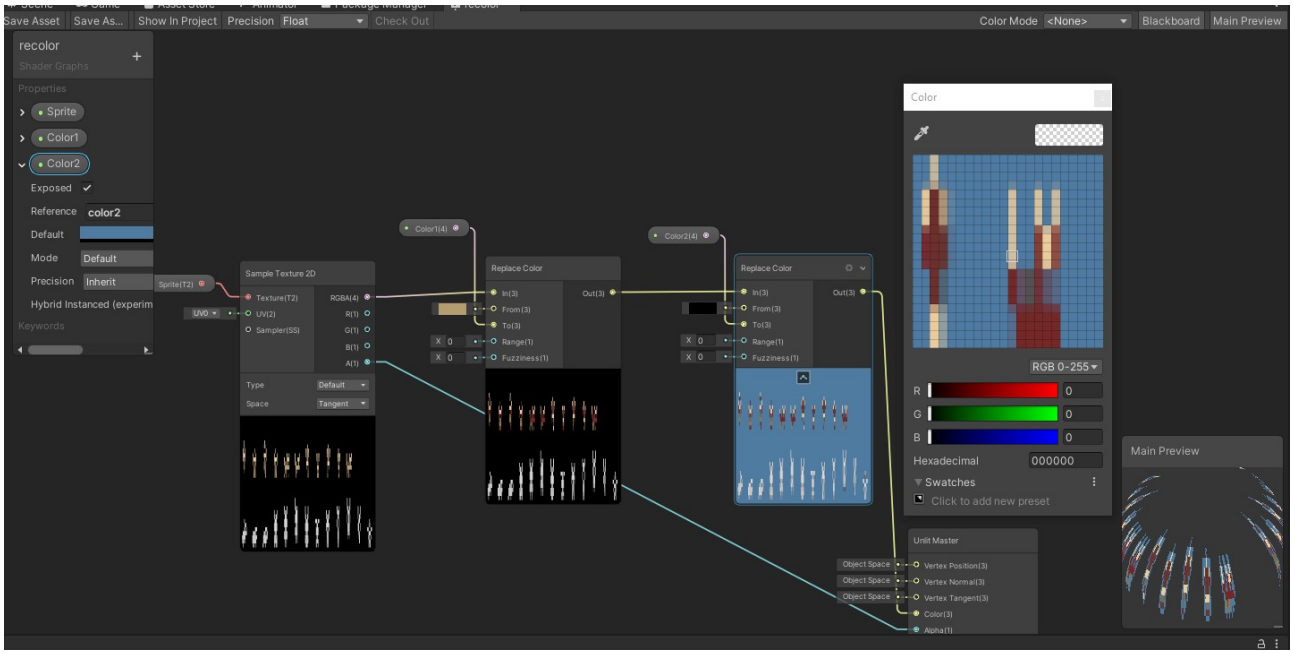
The great thing is that now I can go to the material and change the color!

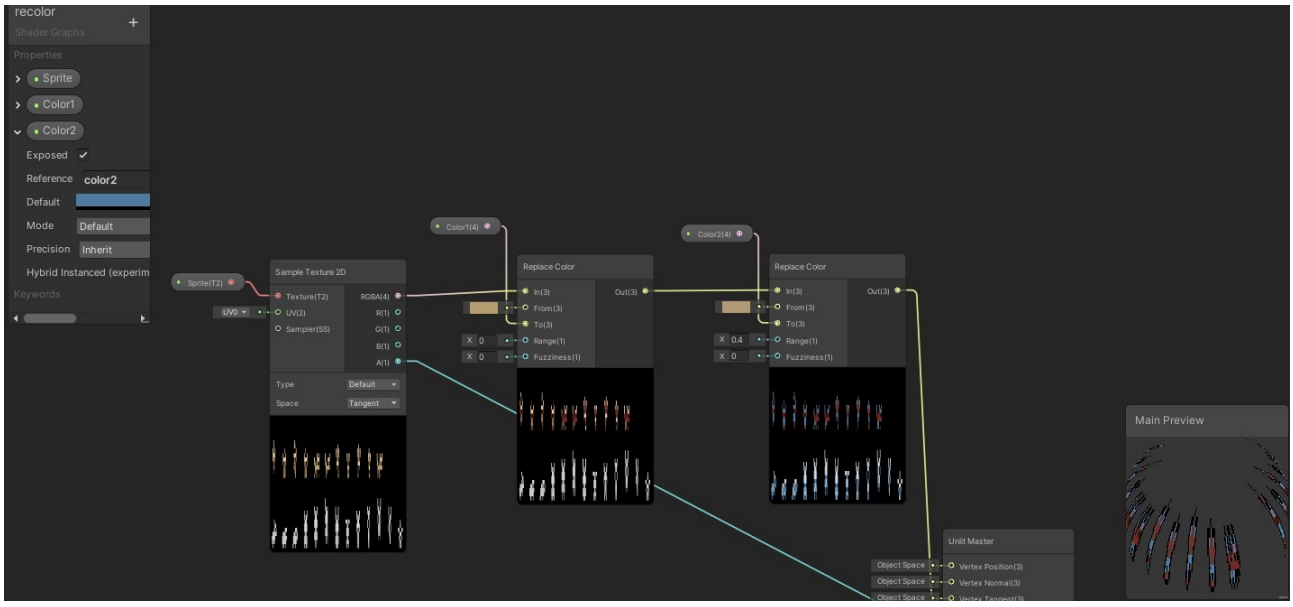


Congrats you have mastered the basics! But of course we don't want to just change one color, we want to change multiple colors. We just need to repeat some steps that we've already done and make sure all changes are connected in the shader. Double click the shader to go back to the shader editor. It will get crowded now so I recommend resizing the windows to the left, right and bottom and zooming out a bit. Create another Color (I recommend giving it a name like Color2) node and create another Replace Color Node.

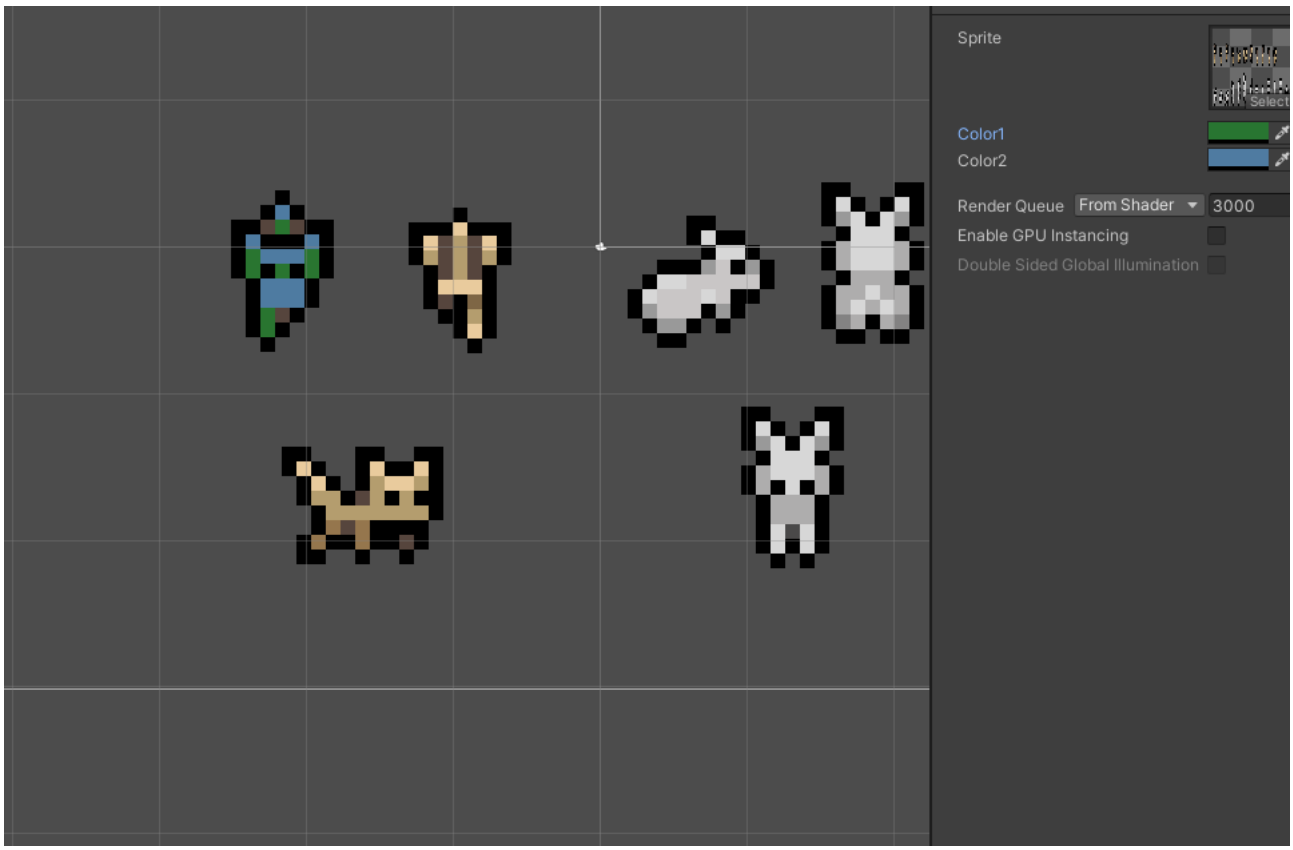


Now connect the Out from the first Replace Color node to the In of the second Replace Color Node. You can now connect the Out from the second Replace Color node to the Color dot of the Unlit Master Node. Connect the Color2 node to the “To” dot of the second Replace Color node. Select any color you like for the Color2. Once again click the “From” color box of the second replace color node and select a part of the pet sprite that we haven’t changed the color of yet. Change the “range” of the second Replace Color node until you see it replacing the color you wanted to replace. I had to change the value to 0.4.

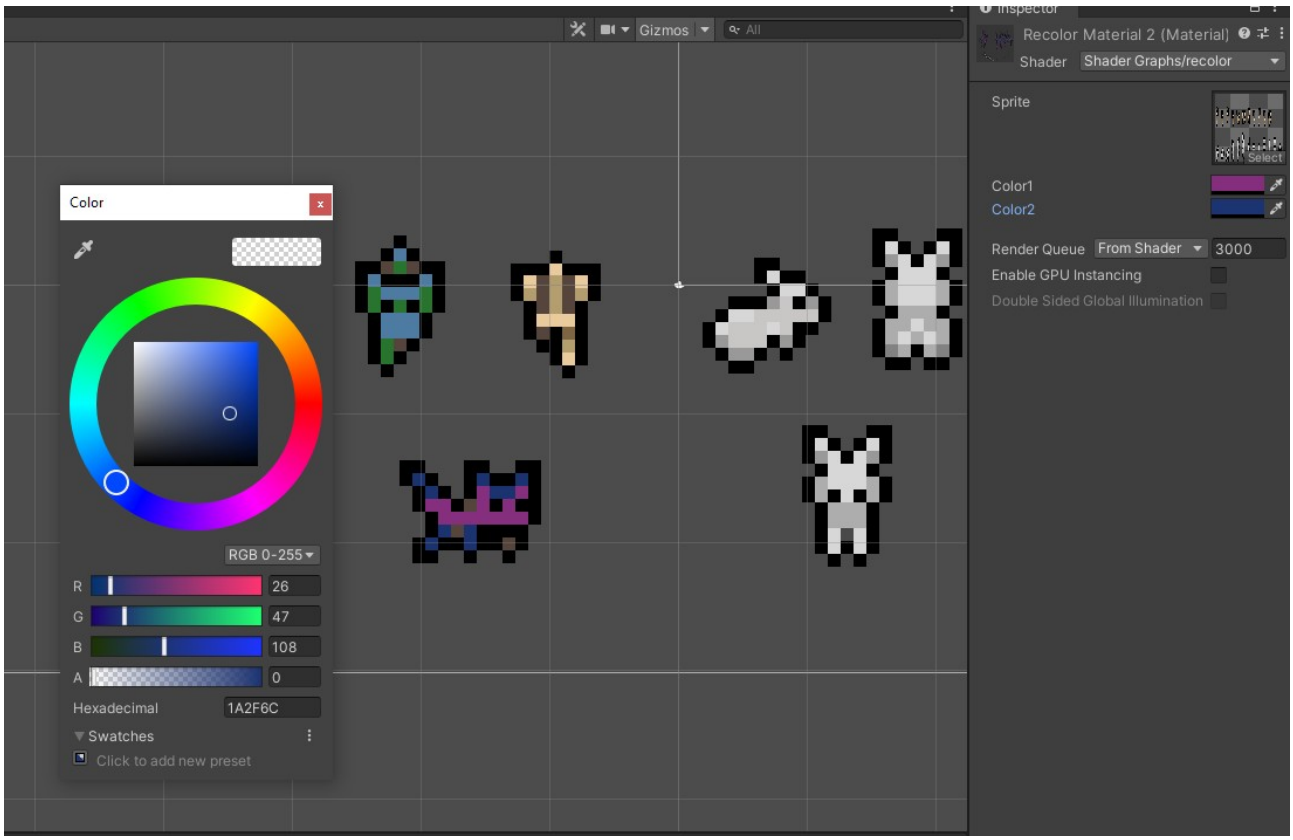




Don’t forget to click Save Asset. If you go back to the scene now you should see 2 parts of colors are being replaced on your sprite.



We can now create another Material that will change the colors of another cat sprite differently. In your assets folder right click and select create > material. I will name it recolorMaterial2. In the inspector go to the shader dropdown and search and select our shader again. Change the colors however you like. Select a different cat sprite and drag the new material onto the material field of the Sprite Renderer.



Congrats, you now know all the steps to recolor sprites in Unity. Have fun!

Notes: It is common when practicing shaders that you forget certain steps. You might forgot to connect a node or to change the range value et cetera. It’s a frustrating aspect of development but you can always repeat this guide when you feel like you’ve forgotten something. I wish you the best of luck with development, thanks for buying my asset pack!