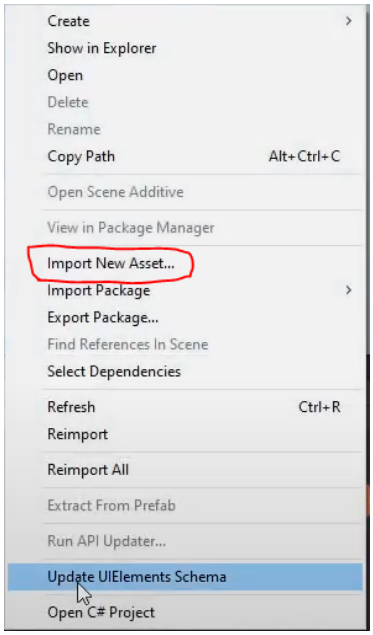
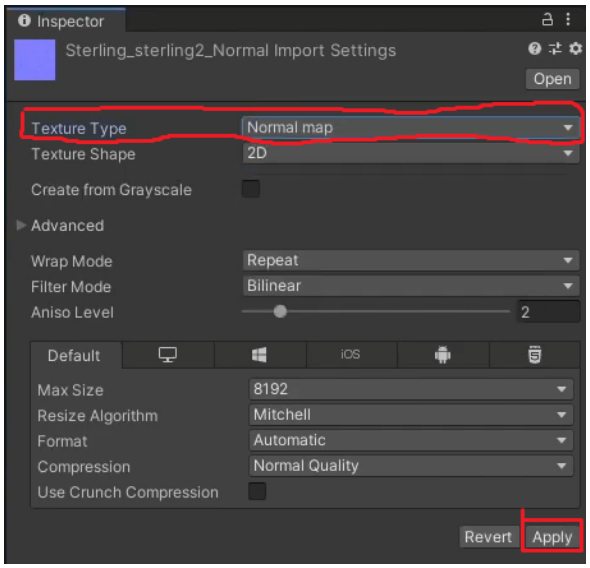
This Document serves as a guide to help you import assets into Unity and make them run efficiently in game

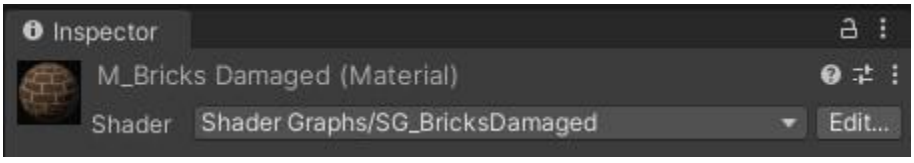
- 1: Prefixes and Suffixes for Assets
    - This information is also on the second sheet with extra explanation. Assets will have different prefixes and suffixes depending on the type of asset. This will help us stay organized as our asset list will grow exponentially as time goes on.
        - **Rigidbody (3D Model)**: RB_[asset]
        - **Material**: M_[asset]
        - **Sader Graph**: SG_[asset]
        - **Texture Map**: T_[asset]
        - **Albedo Map**: T_[asset]_A
        - **Normal Map**: T_[asset]_N
        - **OSM Map**: T_[asset]_OSM
- 2: Importing an Asset:
    - When importing an asset, Right Click in the **Project Window** and go to **Import New Asset**. Both the Models and Textures work in the same way. You can also click and drag the files into the Project Window from a folder.



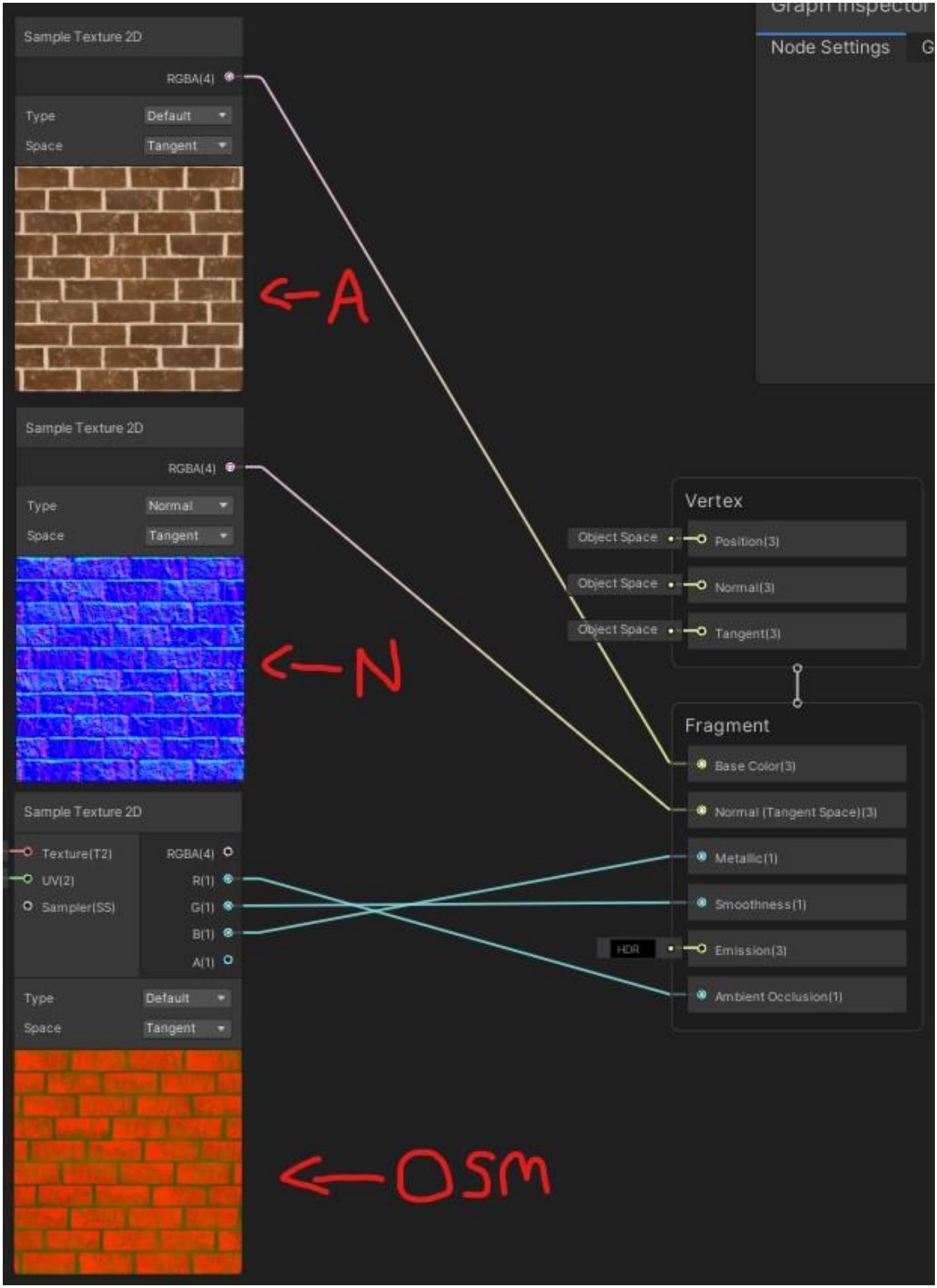
- 3: Setting up Normal Maps
    - Normal Maps need to be adjusted in order to work properly. Go through the Normal Maps in the Project and change the **Texture Type** to **Normal Map**, then hit **Apply**.



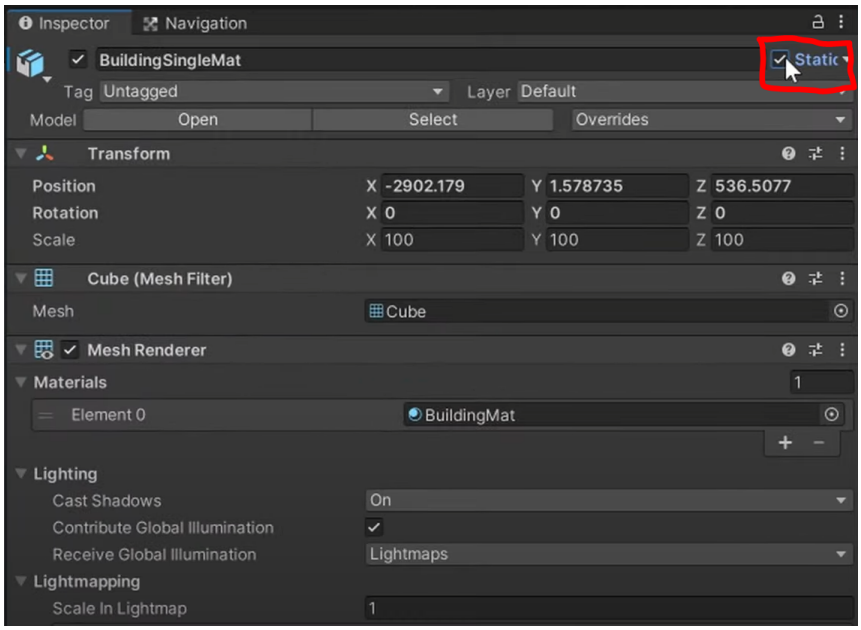
- 4: Setting up a Material
  - Texture Maps now have **Channel Packing** which combines 3 texture maps into one using individual RGB channels
  - Each Material will have an Albedo Map, a Normal Map, and a OSM Map, which combines Occlusion, Smoothness, and Metallic
  - The Occlusion is in the Red Channel, The Smoothness is in the Green Channel, and the Metallic is in the Blue Channel
  - In order to properly set up these maps, a Shader Graph needs to be made
  - Creating a separate folder for Shader Graphs will help organization
  - Creating a new Shader Graph goes as follows:
    - **Create > Shader > Universal Render Pipeline > Lit Shader Graph**
  - Prefix with “SG_” Ex. SG_Chair_01
  - Drag the three texture maps into the Shader Graph
  - **See the next page for how to connect the Nodes**
  - Save and Close the Tab
  - Lastly, create a Material with Prefix “M_” Ex. M_Chair_01
  - Assign the appropriate Shader Graph to the Material
  - Click on the Material, then click on the box next to where it says Shader then type in the name of the Shader Graph, then click it once.



  - I apologize, this is a lot more involved than what we were previously doing, however it will greatly benefit us when it comes to improving Texture Draw time and the overall file size of the game.


Graph Inspector
Node Settings
Sample Texture 2D
RGBA(4)
Type
Default
Space
Tangent
A
Sample Texture 2D
RGBA(4)
Type
Normal
Space
Tangent
N
Sample Texture 2D
Texture(T2)
UV(2)
Sampler(SS)
RGBA(4)
R(1)
G(1)
B(1)
A(1)
Type
Default
Space
Tangent
OSM
Vertex
Object Space
Position(3)
Object Space
Normal(3)
Object Space
Tangent(3)
Fragment
Base Color(3)
Normal (Tangent Space)(3)
Metallic(1)
Smoothness(1)
HDR
Emission(3)
Ambient Occlusion(1)

- 5: [Batching 3D Models for Increased Performance]
    - Batching models which use the same Material will help increase performance. In order to do this, click on a model in the scene and check the **Static Box** at the top right corner of the **Inspector**. **MOST if not ALL of the models should have the Static Box checked**, *unless* they have physics applied to them and need to be moving.



- 6: [Baking Lightmaps]
    - Lightmaps help create convincing shadows, every model will have a custom Lightmap which can be found in the second UV channel, ***so do not let Unity auto generate them***. It may give you an error due to Overlapping UVs but this is entirely expected, lots of models will have overlapping UVs to save texture space. If it looks too terrible Mitch can redo the model. Contribute Global Illumination should only be applied to objects that are static and aren't moving. Check the box shown below.