

Material Options:

- **Blend Type:** How the Material blends in the scene:
 - Solid: Opaque blending for normal solid objects with no transparent areas
 - Cutout: Used for objects that have fully opaque and fully transparent sections. (ie chain fence)
 - Transparent: Changes transparency of the material. (for objects like glass)
 - Fade: Changes transparency of the material along with specular and reflections
 - Additive: Add source and destination together
 - Additive Soft: The additive value multiplied by. (1 - destination color)
 - Multiply: Multiplies the source with the Destination
- **Render Queue:** The order in which the material is drawn. Lower numbers drawn first:
 - From Shader: Chooses render queue from the render queue tag of the shader
 - Geometry: This is used for most objects. Opaque geometry uses this queue
 - Alpha Test: It's a separate queue from the Geometry one since it's more efficient to render alpha-tested objects after all solid ones are drawn
 - Transparent: This render queue is rendered after Geometry and AlphaTest, in back-to-front order. Anything alpha-blended. (i.e. shaders that don't write to depth buffer) should go here (glass, particle effects)
- **Cull Mode:** Side of mesh face that is rendered:
 - Off: Renders both sides
 - Front: Renders the back side
 - Back: Renders the front side
- **Vertex Color:**
 - Off
 - Color: Vertex color effects texture
 - Movement: Allows mesh to have sway in the wind
 - Terrain Control: Allows you to control splat maps in terrain using vertex color
- **Color:** Front tint color affecting all layers
- **Color Back Face:** (cull mode off) Back tint color affecting all layers
- **Color Amplify:** Sets value to brighten colors past 1.0
- **UV Mapping:**
 - Mesh UV
 - Axis X
 - Axis Y
 - Axis Z
- **UV Control:**
 - Automated: UV values automatically animate over time
 - **Scroll UV:** Global Scroll Speed
 - Manual: Directly set UV values or control values from script
 - **Scroll UV:** Global Scroll value
- **GPU Instancing:** Used to "draw multiple copies of the same Mesh at once, using a small number of draw calls." See [Unity Docs](#)
- **Fog:** Turns on fog mode on
- **Terrain:** Turns on the terrain

Mesh Terrain Control:

- **Texture:** A texture that is used to figure out which splat texture to show
- **Tiling:** Set how much the texture repeats within its set scale
- **Offset:** Set displacement of texture from its original position

Unity Terrain:

- **How to:**
 - Create a Unity Terrain gameobject under GameObject>3D Object>Terrain
 - On the terrain gameobject, set up to 4 texture layers
 - In the Terrain gameobject, under Terrain Settings (the Cog Wheel) click on the drop down menu for Material, and select "Custom"
 - Create a new material, using ShaderOne
 - Select that material as the Custom Material in your terrain
 - On the material, toggle the Unity Terrain option

Lighting Options:

- **Lighting Mode:**
 - Unlit: Unlit Shader
 - Normal: Default lighting
 - Distance: Doesn't take account of surface normal. (ex to light particles)
- **Specular:** The spots of light created from reflected light on an object
- **Light Probes:** Used to get baked information about lighting in the scene
- **Reflection:** Turns on reflection
- **Sphere Map:** Uses a sphere map

Surface Options & Specular Map (A):

- **Surface Map (RGBA):** Decide options for each channel on the surface map
(Appears when surface channel is set to default in generator)
 - **Empty:** Does nothing
 - **Metallic:** Control the reflectivity of the texture. Higher value reflects the environment more and its albedo colour becomes less visible
 - **Smoothness:** Sets how light is diffused on the texture. The more smooth, the more clear the reflections
 - **Roughness:** Inverse of smoothness
 - **Ambient Occlusion:** Darkens creases, holes and surfaces that are close to each other. These areas occlude (block out) ambient light, so they appear darker
 - **Unlit Mask:** Can make parts fullbright
 - **Parallax Height:** Enhances the depth appearance of normal map
 - **Progress Gradient:** Set gradient path of the dissolve effect

Layer Options:

- **Main Tex:** Bottom Layer
- **Layer Blend Mode:** How the layers blends with the other layers
 - Transparent: Changes transparency of the material. (for objects like glass)
 - Additive: Add source and destination together
 - Multiply: Multiplies the source with the Destination
 - Subtractive: subtracts source and destination together
- **Alpha Map:** Uses alpha channel of the layer for various options (ex smoothness, metallic, ambient occlusion)
- **Normal Map:** A special kind of texture that allow you to add surface detail to a model which catch the light as if they are represented by real geometry. (Bump Map)
 - Strength: Defines strength of Normal Map. (0 being off)
- **Surface Map:** Put your surface map on the layer using your custom settings
- **Specular Map:** For Specular workflow only. defines which areas of the object are more reflective than others
- **Specular Color:** Color of the specular on this layer
- **Metallic:** Control the reflectivity of the texture. Higher value reflects the environment more and its albedo colour becomes less visible
- **Smoothness/Roughness:** Sets how light is diffused on the texture. The more smooth, the more clear the reflections
- **Fresnel:** Fresnel strength on the edges of the object. (0 is off)
- **Flow Map:** Texture used to make fluid effects. (R: Horizontal, G: Vertical)
 - Speed: Overall speed of the flow map
- **Tiling:** Set how much the texture repeats within its set scale
- **Offset:** Set displacement of texture from its original position
- **Scroll:** Set the scroll speed of the texture or absolute position
- **Rotation:** Set the rotation speed of the texture or absolute rotation
- **Rotation Center:** Set the axis the texture rotates from
- **Distortion Strength:** Sets the strength of the distortion effect on the specified layer
- **Animation Type:** Set the animation of the layer
 - Cell Animation: Animation using sprite sheets
 - Cells Across/Down: How many cells there are horizontally/vertically on the sprite sheet
 - Start Cell: The starting cell for the animation
 - End Cell: The end cell for the animation
 - Animation FPS: Frames per Second for animation
 - Cell Animation Blend: Smoothly blends each frame into the next one
 - Progress Animation: Used for progress and dissolve effects
 - Edge Color: Color around the edge of the dissolve effect
 - Amplify Color: Amplifies the edge color
 - Edge Size: Adjust the size of the edges
 - Progress: Set progress amount. Set in script using `_LayerXProgress` where X is layer number
 - Random UV animation: Random displacement of texture. (ie static)
 - Random FPS: Set the Frames Per Second on the animation

Distortion:

- **Strength:** Set strength of the distortion waves
- **Count:** Set the number of distortion waves
- **Speed:** Set speed of the distortion effect
- **Wave Shape:** Set waves from sine waves to square waves

Emission:

- **Emission Map:** A texture that details the color and brightness of the object wherever you want the emission effect
- **Emission Color:** The color of light emitted from object
- **Global Illumination:** How the light emitted from the object affects other objects in the scene:
 - None: The emitted light has no effects on the scene
 - Realtime: The emitted light will effect lighting of nearby objects, including moving objects
 - Baked: The emissive light from this material will be baked into the static lightmaps for the scene, so other nearby static objects will appear to be lit by this material, but dynamic objects will not be affected
- **Emission Affect Object:** Lets emitted light affect static objects.

Chromatic Aberration:

- **Strength:** Sets the strength of the Chromatic Aberration.
- **Distance:** Sets the offset of the color channels
- **Mode:**
 - Circular: Realistic
 - Constant: Absolute positions

Saturation:

- **Strength:** Strength of saturation.

Scanlines:

- **Strength:** Sets the visibility of the scanlines.
- **Scroll:** Set the scroll speed
- **Line Count:** Set how many scan lines there are
- **Width:** Set the size of the scanlines

Rim Lighting:

- **Blend Mode:** How the effect blends with the object
 - Additive: Add source and destination together
 - Subtractive: subtracts source and destination together
- **Color:** Color of the Rim Lighting effect
- **Width:** Amount of rim lighting from the edge to the center

Intersect:

- **Color:** Color at intersection
- **Threshold:** Strength of the effect