



3D Game Design

Today's Agenda



We're going to be going over Chapter 11: PreFab, Chapter 9: Collisions, Chapter 4: Terrain and Environments

- Learn about PreFab; what they are and how they are beneficial to us
- Use the Unity Asset Store to get premade assets and how to use them
- Create Game Object with 3D Collision and Physics
- Learn about Terrain and Environment Systems and how we can make game worlds quickly.
- Create and Share Your 3D levels

What is a Prefabs

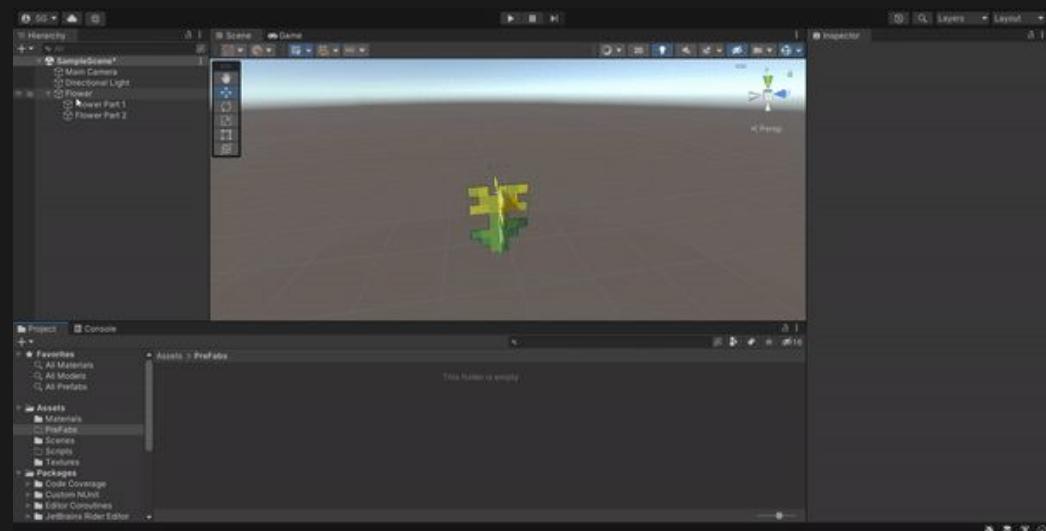
A Prefab is a complex asset that has been bundled and can be reacted with little extra work. It also gives us the power of Inheritance.

Inheritance is when all of the Game Object are linked to the Prefab, giving us the power to edit the PreFab and passing on those changes to all of its children Game Objects.

For example, let's take the Flower we had in previous Lesson. Let's say we wanted to make a lot of them and after we made all of them we wanted to change their size, without a Prefab you'd have to go to individual game object and edit those characteristics.

Creating A Prefab

Creating is as simple as
dragging a Game Object
from the Hierarchy View
into the Project View.



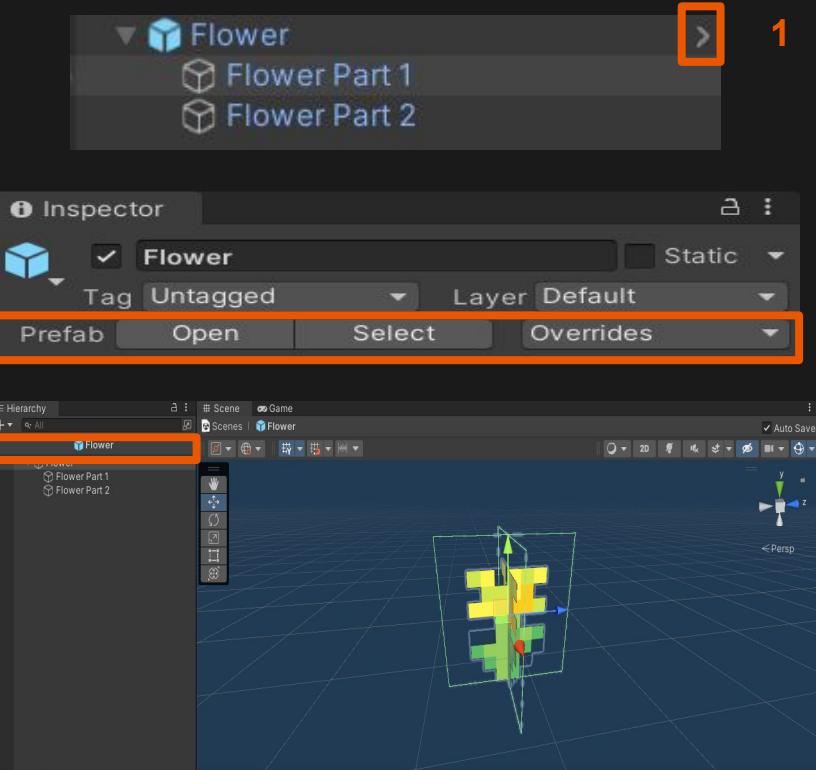
Visual Difference of Prefabs in Views

Once you've turned a Game Object into a **Prefab** few things will change/became available to you.

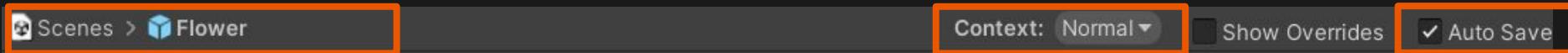
First, the Game Object and all it's copies will appear with **Blue Text** in the Hierarchy view to indicate that it is an **Instance** of a Prefab.

Along side of that the Inspector View Header will gain another row giving you [2] **Prefab** options, [1] The Arrow in Hierarchy View and the Open Button will send you to the **Prefab Mode** where only the Prefab and all of its children will be for you to edit directly.

You can exit the Prefab mode by clicking the back [3] Tab in the **Hierarchy View**.



Prefab Mode



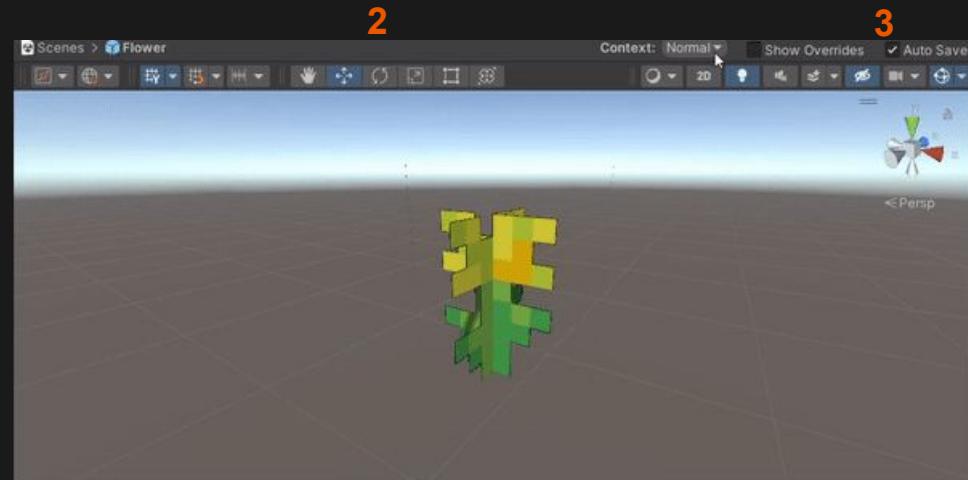
Scene View will receive a new row of options as well. [1] Showing you the Breadcrumb Trail of how you entered the Prefab Mode.
[You can nest Prefabs in prefabs]

Next you can change the way the background of the Scene View looks with [2] Context DropDown

And lastly you can [3] Auto Save, if you check it, it will save and copy all of your edits on the Prefab asset. You can also uncheck it and a manual Save button will appear next to it but I recommend keeping the Auto Save on.

Additional Resources: [Prefab Mode](#)

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You can get into PreFab mode in two ways, Context which is still in the Scene or Isolated where it's just the Prefab.. Just right click on the Game Object in the Hierarchy View and select Prefab for more options.

Prefab	>	Open Asset in Context Open Asset in Isolation Select Asset Select Root Unpack Unpack Completely
Create Empty	>	
Create Empty Parent	>	
3D Object	>	
Effects	>	
Light	>	

Challenge: Create a Prefab



Create a Cube or any other 3D game object.

Create Material and give it a Color that's not White.

Connect the Material to the Game Object you made.

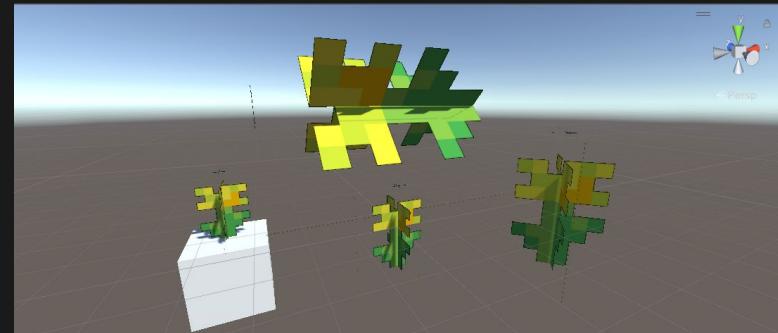
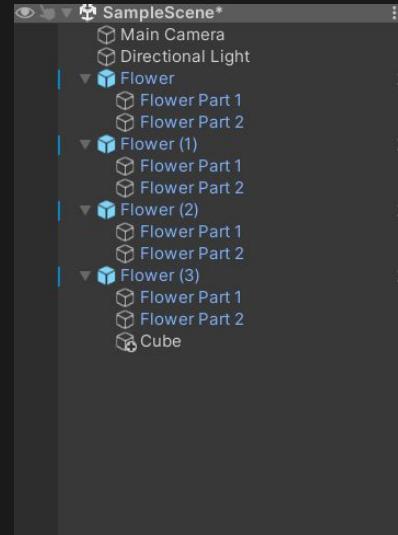
Drag the Game Object from Hierarchy View to Project View.



Modifying Prefabs in Scene

While in the regular Scene View you can modify the Prefabs and all of its components as long as it does not affect the structure of the Prefab. Meaning you can change the Components settings like Position, Rotation, Scale, if the Collision is on or off, you can even add additional components or meshes to the Game Object.

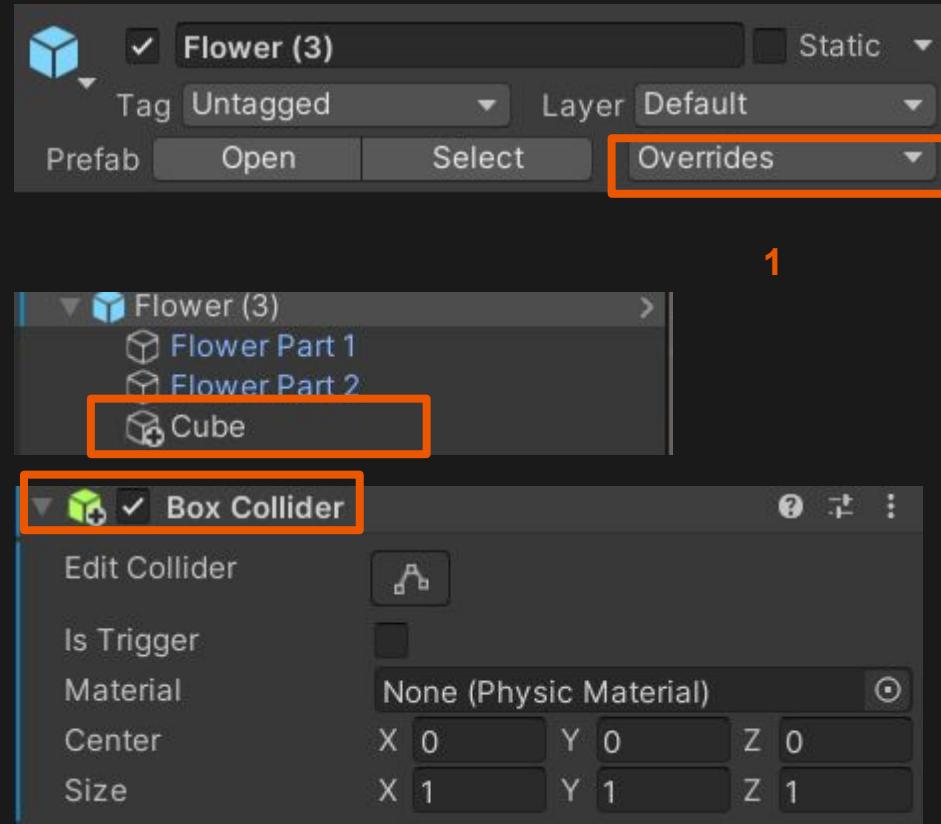
The only thing you can't do is Remove the Game Objects or Components that are already attached to the Prefab.



Modifying Prefabs in Scene

While Modifying Prefabs by adding Game Objects or Components to the Instance of a Prefab you will notice the newly added. This is because you can actually apply those changes to the Prefab and pass them onto all the other instance.

By going to the Inspector View Header and click the Overwrite DropDown you can see all of the changes you've made to the Instance in reference to

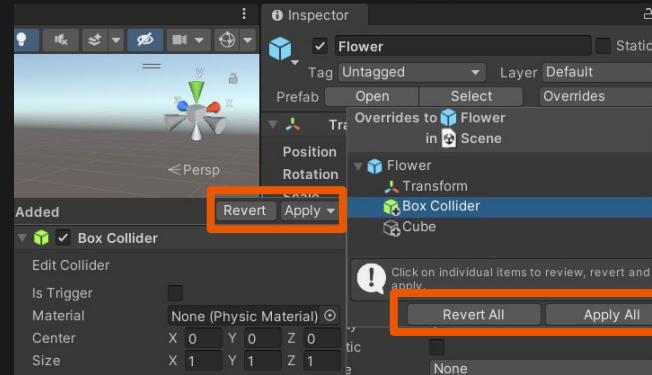
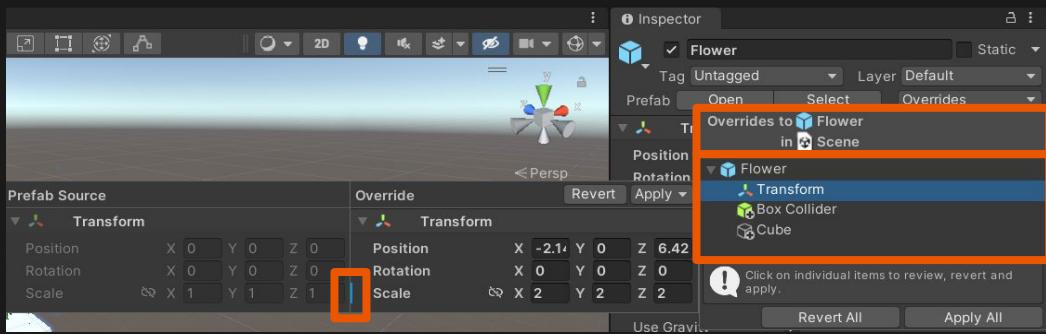


Inspecting Overwrite Changes

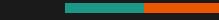
When going through the overwrite you will have the Header that shows you where the changes occurred. Then you will have a break down of all of the Game Objects or Components that were affected.

In case of Components that pre existed in the Prefab and were changed you'll get to see what the values are in the reference to original. In this case the Scale was changed indicated by the Blue tab.

On Game Objects or Components that were Added you'll just have them pop up. You can Revert/Apply the changes individually or Revert/Apply All at once.



Challenge: Overwrite

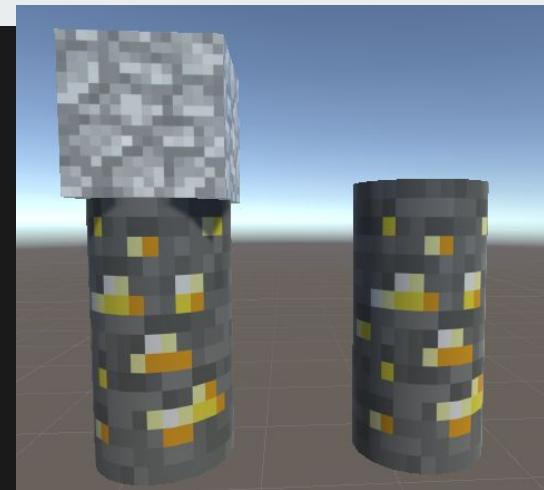


Create a Second Object and attach it to the first one you've made.

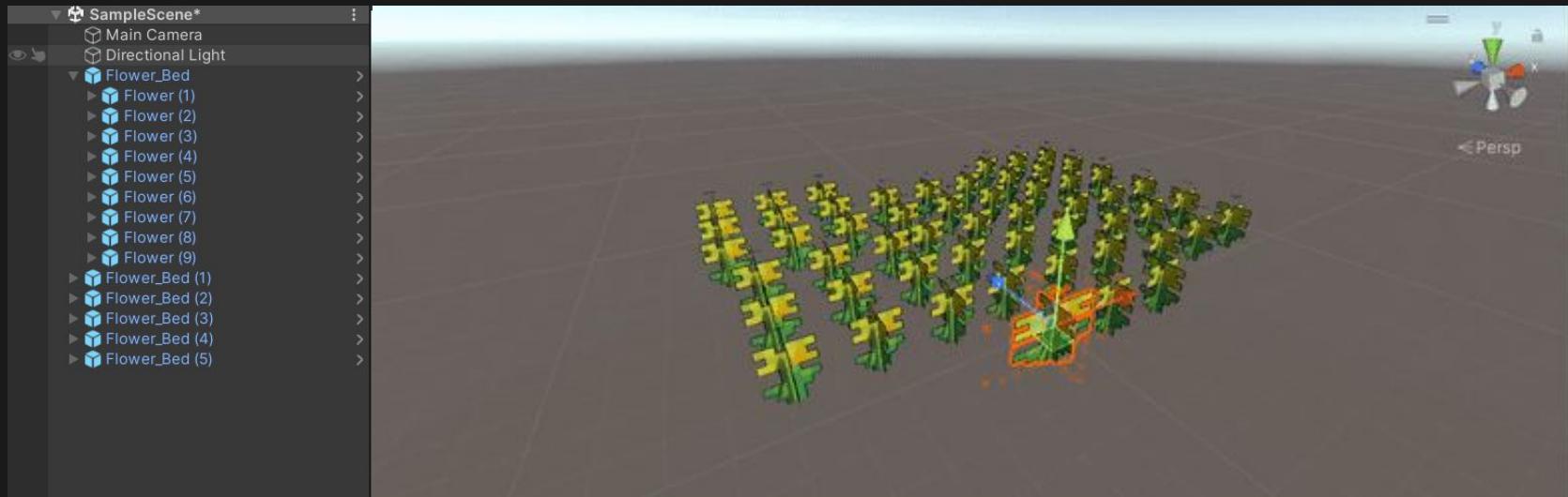
Now create copy of the Prefab by dragging it out of Project View, see how it does not have the new object yet attached to it.

Now go to the Prefab with an addition to it and in the inspector click the drop down menu and apply.

Now both object should be changed.



Nesting PreFab



Say you want to make a field of flower out of the one we made, it would be much easier to fill the Scene with flower is you made a Flower_Bed Prefab that contained ten or more of our Flower Prefabs and then used the Flower_Bed to decorate the level.

And now if you think that the flower is too small or the wrong color you can change the original Flower Prefab and all of the Flower_Beds will be updated with the new flower as well.

Making a Variant or Original

You may have done enough changes to a Prefab in Scene that you may want to make it an entirely new prefab.

If you drag and drop the changed Prefab into the Project View you will get this PopUp, allow you to create and **Original** or a **Variant**.

Original will create a fully separate Prefab with no connection to the one used to make it.

Variant will create a new Prefab that is connected to the one used to make it, this is great for creating enemies with small variants. Any changes to the original used to make the variant will also be added to the Variants.



Disconnecting Prefabs

Last thing to mention is sometime you may need to change a core component of the Prefab in the scene but you don't want to make the Game Object from start.

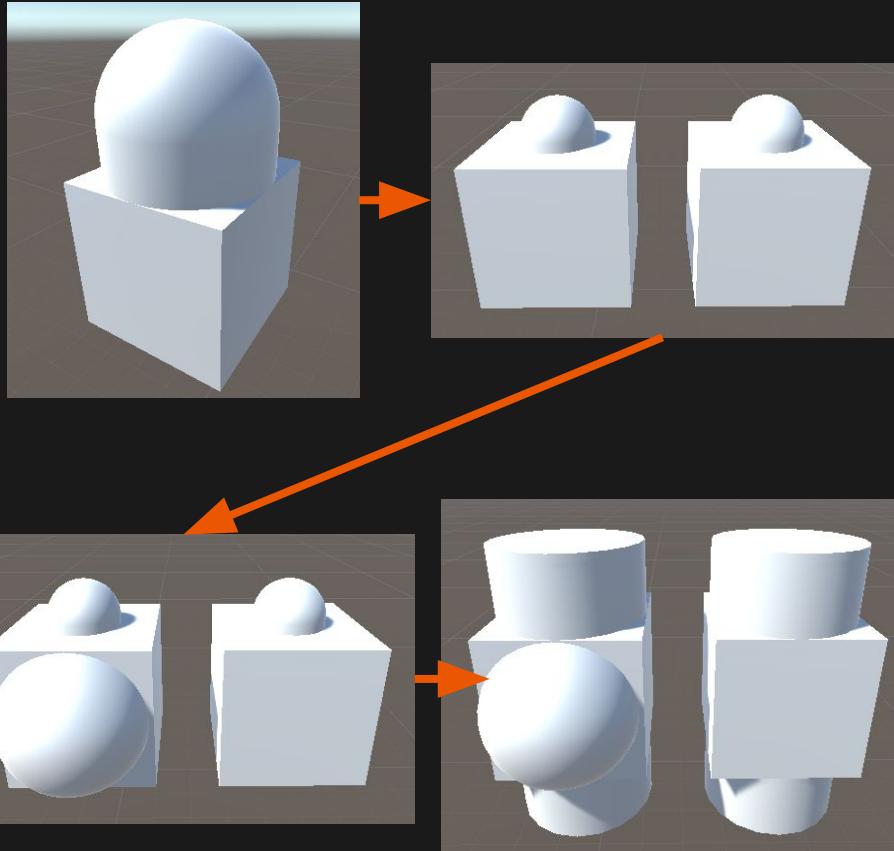
To do this you can right click on the Prefab Object and choose to **Unpack** it. This disconnects it from the Prefab and allows you to modify or delete any Game Object or Component that was part of it.

Unpack Completely will break down any Nested Prefabs inside the game object too.



Challenge

-
- 1. Create a Cube Game Object and nest a Capsule Game Object in it.
 - 2. Make it into a Prefab
 - 3. Instance a copy of it from Project View
 - 4. Go into the Prefab Context Mode and half the scale of the Capsule.
 - 5. Add a Sphere to the Instance Copy and make that Copy into a Variant.
 - 6. Go back to the Prefab Mode of the Original Cube and add a Cylinder Game Object to it.

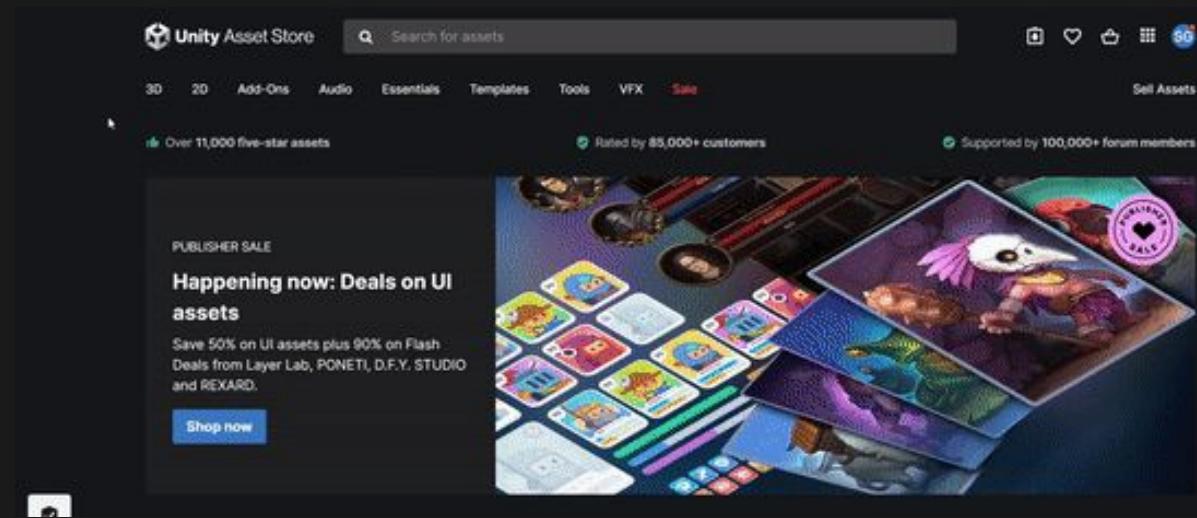


Unity Asset Store

It's time to utilize the Unity Asset
Store.

Make sure you're logged in. Then
go to 3D Character and then scroll
on the right to select Free.

Now you have an overabundance
of character models at your
disposal.

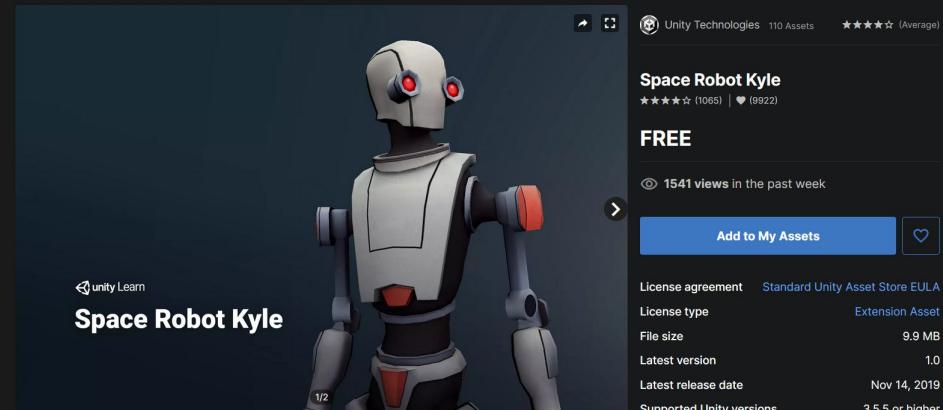


Space Robot Kyle

There is a very specific one we're going to use at the moment called "Space Robot Kyle". This model is provided to us by Unity itself.

To be able to use Kyle you will have to select add to my Assets and accept the pop up.

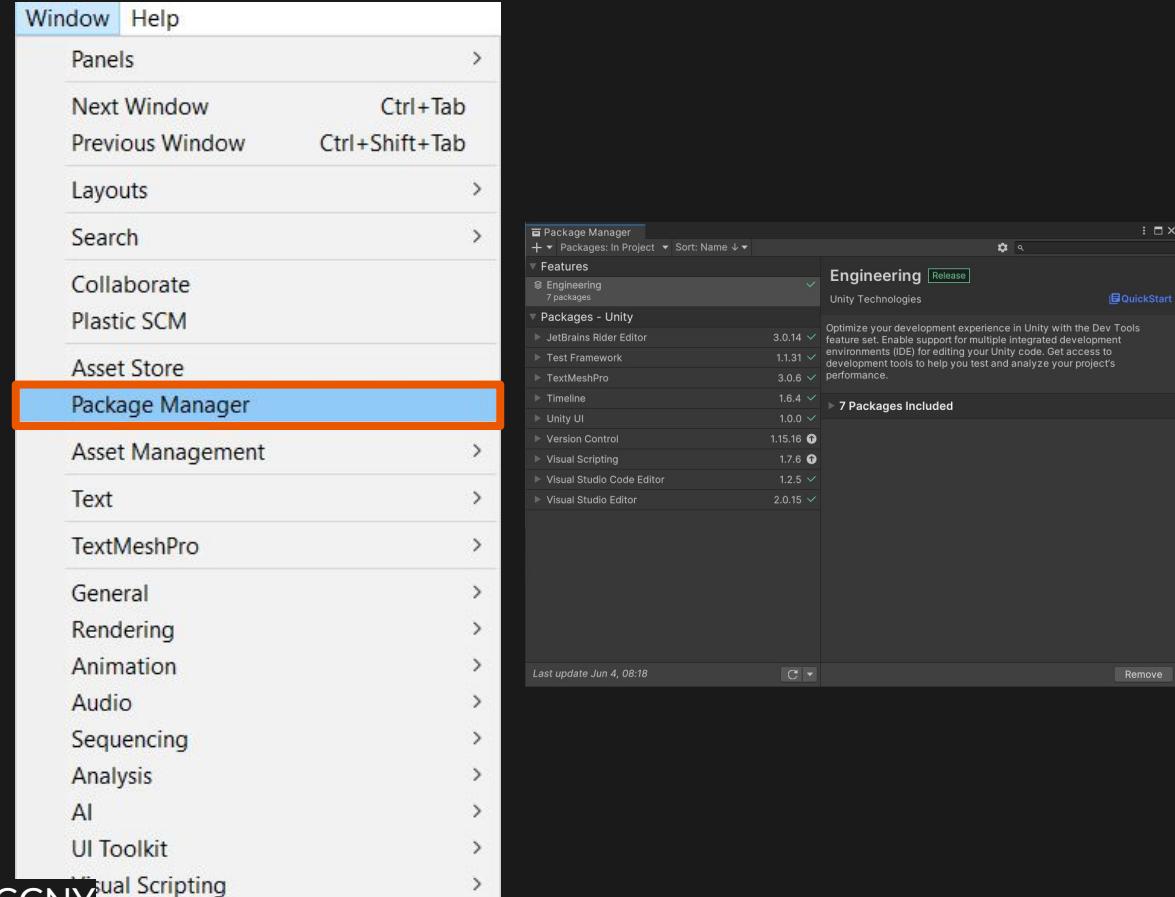
Additional Resources: [Space Robot Kyle](#)



Package Manager

To be able to get Kyle into our Project
you will have to go to Window Tab and
select Package Manager.

This will bring a new Package Manager
View that allows us to see all of the all
of the packages currently installed
into our project.



Additional Resources: [Package Manager](#)

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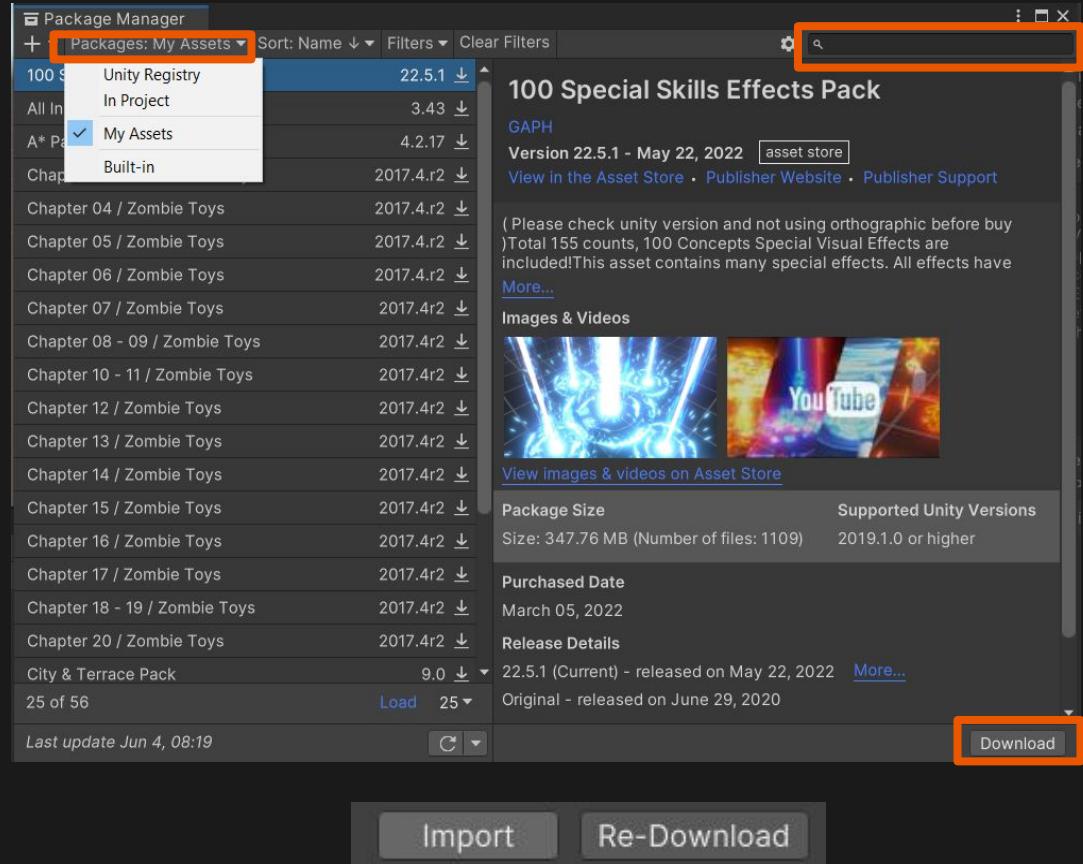
Package Manager Importing

To get Kyle you will go to the Package

Choices, and move from In Project to My Assets.

Space Robot Kyle should show up and you will be able to Download him.

Once the Download is complete you'll be able to Import him into your Project View.

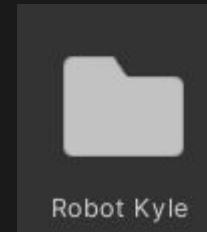
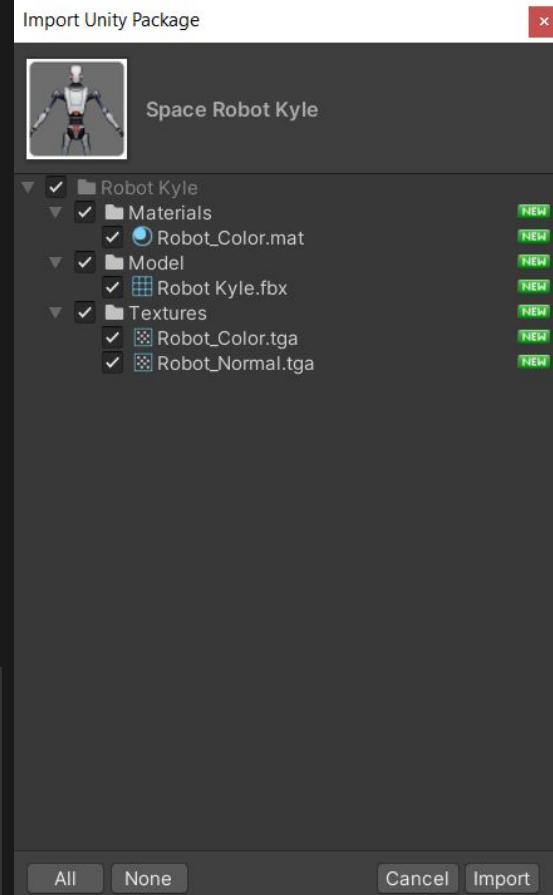


FBX Models



Importing a Asset Package will provide you with a PopUp window of everything that the Package has to offer. You don't have to download all of it but in this case we will.

Once the import is complete you will have a new Folder with the Package name in your Project View.

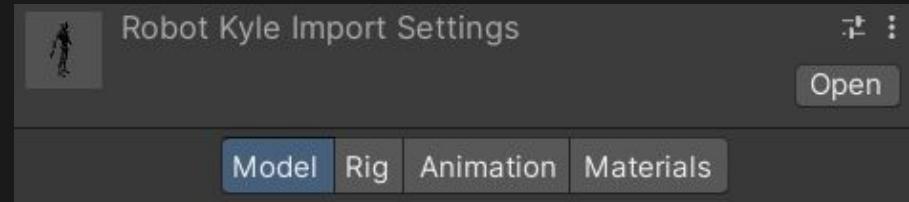


Importing Model Settings

Importing a Model is similar to importing an Image for a texture but with a more complicated object.

Model can have four **Model**, **Rig**, **Animation** and **Material**. We will talk about Model and Material and come back to Rig and Animation in Week 3.

Unity supports many model data but the most common one used will be **FBX** as it store the **Mesh** as well as the **Animation** of the Mesh.



File type	Pros and cons
FBX	Mesh and animation; recommended option when available.
COLLADA (DAE)	Mesh and animation; another good option when FBX isn't available.
OBJ	Mesh only; this is a text format, so sometimes useful for streaming over the internet.
3DS	Mesh only; a pretty old and primitive model format.
DXF	Mesh only; a pretty old and primitive model format.
Maya	Works via FBX; requires this application to be installed.
3ds Max	Works via FBX; requires this application to be installed.
Blender	Works via FBX; requires this application to be installed.

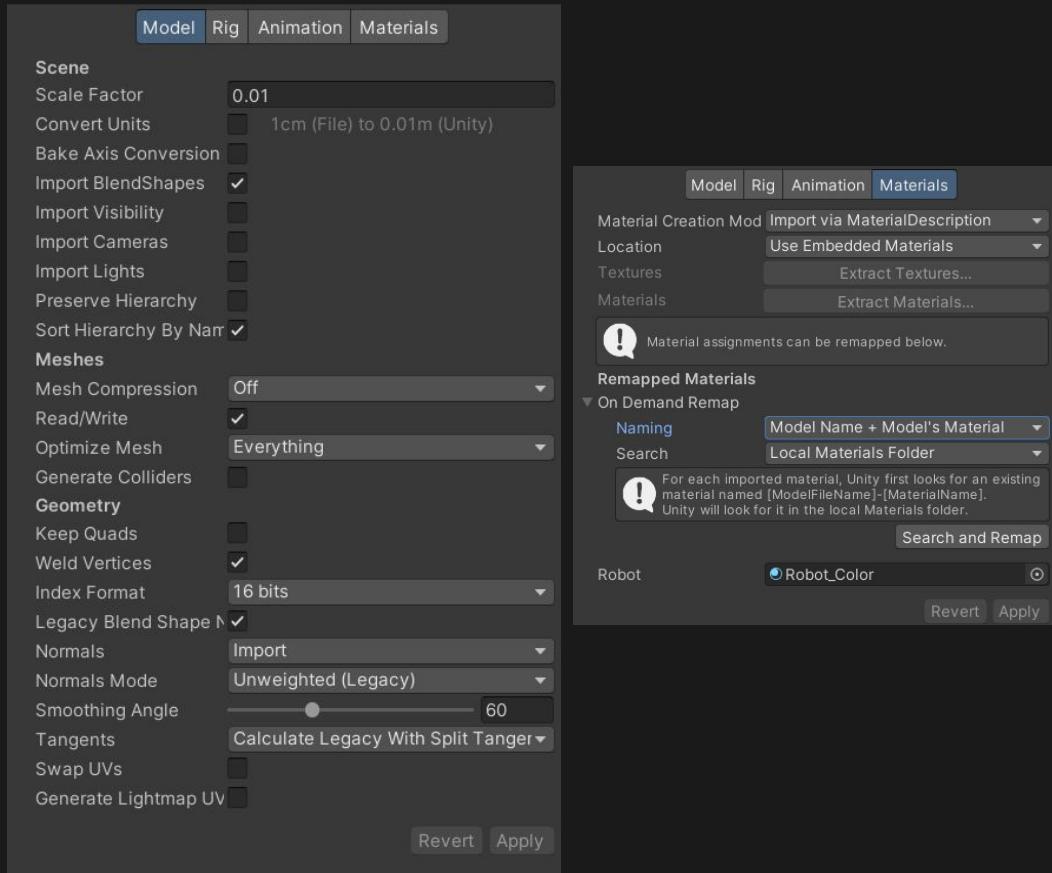
Additional Resources: [Model Import Settings](#), Chart from Unity in Action pg 83

Model Import Settings

Import Settings for model allow you to change how it's brought in from whatever software created it. Currently we can look at the Model and Materials Tabs as Kyle has yet to have any Rigging or Animation done to him.

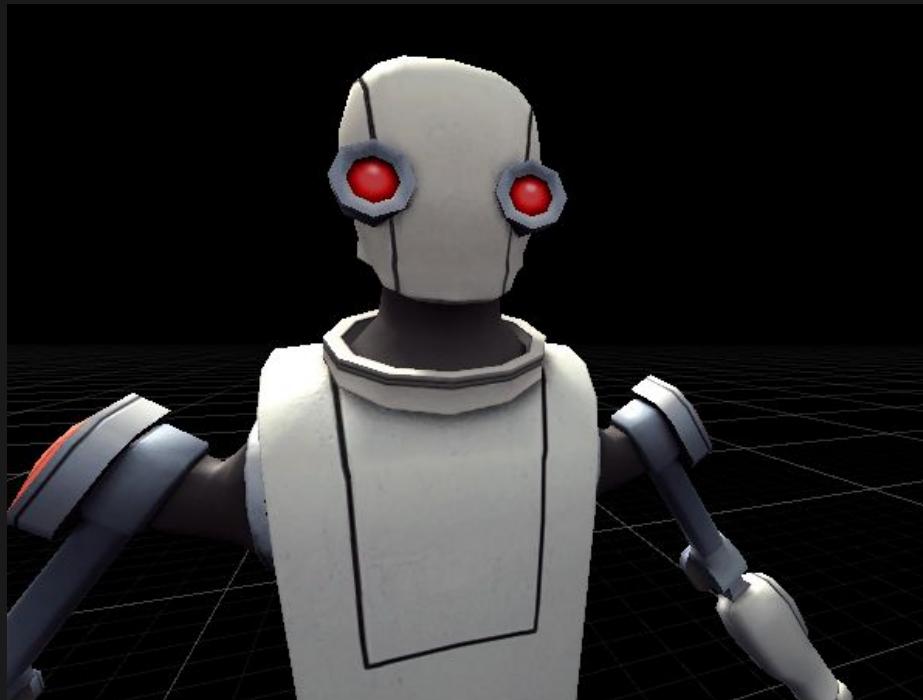
Its best to leave it alone as the artist most likely left the mesh on the settings they thought were best.

Additional Resources: [Model Tab](#) [Material](#)



Challenge - Get Kyle

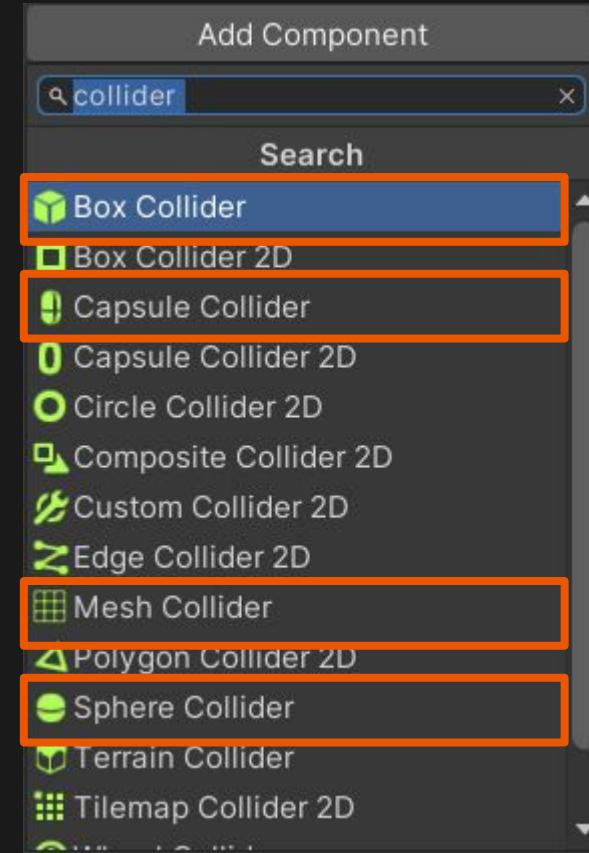
-
1. Go to Unity Asset Store Page
 2. Find Space Robot Kyle Page
 3. Add Kyle to your Asset
 4. Go to Package Manager and download
the Space Robot Kyle asset into your
project
 5. Bring Kyle into your Scene.



3D Colliders

Go to Add Component and you type in Collider, you will be met with a long list. We are only concerned about four at the moment. Box Collider, Capsule Collider, Sphere Collider and Mesh Collider.

You will notice that there are many 2D Colliders, due to how the objects interact a Game Object cannot have 3D and 2D Components at the same time.



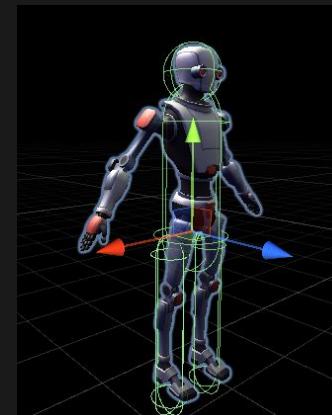
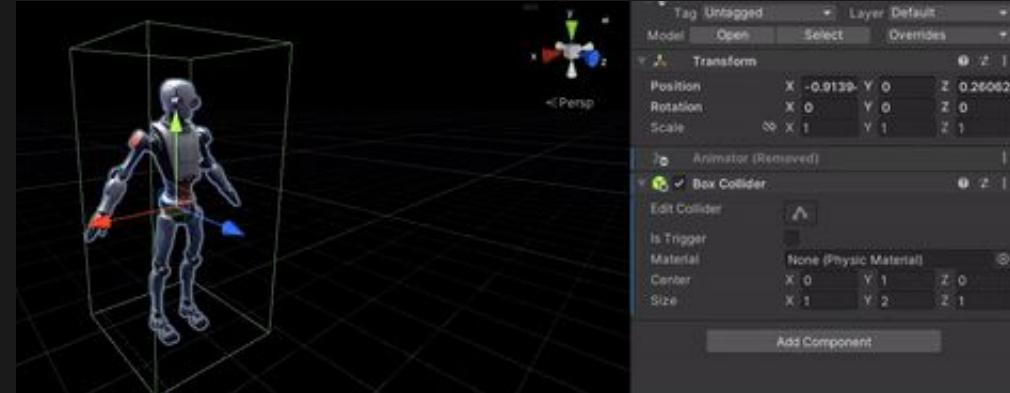
Additional Resources: [Introduction to Colliders](#)

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3D Colliders

The first three called **Primitive Colliders** as they make up simple shapes. Unlike the **Primitive Colliders Mesh Collider** takes the shape of the Mesh given to it making the collision exact, however this is a very costly process as you have to simulate any interaction on the mesh's surface.

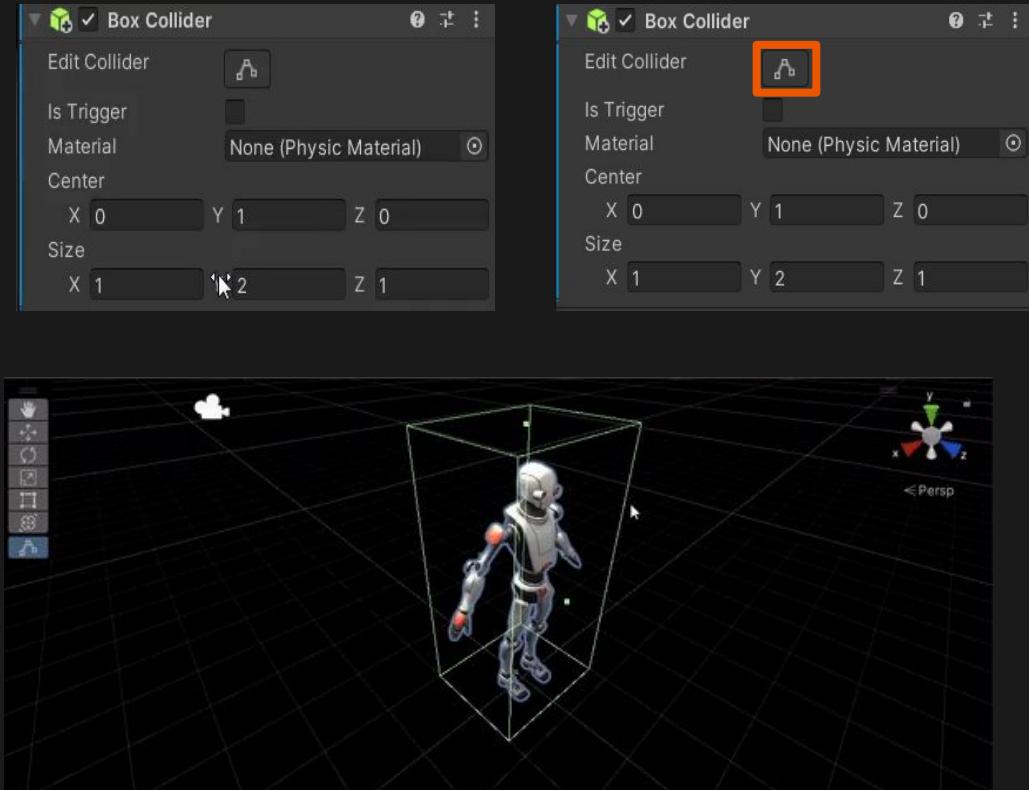
To alleviate the high calculations it's better to create a **Compound Collider** which means you're put several Primitive Colliders to approximate the shape of the Mesh.



Editing Box Collider

To Edit the box collider you can do it from the inspector, a good way to do that is hold over the direction and drag your mouse.

Alternatively you can click the edit Toggle which will allow you to manually move the collider parts in the Scene View.



3D Rigidbodies

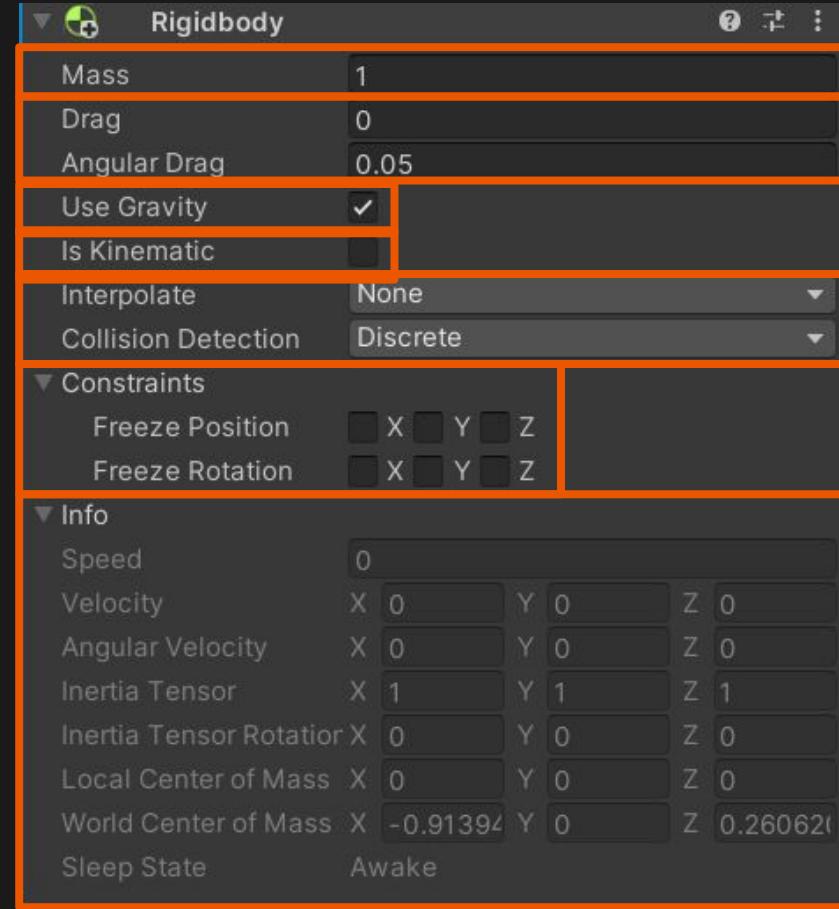


Up to this point all of the Colliders can be called **Static Colliders** since even if something collides with them they won't react or move.

Introduction of the **Rigidbody** will change them into **Dynamic Colliders** or **Kinematic Collider** if you select [4]. Doing so will enable the ability to react to Collisions and move with the use of the Physics Engine.

Dynamic Colliders will react to any Physical interaction with it while Kinematic Colliders are there to allow movement but won't be affected by external colliders. Think of it as Player vs a moving platform.

Additional Resources: [Rigidbody](#), [Understanding Physics: Static, Kinematic, Dynamic](#), [Unity Official Tutorials](#)



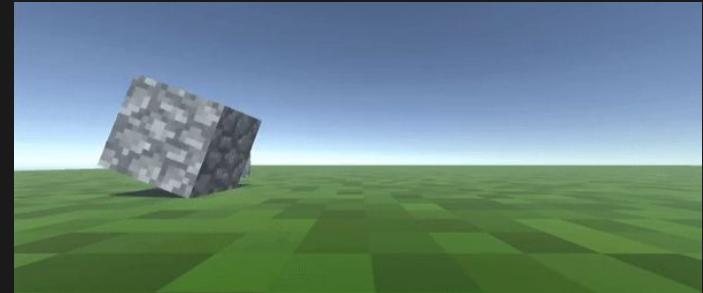
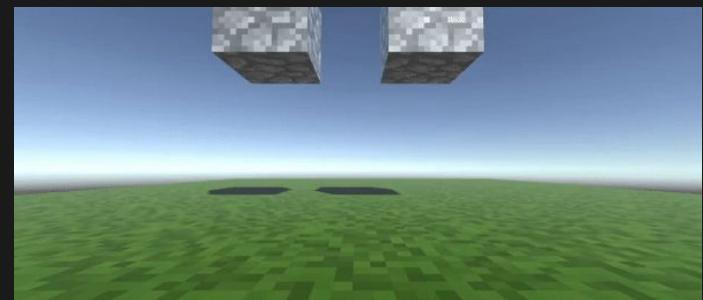
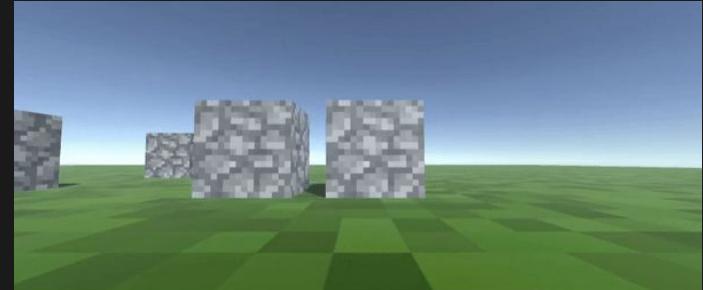
3D Ridgebodies

[1] Mass determine how colliders react with each other, nothing to do with weight or fall of the Game Object.

[2] Drag and Angular Drag determines how much air resistance the object will encounter when it falls. The higher the number the slower the object falls.

[3] Toggles if the object has Gravity force on it. By default it's -1 in Y direction.

[6] Constraints, stop the object from moving or rotating in a particular direction.



3D Ridgebodies

[5] Interpolation - Is used to transition the Game

Object between different states of transform.

[5] Collision Detection - Is used to detect fast moving object and making sure they actually hit and not pass through.

[7] Info - Shows you all of the forces playing on the rigidbody, really useful to testing if something goes wrong.

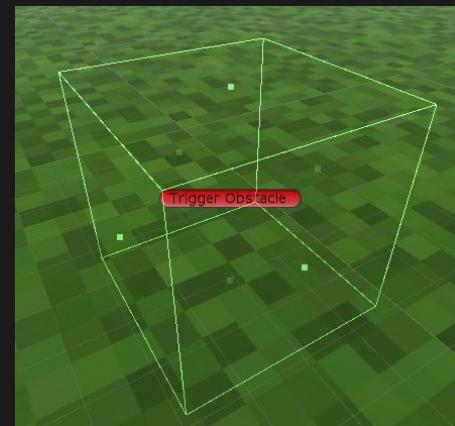
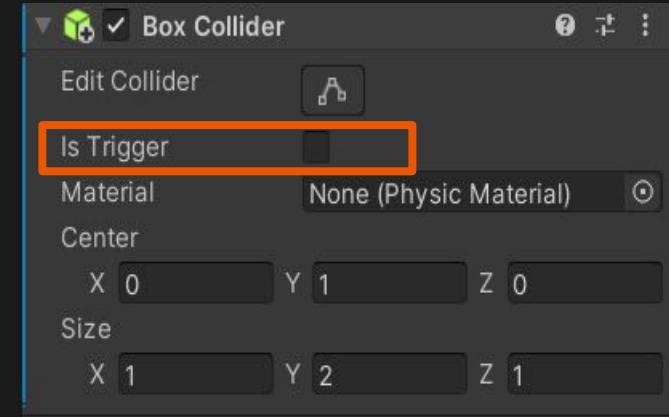
▼ Info			
Speed	0		
Velocity	X 0	Y 0	Z 0
Angular Velocity	X 0	Y 0	Z 0
Inertia Tensor	X 0	Y 0	Z 0
Inertia Tensor Rotation	X 0	Y 0	Z 0
Local Center of Mass	X 0	Y 2.24	Z 0
World Center of Mass	X 3.3813	Y 2.24	Z -1.671
Sleep State	Awake		

Triggers

Triggers change the Collision areas into Trigger area meaning that if a different Collision Object enters the zone they won't be pushed back but will be able to walk through it and Trigger and event.

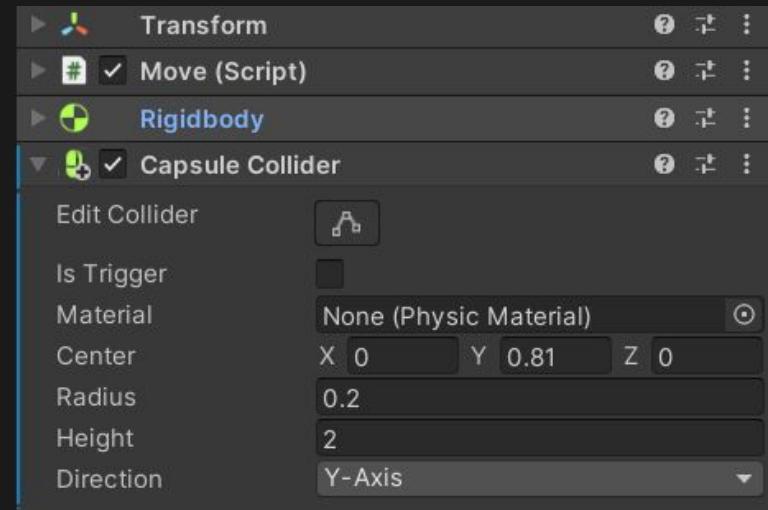
Many applications for this. It can be a way to move between levels, turn on a Spawn point for enemies, count if the player went through a hoop or a bounce pad.

This also shows that you don't need a mesh to have a collider, colliders can be connected to any Game Object.



Challenge

- 1. Bring in Kyle into the Scene
- 2. Attach the Camera to Kyle in the Hierarchy View
- 3. Adjust the Camera so it at Kyle's eye level
- 4. Attach a Rigidbody, Capsule Collider and a Script called Move.



Challenge

1. Robot Kyle has a Script
Component called Move attached
to him with a variable you can
edit called speed. Feel free to
adjust it.
2. Once everything is ready click
Play and see how he interact with
Game Objects in the Scene.



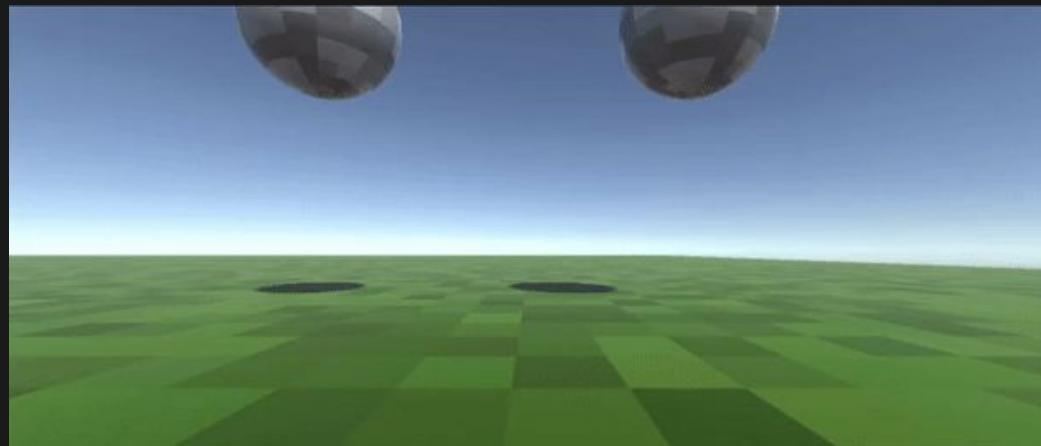
Physics Materials

Colliders can have Physics Materials connected to them, a Physics Material allows you to modify the

[1] Dynamic and Static Frictions, dynamic controls the friction while moving and Static controlling how hard it's to get a static object moving.

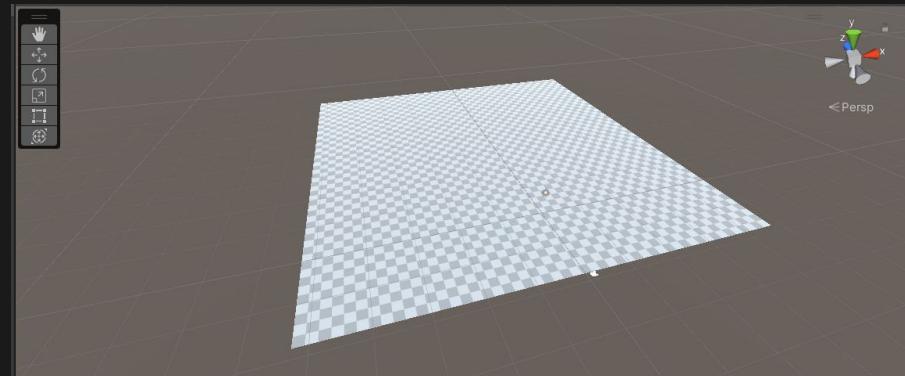
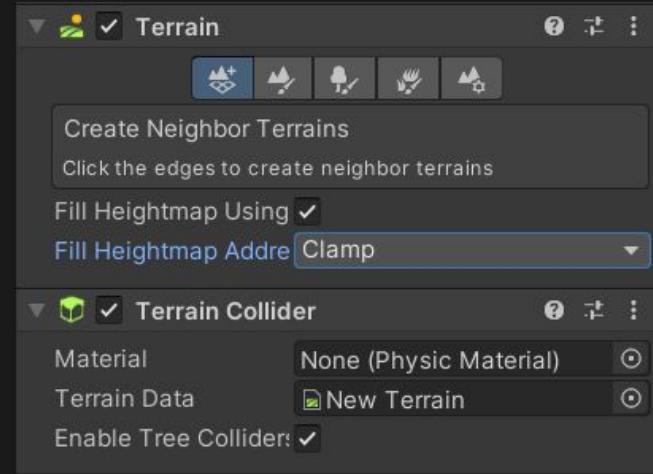
[2] Bounciness which is how much object will bounce when colliding with a surface

[3] How the combination between the two Game Object Colliding should make the math work.



Terrain

Terrain Game Object allows us to
create realistic 3D worlds.



Additional Resources: [Unity using Terrain Tools](#)

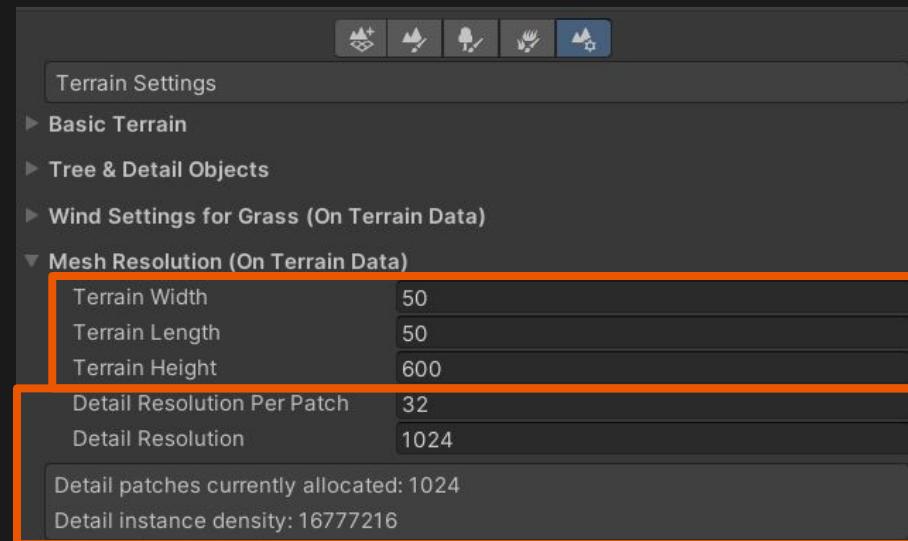
Mesh Resolution Settings

We'll quickly jump to the fifth Tab that holds the settings and talk about the Mesh Resolution.

[1] The dimension settings set the size of the terrain is using Width, Length and Height to define. For this example we'll be using 50 x 50 x 600

1

2

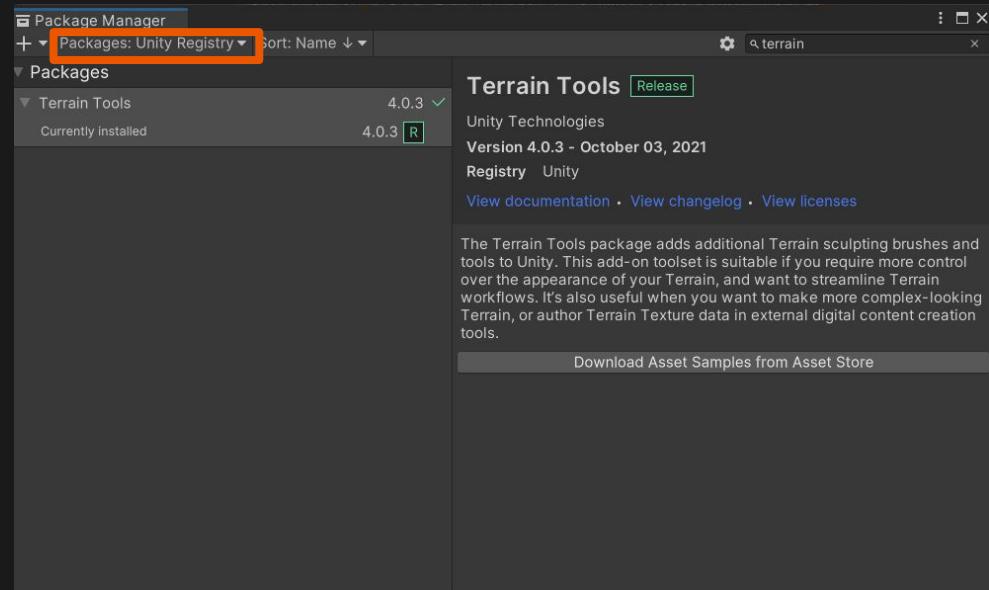


[2] The resolution settings set how much detail can each tile store. We'll come back to this.

Terrain Tools Package

The terrain tools that come preinstalled with Unity are a great resource, however there is a package called Terrain Tools that will make our jobs even better when design terrain.

1. Go to Package Manager from the Window Tab.
2. Set your Packages to Unity Registry and search for Terrain
3. Download Terrain Tools



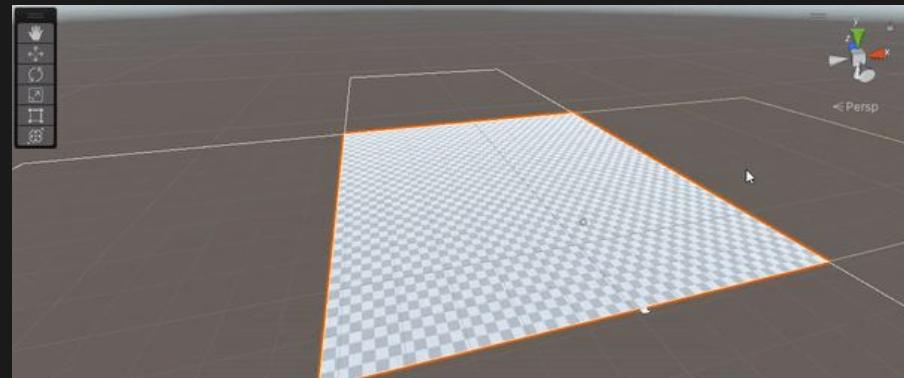
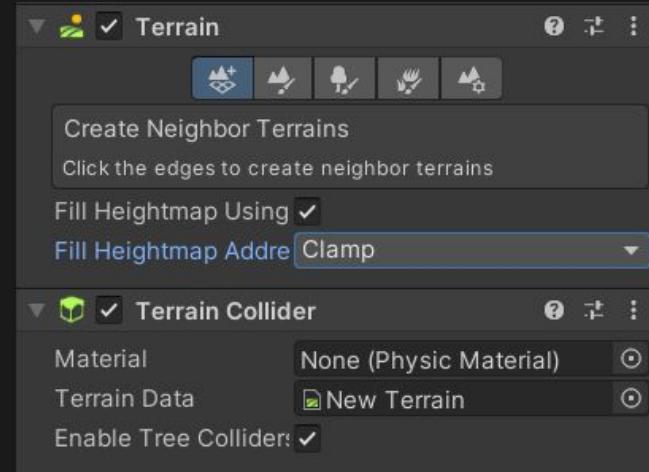
Terrain Neighbor



The first tab allows you to **create neighbors** for the terrain you are currently working on.

Keep in mind that every new terrain counts as a separate game object and it will create its own **Terrain Data** in Project View upon creation.

This is one way you can develop a level. If it's too complicated, take a portion and load it into a new scene.

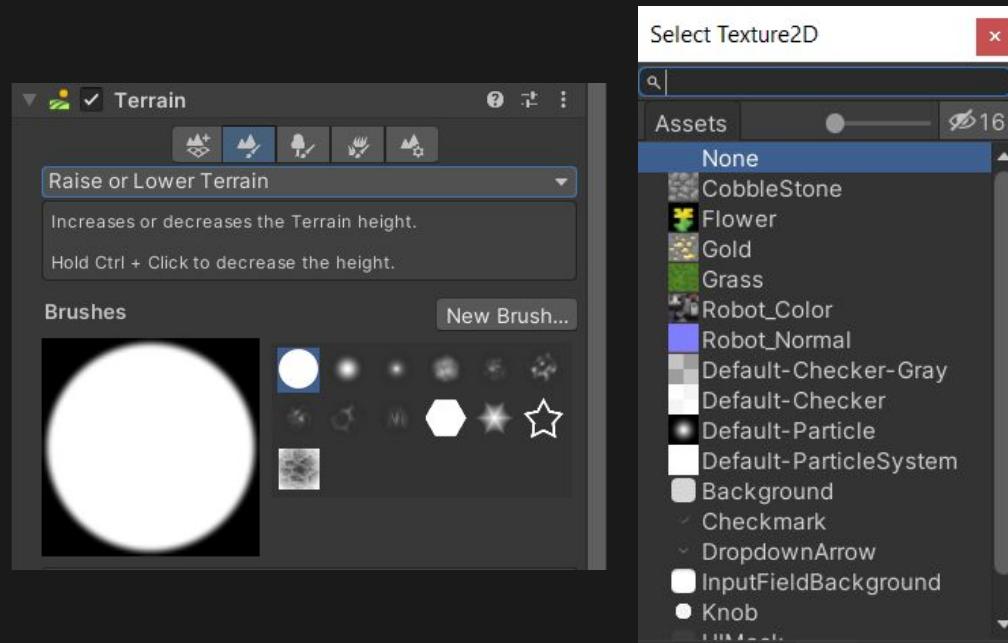


Brushes

Brushes are the way we can manually change the terrain you're working on.

The shape of the brush will be how you change the terrain. If the brush is a circle you'll make circles while if you have a star you will make stars.

You can create your own Brush by clicking New Brush... and selecting a texture you have in your project.



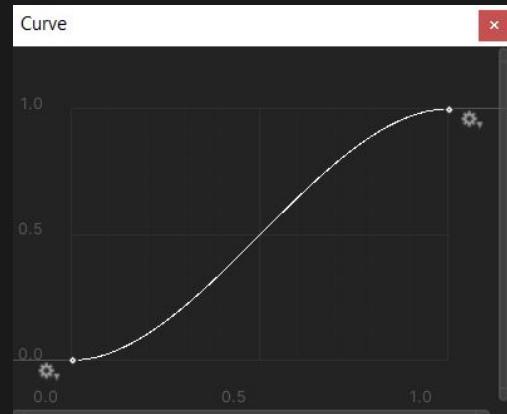
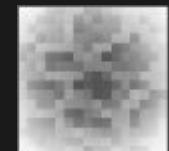
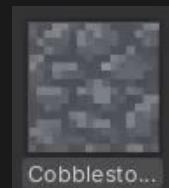
Brush Asset



The Brush Asset is created when creating a new brush, it can allow you to further manipulate the brush so you get what you want from the image.

The Fall Off Curve and Radius allow you to control how much of the image is used, creating circle cut out as everything else fades off.

Brushes work like heightmaps so the darker the area the lower the point and the brighter the higher so if you want to create something that will pop out of the terrain you can invert the brush.



Brushes Controls



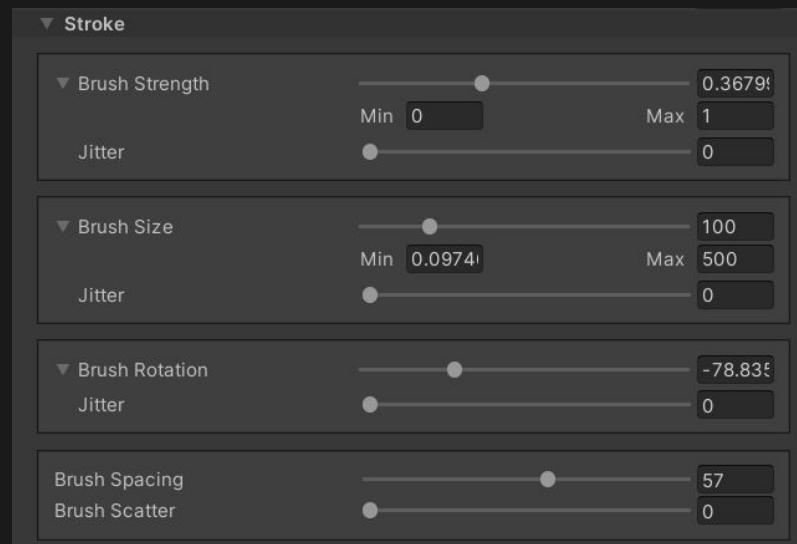
Controls **Brush Strength** and how tall the rise or lowering will be. This is adjustable.

Brush size controls how much of an area the brush will be used over.

Brush Rotation will control the rotation of the brush.

The first two allows you to set the Min and Max for the slider, each actions will have their own settings.

All of these also have **Jitter**, which is the randomization that will alter the strength, size, or rotation as you are brushing. This allows the brush to feel a bit more natural as real worlds aren't perfect like our tools allow for.



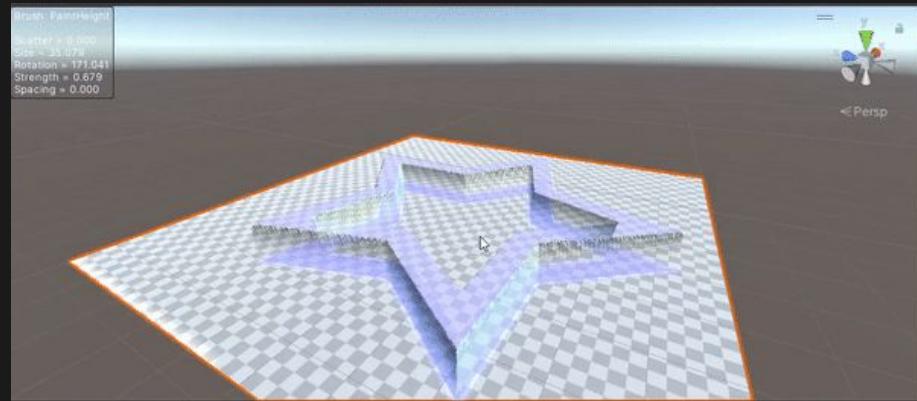
Brushes Controls and Shortcuts



Left Click of the Mouse button will perform the action you

are trying to do, raise the terrain or paint texture or hole.

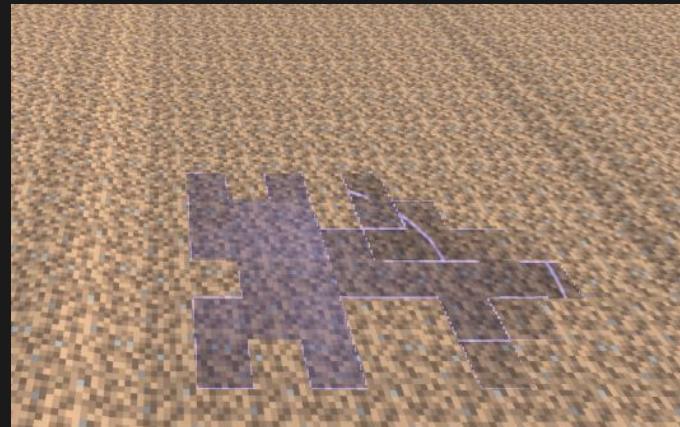
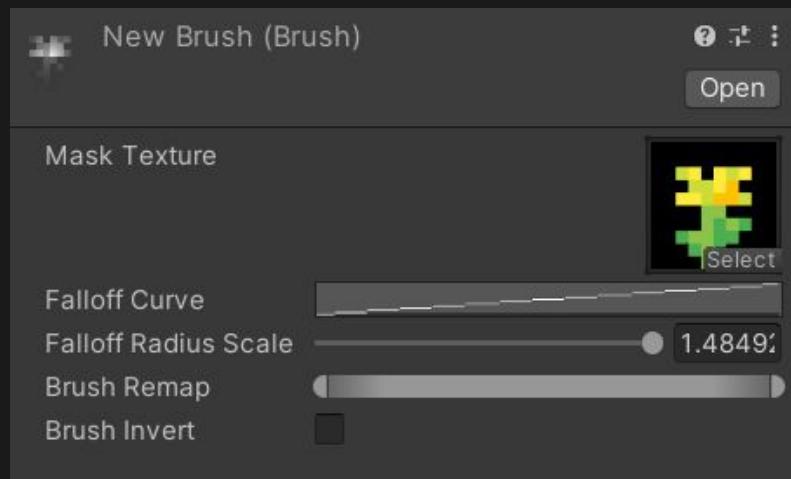
Holding Ctrl while doing that will do the inverse if there is such an options, such as lowering or bring back the texture from hole.



Brush Strength Adjustment	A + Mouse Movement
Brush Size Adjustment	S + Mouse Movement
Brush Rotation Adjustment	D + Mouse Movement

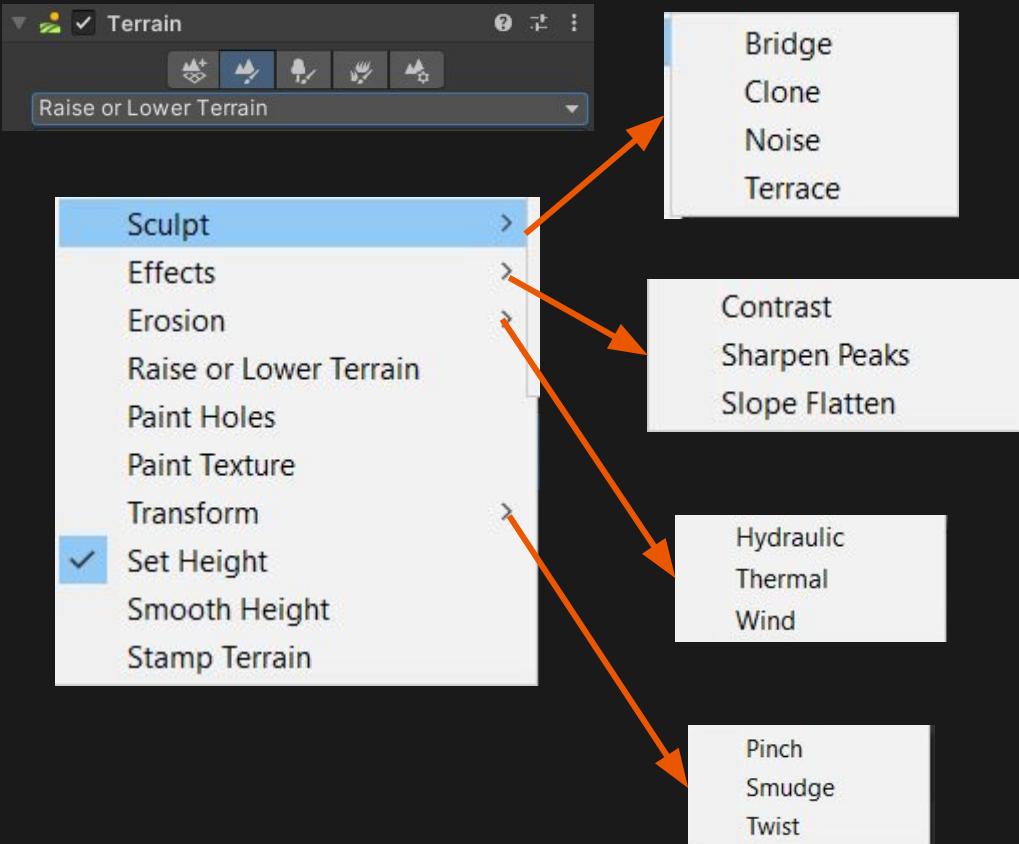
Challenge - Make Brush

1. Click the new Brush Button
2. Select a desired Texture
3. Use the Brush to paint on the Terrain
4. Go to the Brush Asset and modify the values
as you fit
5. Use the Modified Brush on Terrain and see
the difference



Terrain Editing Tools

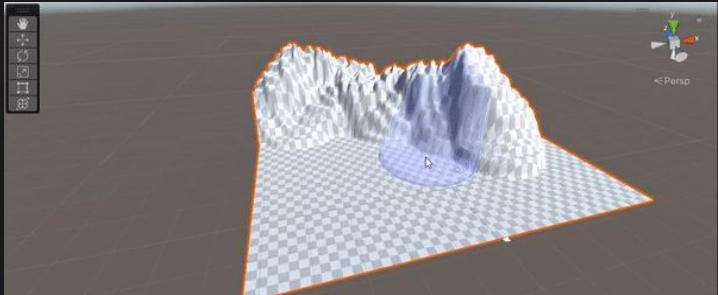
The second tab on the Terrain Component allows you to manually edit the Terrain. There are six different ways to edit the terrain without the Terrain Tools Package, those are Raise/Lower, Paint Holes, Smooth Height, Set Height, Stamp and Paint Texture.



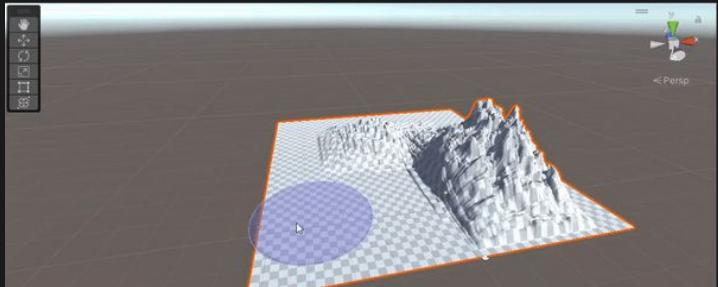
The Tool Package adds Sculpt, Effects, Erosion and Transform all of which come with sub tools.

Sculpting Tools

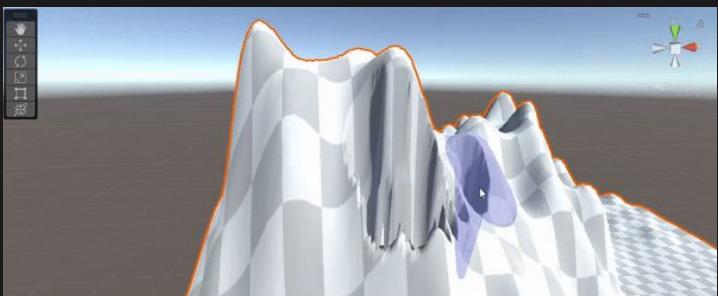
Raise or Lower, allows you to raise and lower
the.



Paint Holes, allows you to create missing areas
in the terrain, this can be used for creating
caves or just hiding away unnecessary detail.



Smooth Height, will smoothing out the nearby
terrain to be roughly the same height.

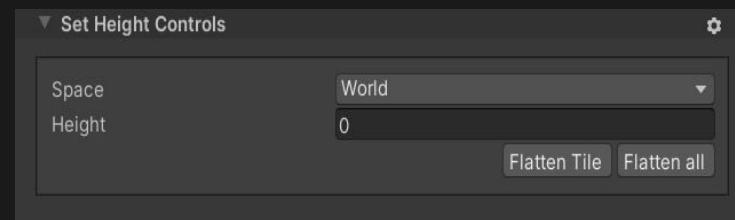
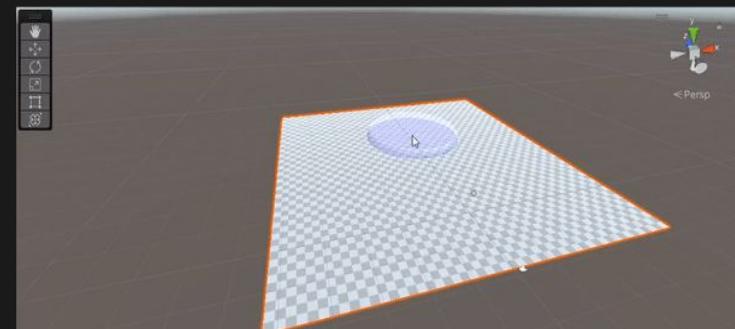


Additional Resources: [Digging into Terrain Paint Holes](#)

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Set Height

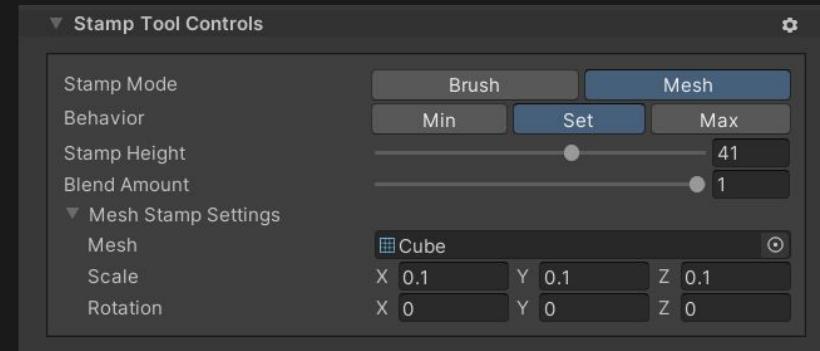
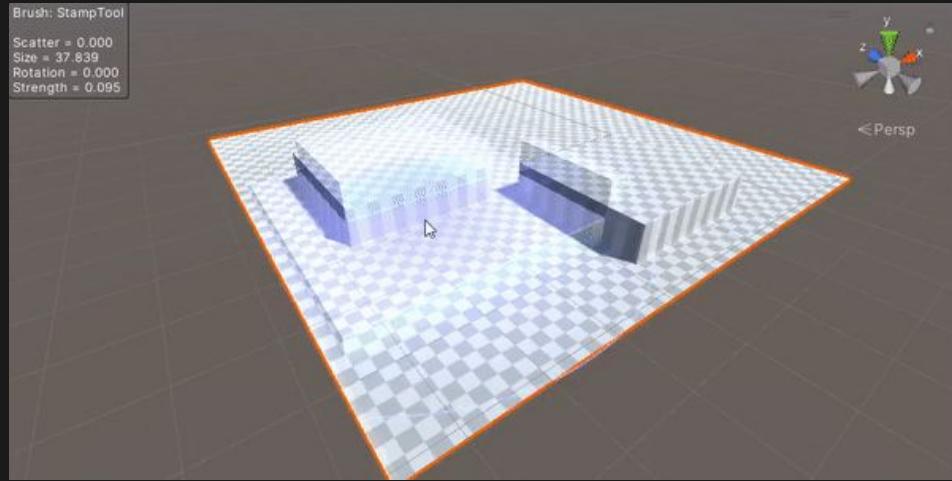
Set Height, will rise the height of the terrain to the selected Height and no higher, also allows you to flatten the terrain in respect to Space. World referring to scene, so if terrain is at Y of 3 and the height is set to 10, it will make all of the terrain height of 7. While Local would make the height of the terrain 10 no matter the position of the terrain.



There's no change to this tool.

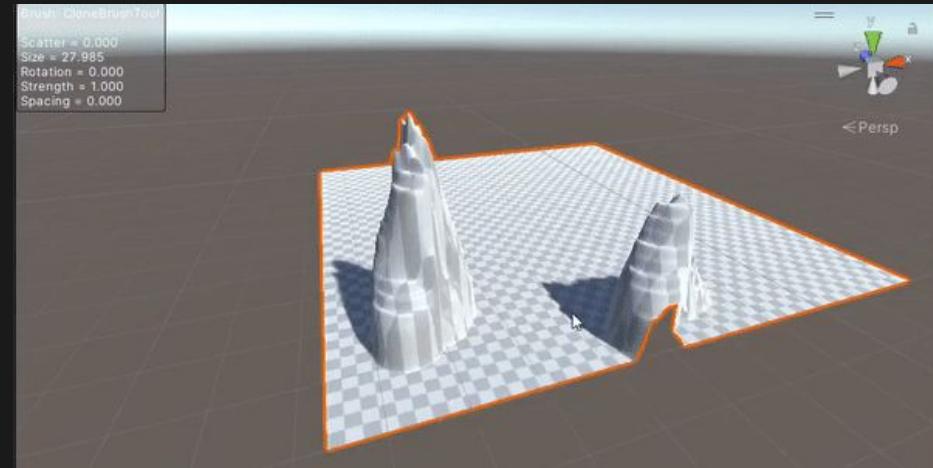
Stamp Tool

The Terrain Tool Stamp allow you to
use either a Brush or a Mesh to stamp
your terrain. The scale work in
conjunction to the brush controls.

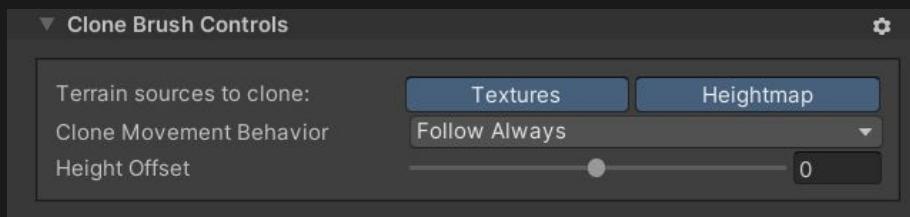


Sculpt Tool - Clone

Clone Tool allows you to select area of terrain copy it creating a marker of which area you are copying and paste it somewhere else.



You have the options of copying the texture, heightmap or both.

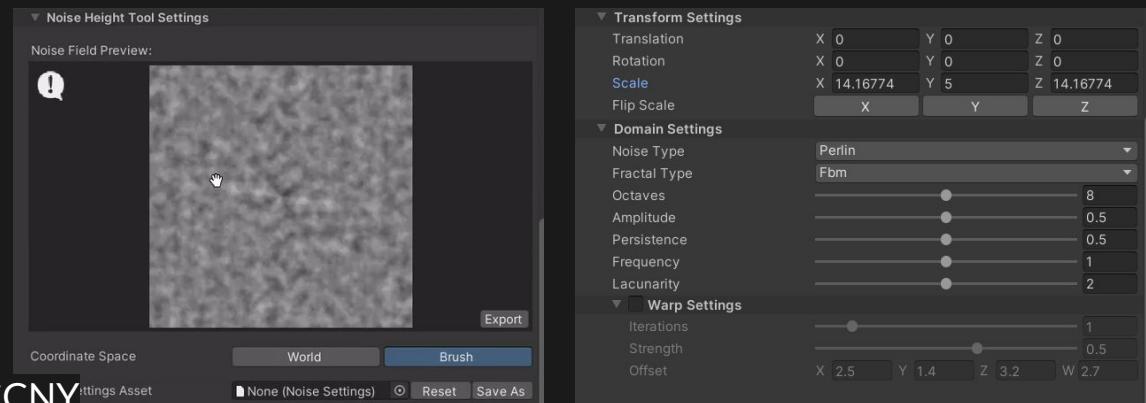
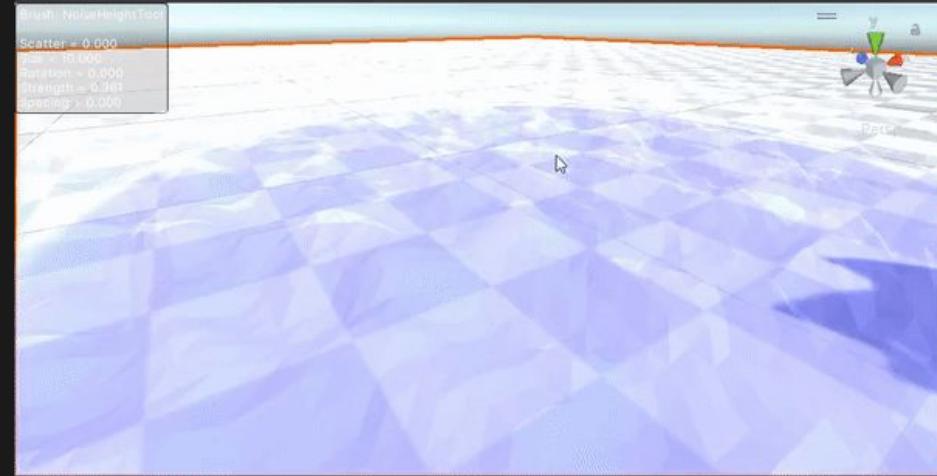


Sculpt Tool - Noise

Noise allows us to make the environment a bit more realistic, things don't look perfectly flat and noise allows us to randomly disturb that.

We do this using the **Noise Height Tool**, which is created using the **Domain Settings**, we won't go into them but play around and see how they generate different maps.

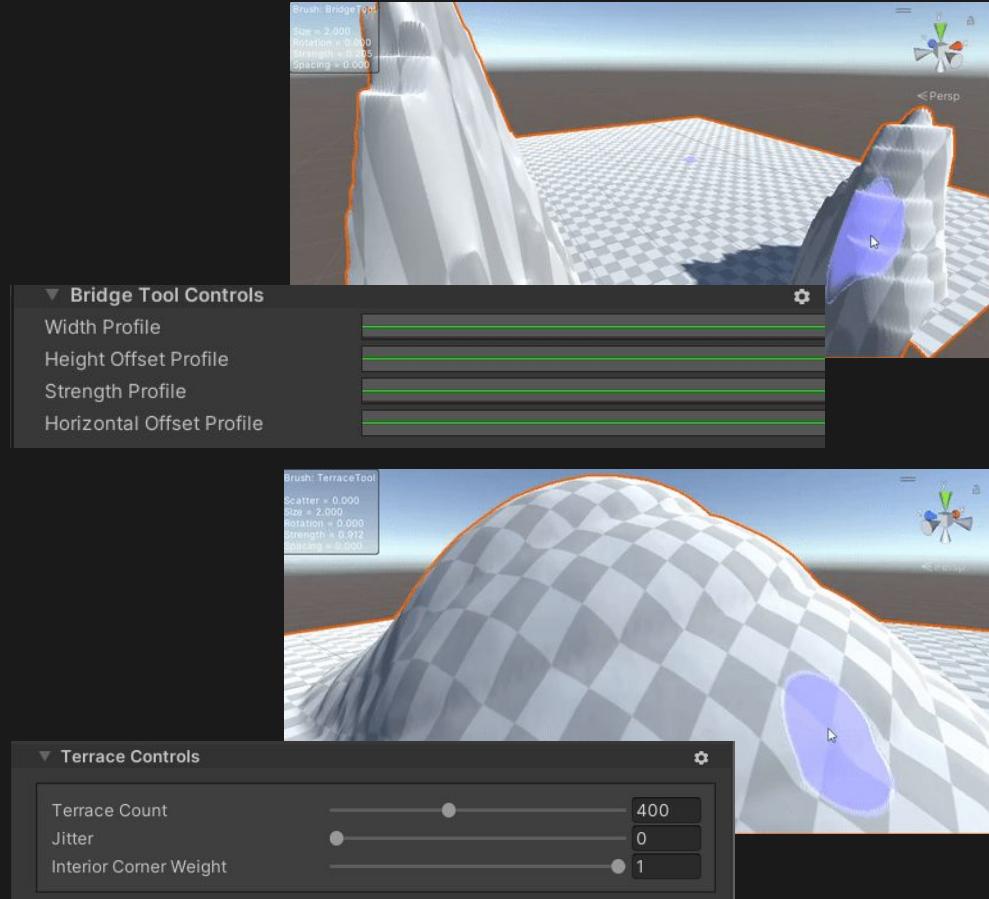
You can also change the way we are looking at the map using the **Transform Settings**.



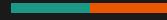
Sculpt Tool - Bridge & Terrace

The Bridge Tool allows you to create bridges,
you first have to select a start point by clicking
Ctrl + Left Mouse Button this will leave a mark
from your start point, then click on another
point you'd like to set the bridge to end. Now
you have a bridge.

The Terrace Tool allows you to create terraces,
cliff edges with a flat surface on top.



Effect Tool

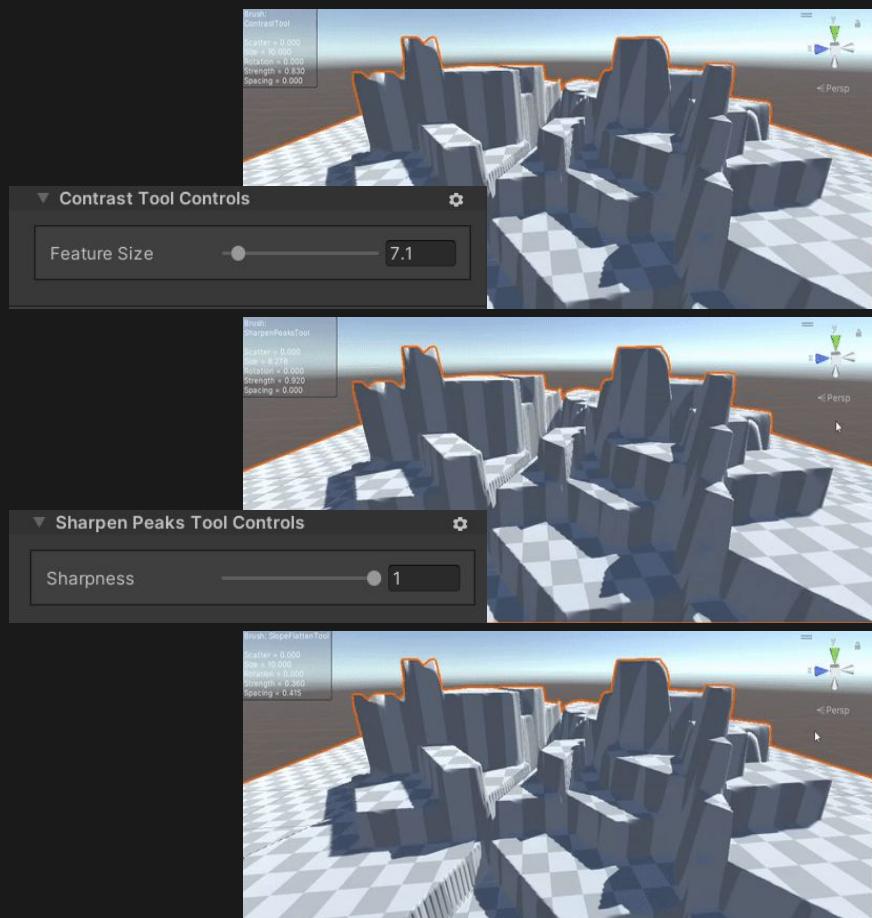


The Effect Tools allow you to put in more detail on the edges of the terrain.

Contrast - makes the contrast between the top and bottom more exact updated

Sharpen Peaks - sharpens the tips of the terrain into points

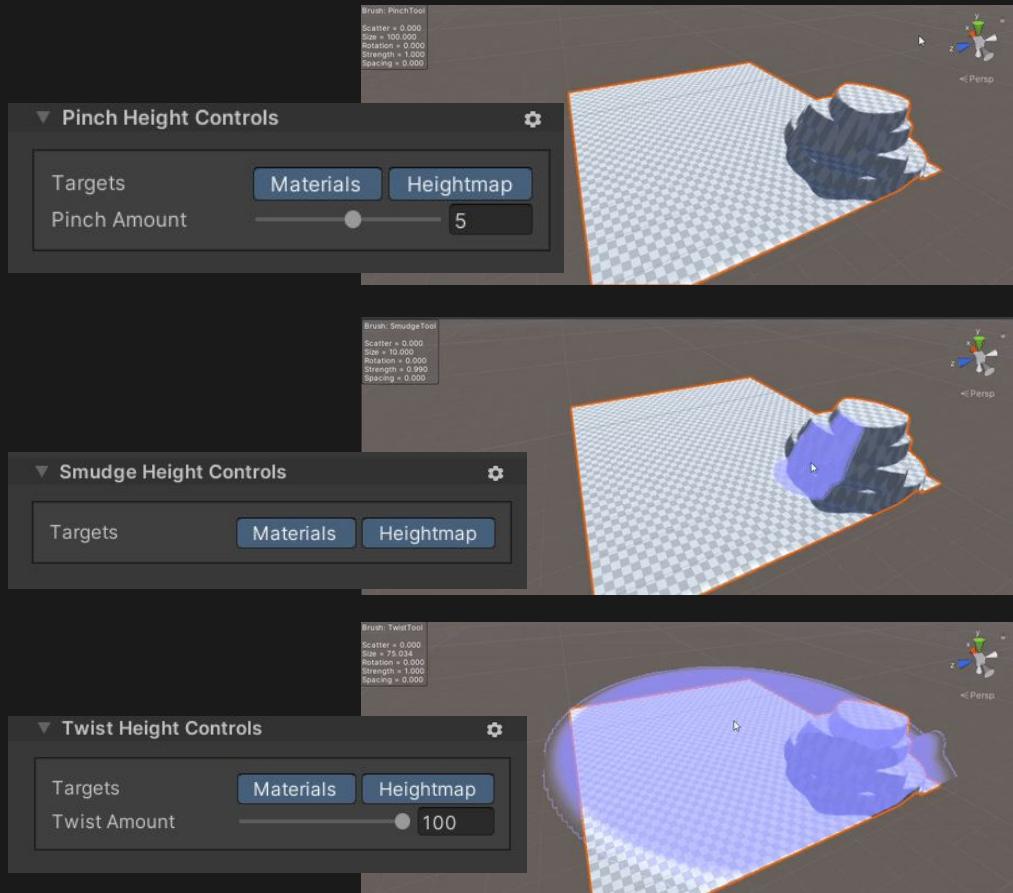
Slope Flatten - smooths out the slope between the bottom and top for a more natural slope.



Transform Tool

The transform tools can be useful from moving certain terrain but are really a great way to edit textures on the terrain.

- Pinch brings everything closer to the center of the terrain.
- Smudge, smears textures and heights to creates a good blend.
- Twist lets you rotates and squeeze the terrain.



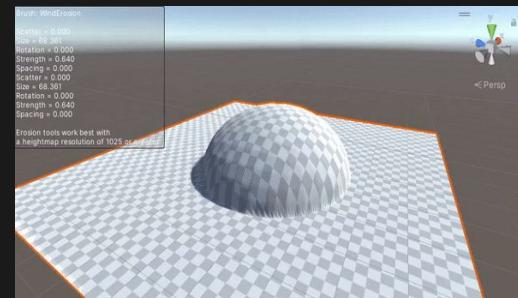
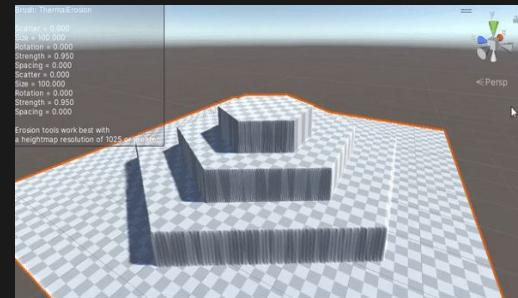
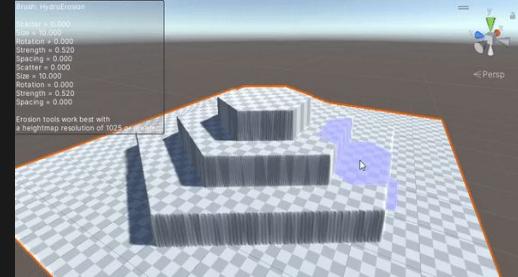
Erosion Tool



We won't get too deep into these tools as they are way to advanced simulating the change in terrain by

- **Hydraulic**, how water displaces the land
- **Thermal** in which heat distorts the land
- **Wind** how it moves the land

All of these are amazing simulatior and do play around with them if you are interested in terrain creation.



Challenge - Make Terrain



1. Try out the different terrain tools and create a world. Build a
2. Once you're done take a screenshot and post it on Padlet.

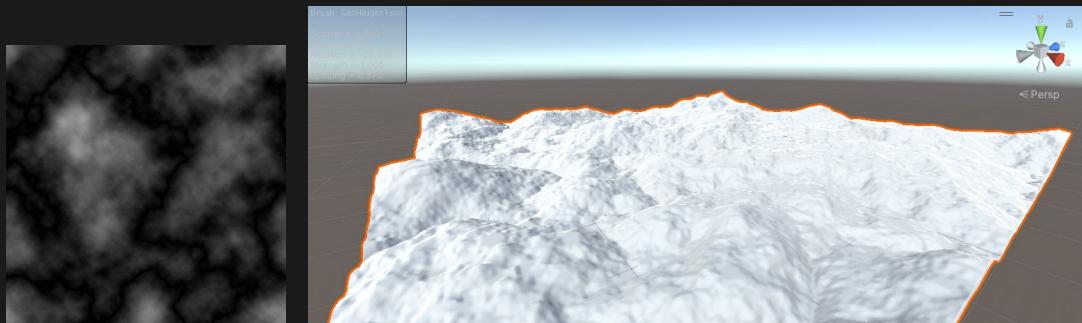
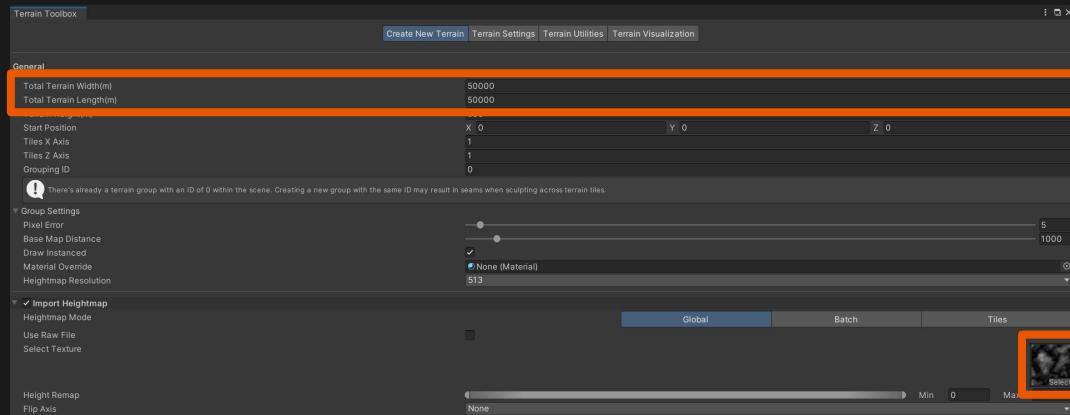


Heightmap Image Import

Since the terrain is based on a heightmap we can import one to create a terrain.

By going to Windows -> Terrain -> Terrain Tool Box we will be able to plug in a heightmap image.

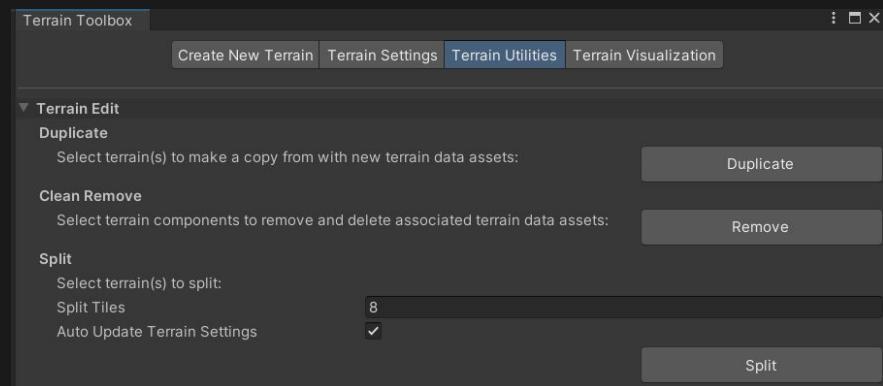
Make sure the Dimensions are very large otherwise the terrain won't look like anything.



Additional Resources: [Create Terrain from a Heightmap](#)
Sebastian Grygorczuk - STEM Institute at CCNY

Heightmap Image Import

The large amount may not be
possible to work on and may be
too much to handle for the
game so you can go in the
Terrain Utilities, go to Terrain
Edit and split it into tiles.



Heightmap Raw Import Export

Additionally by going to the Settings

tab and looking at the Texture

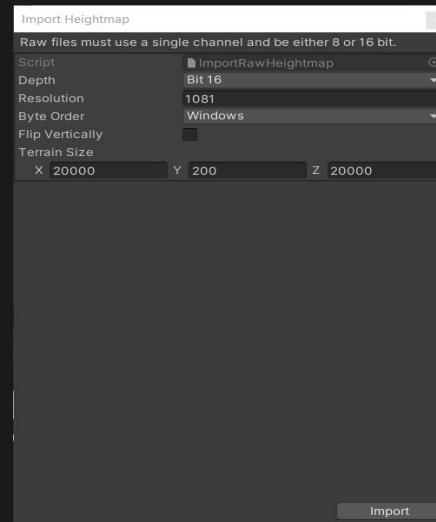
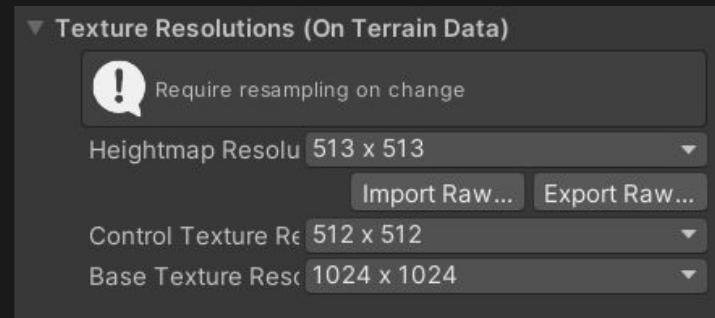
Resolutions section you can Import

and Export the heightmaps as .raw

file. These files are a bit harder to

come by but can contain great

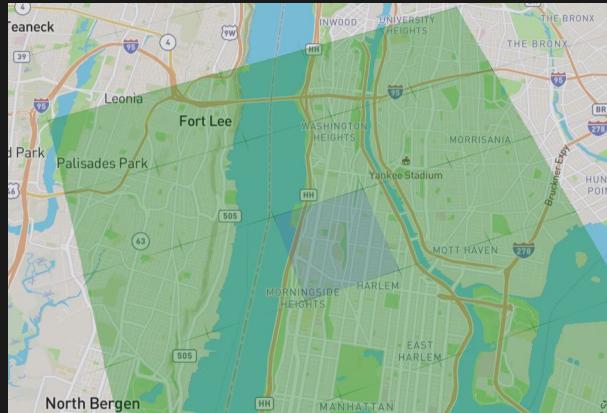
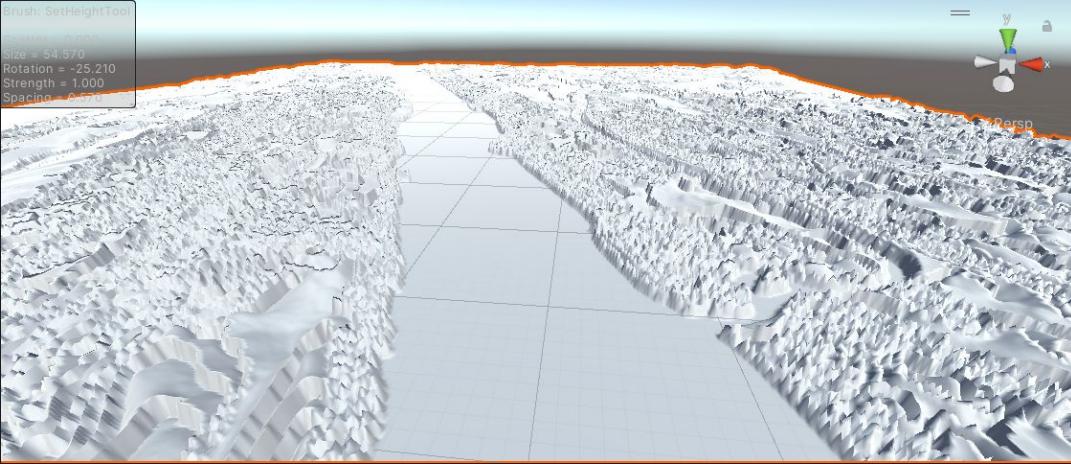
amounts of data for a terrain.



Heightmap Import Export

City Skylines has a height map generator based on world maps.

Here is an example of a Raw File of the New York Area.



Additional Resources: [City Skylines Heightmap Generator](#)

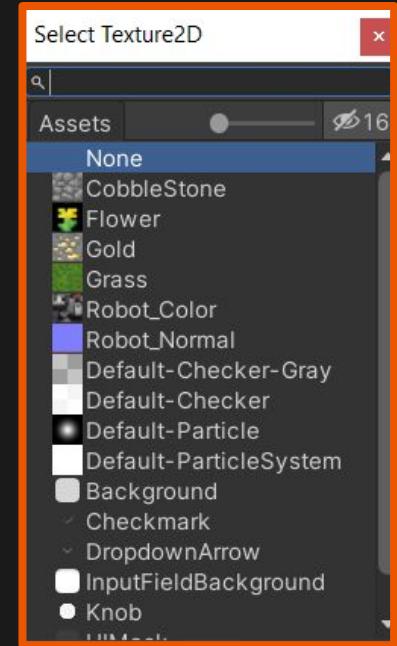
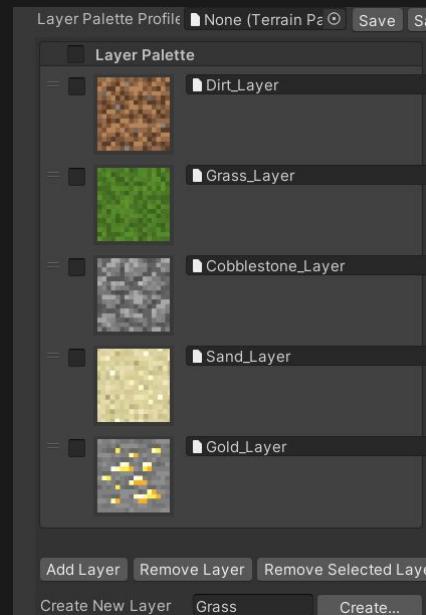
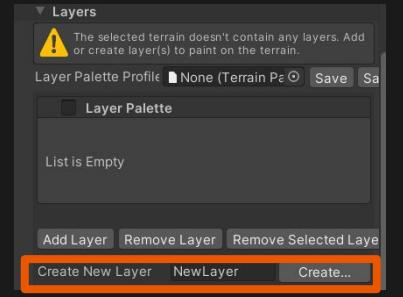
Sebastian Grygorczuk - STEM Institute at CCNY

Texture Layer

Last Sculpting Tool will allow us to Paint texture onto the terrain.

You will start with an empty Layer Pallet. Set the name of the Layer and click Create similar to Brush you will get the Texture PopUp and this will be added to the Layer Pallet.

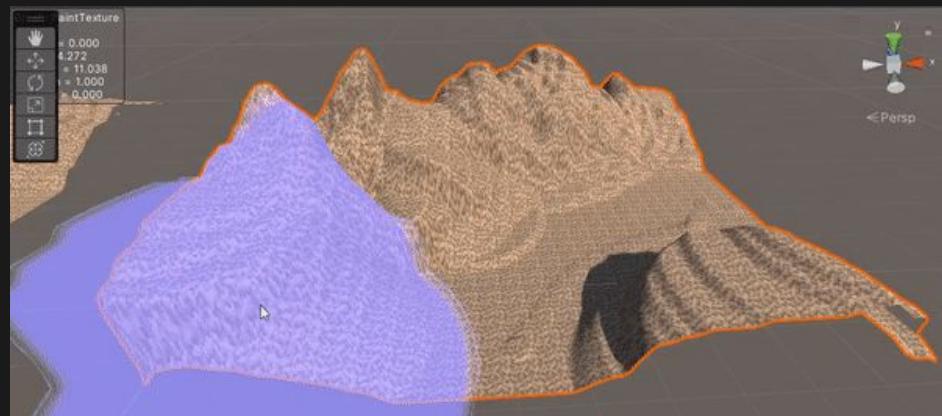
Whenever you create a Layer it creates a Layer Asset in the Project View folder you are currently in



Painting

When you create the first Layer you
create will become the base of the
Terrain.

Then using the different Layers and
brushes you can paint the terrain.



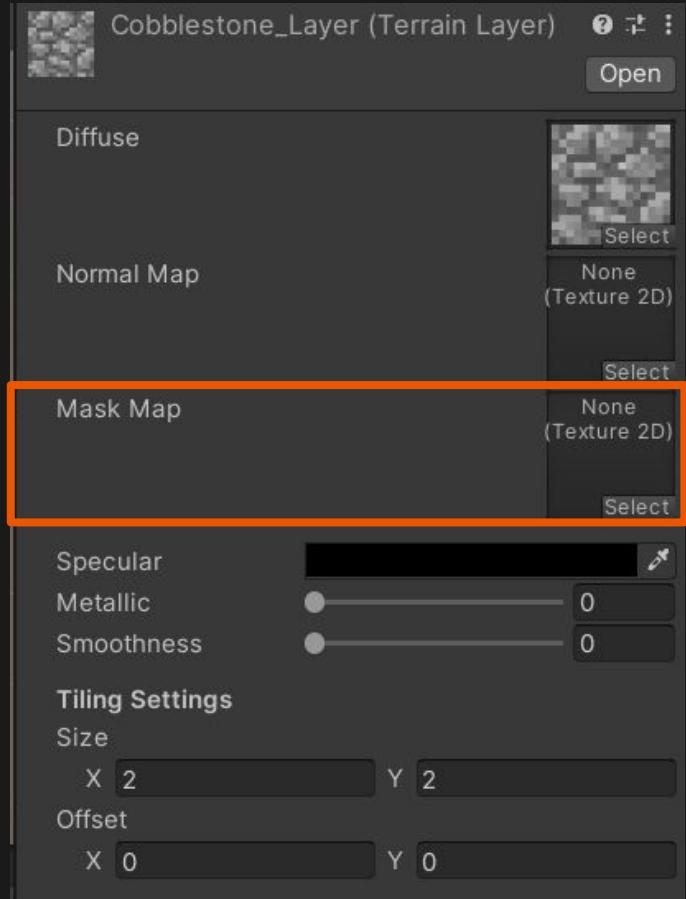
Terrain Layer

All of the Terrain Textures have their own asset that can be further tweaked so that you get the best result you want.

It should look very familiar to the Material Inspector View with Diffuse taking place of Albedo, Normal Map acting the same as it did there but having the Mask Map which acts as controls Metallic, Occlusion, Height Map and Smoothness.

If you don't use a Mask Map you can tweak those setting with given sliders.

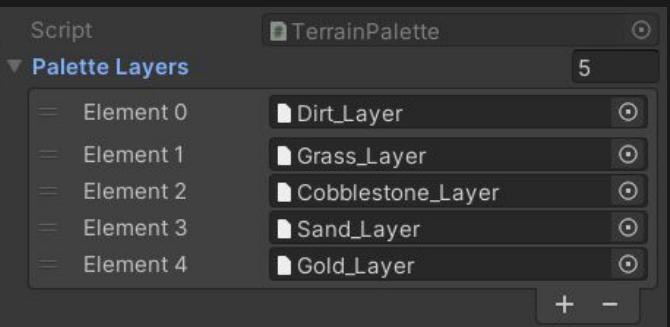
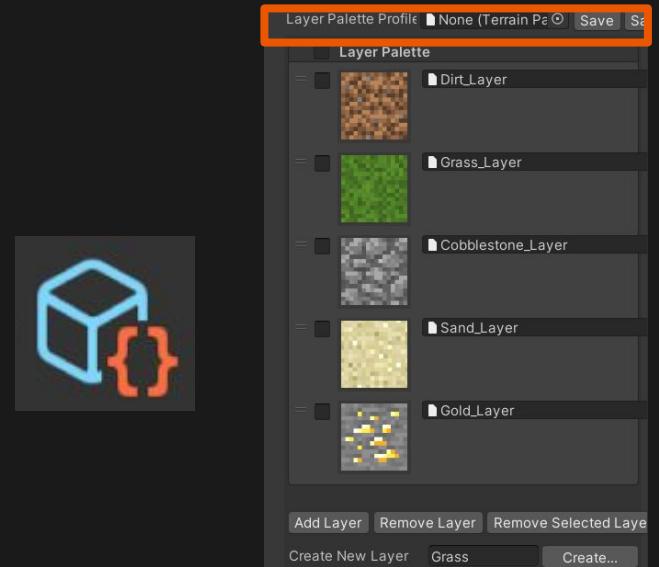
Lastly a similar section is the Tiling, saying how many times you'd like to repeat the texture.



Palette

Once you got all of your layers set you can now Save the palette and create a palette asset.

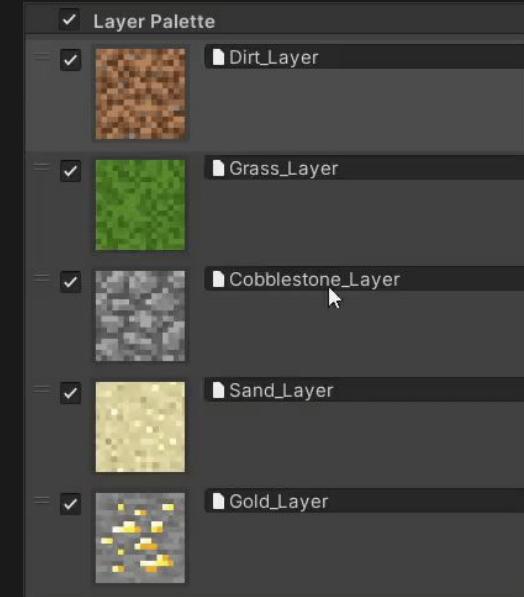
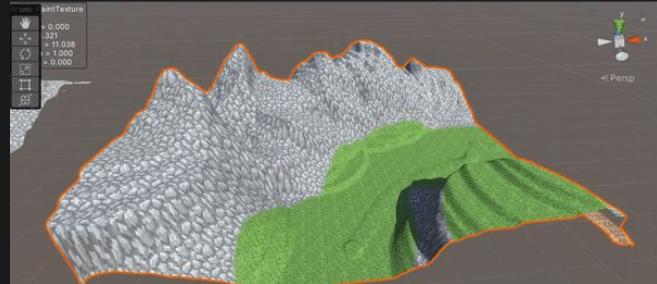
Now you can move the Palette between Terrain which isn't possible without this package.



Splat Map and Pallet Order

Once you start using Layers to paint the terrain the Terrain Data Asset will create a Splat Map, which tells the terrain which layer is drawn where on it.

It directly connects to the order of the Layers in the palette, so if you already started painting rearrange the palette will change the way your terrain looks.



Challenge - Paint

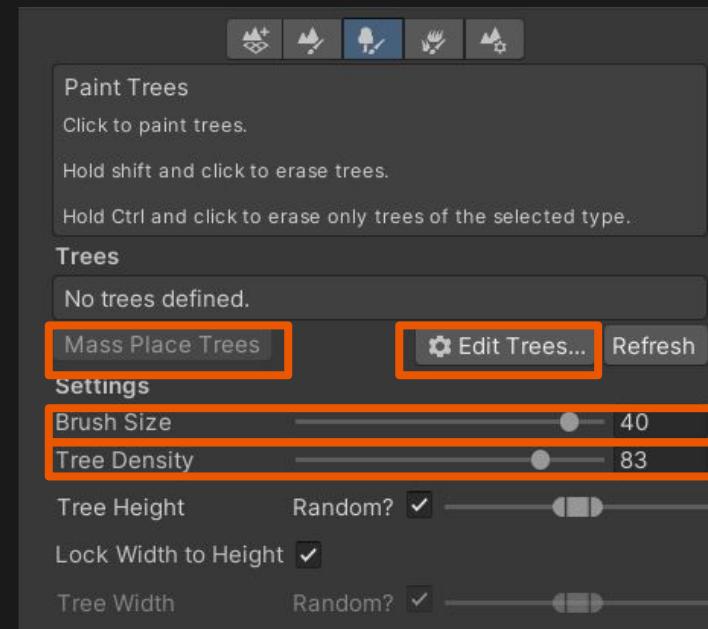
1. Put together your own palette using the provided textures or download your own from the web.
2. Using the Palette paint the Terrain you previously created and once you're done post the new screenshot on Padlet.



Trees

Trees tab allows you to paint on trees which are any Prefabs with models attached to them.

It works very similar to the texture paint tool with the size of brush and strength behind the Tree Density with how many trees per in that area you'd want to fit.



Tree Asset



For this example we will use the Free Trees by Ada_King.

Import the Trees just like we did with Kyle.

Once you import the trees you can click on the [1]

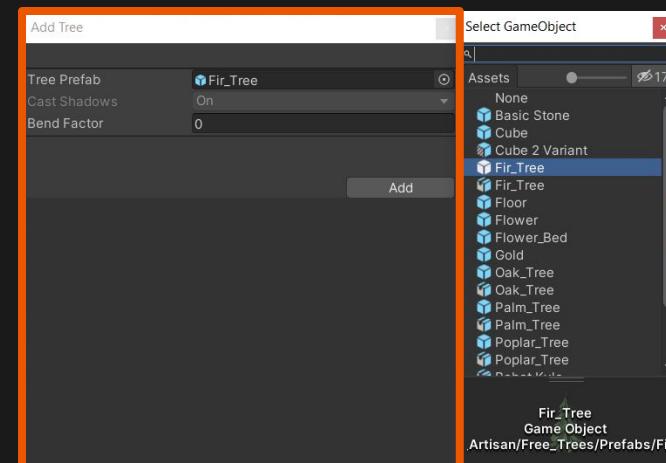
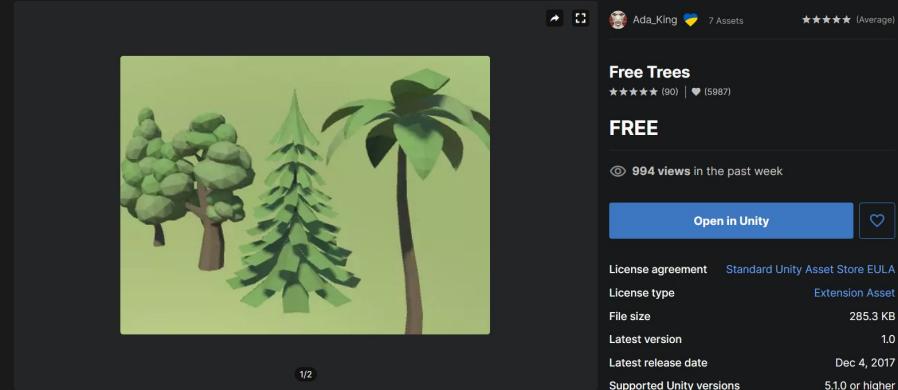
Edit Trees... button which will bring up the Add Tree

Menu from which you'll add all of the new trees.

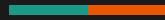
You are adding Prefabs, whatever attributes the prefabs holds will be relayed to the tree spawned on the terrain.

Additional Resources: [Free Trees](#)

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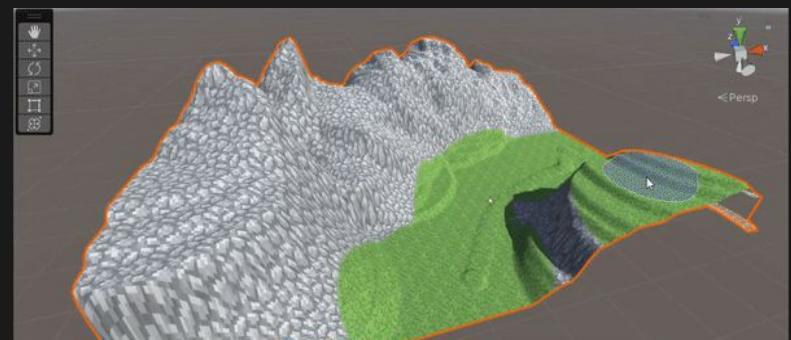
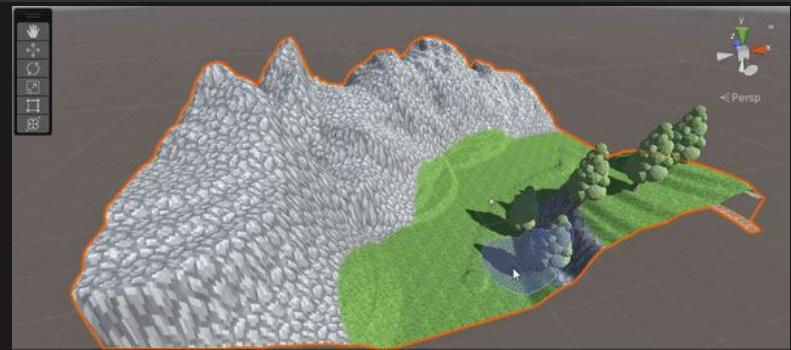


Paint Tree



Once you have your trees picked out
grab one and begin to paint like you
would the texture.

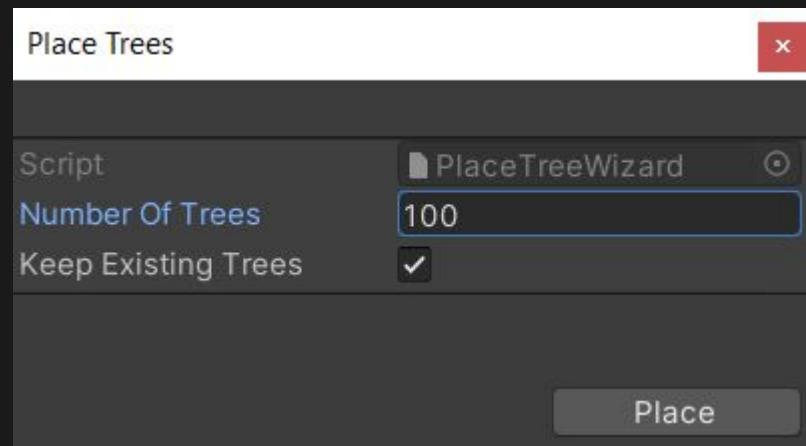
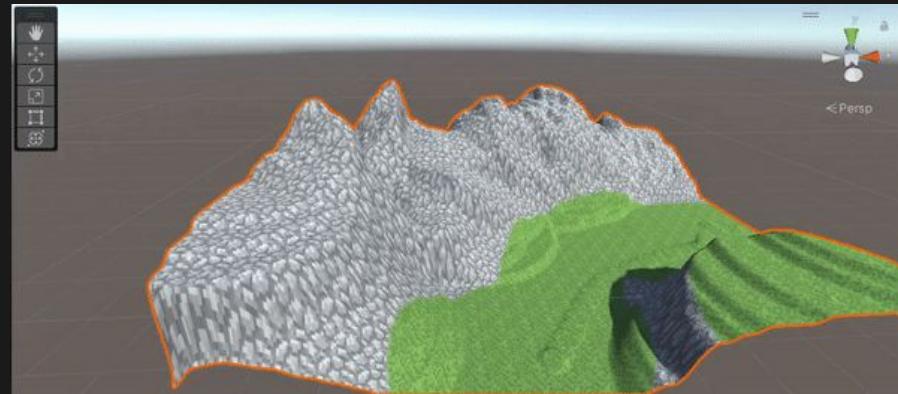
This isn't necessarily tied to only trees
as you can attach any 3D Model and
start using it with the Tree Paint Tool.



Tree Auto Generate

One way to create nice looking environment
is by using auto generation. By clicking [2]
Mass Place Trees you will get a pop up of how
many trees you want to use.

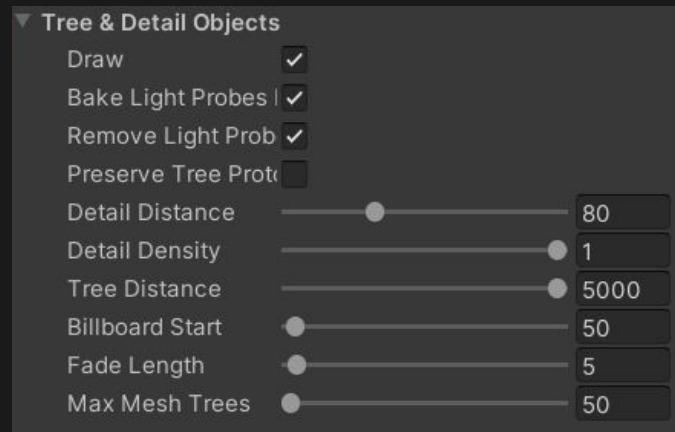
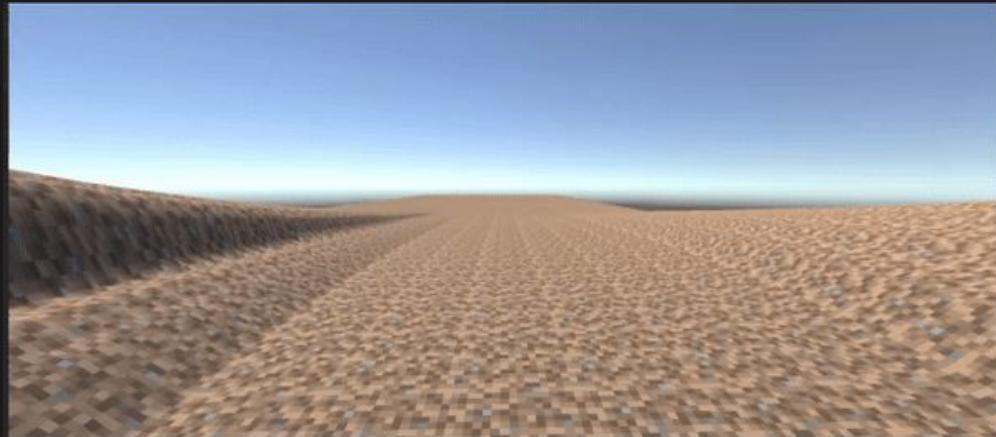
The Script in place is PlaceTreeWizard and it
looks for the flattest terrains and uses all of
the trees you've imported.



Draw Distance & Billboarding

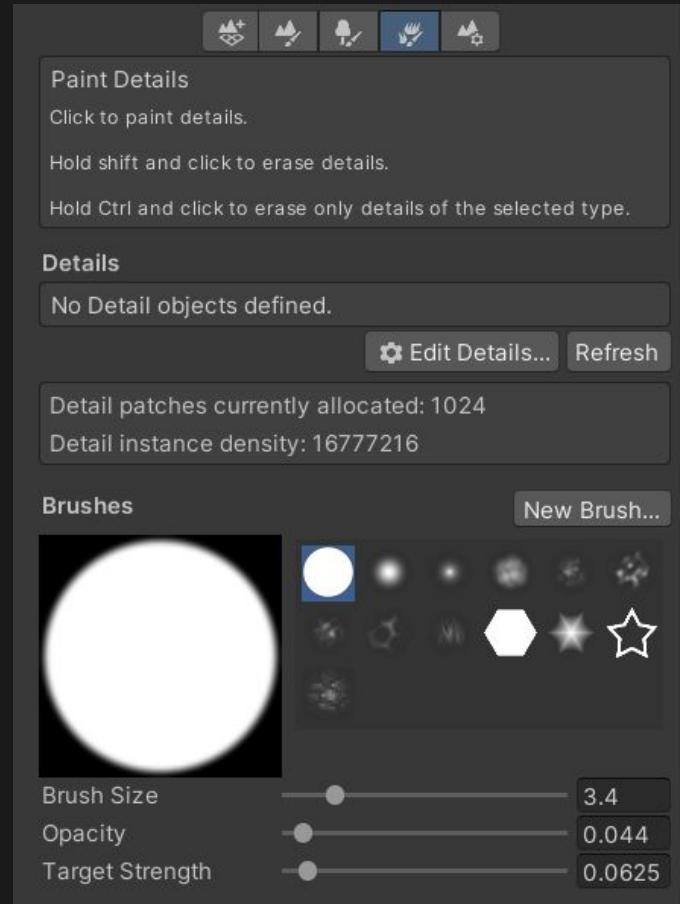
Drawing all of the trees always would be very energy intensive, that's why Terrain have a built in draw distance meaning if you're far enough it won't be drawn and if you're just far enough it will draw the 3D Model as a 2D Image.

2D Images are less computationally consuming on the computer, to keep that 3D effect something called **Billboarding** is introduced where the 2D Image always faces you no matter which direction you are looking at it from.



Grass

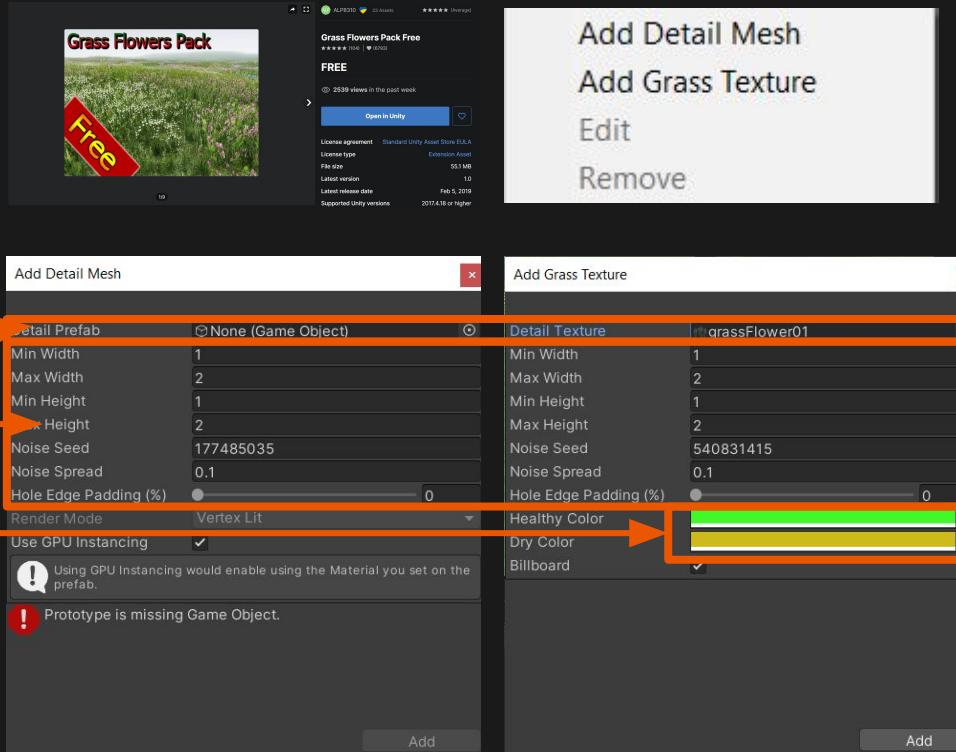
Grass tool uses the same options as the texture for paint on grass. With the only difference being that rather than textures we're painting on 2D sprites or 3D Meshes.



Add Details

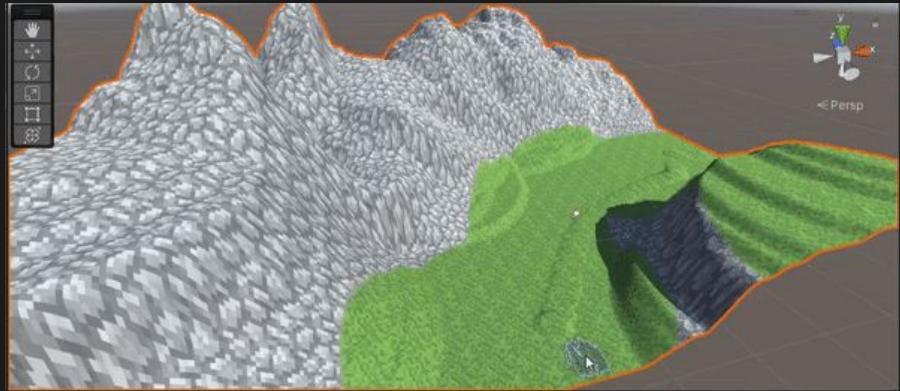
When adding detail we have choice of adding a Mesh or a Texture.

Once you choose weather you want to add a Mesh or a Texture you'll be met with similar screens. [1] will ask you to choose the Prefab you want to use. [2] will provide you with extra control over how the object is painted on the terrain and [3] is only for textures allowing them to change the hue of the image to add additional visual variety.

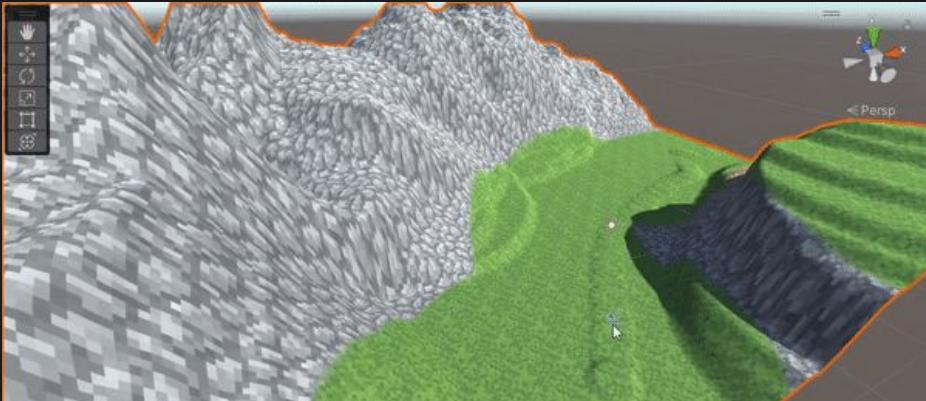


Painting Grass

Painting grass or models is just as easy as painting on texture, choose the area and plop down you details.



Be warned the more grass, detail mehes and trees you add the more work it is for the computer to render and process all of them.



Wind

When working with Texture Grass they

will be stimulated to sway in the wind.

Going to the Setting tab and looking at

Wind Settings will allow you to control

the wind actions.



Challenge Tree + Grass



1. Finish off your environment using trees and grass.
2. Once you're done upload you finished setting onto Padlet.

