Diving Into Unity

Sebastian Grygorczuk - STEM Institute at CCNY

Today's Agenda

We're going to be going over Chapter 1: Introduction to Unity, Chapter 2: Game

Objects, and Chapter 3: Models, Materials, and Textures

- We're going to get familiar with the layout out all the Unity Views.

- Learn how to navigate through a scene and interact with Game Objects.

- Devel into different Components such as Mesh, and 3D Renderers.

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The Unity View

The Unity Engine is made up of a multitude of windows that will be essential to creating your game. The windows we will currently look at are:
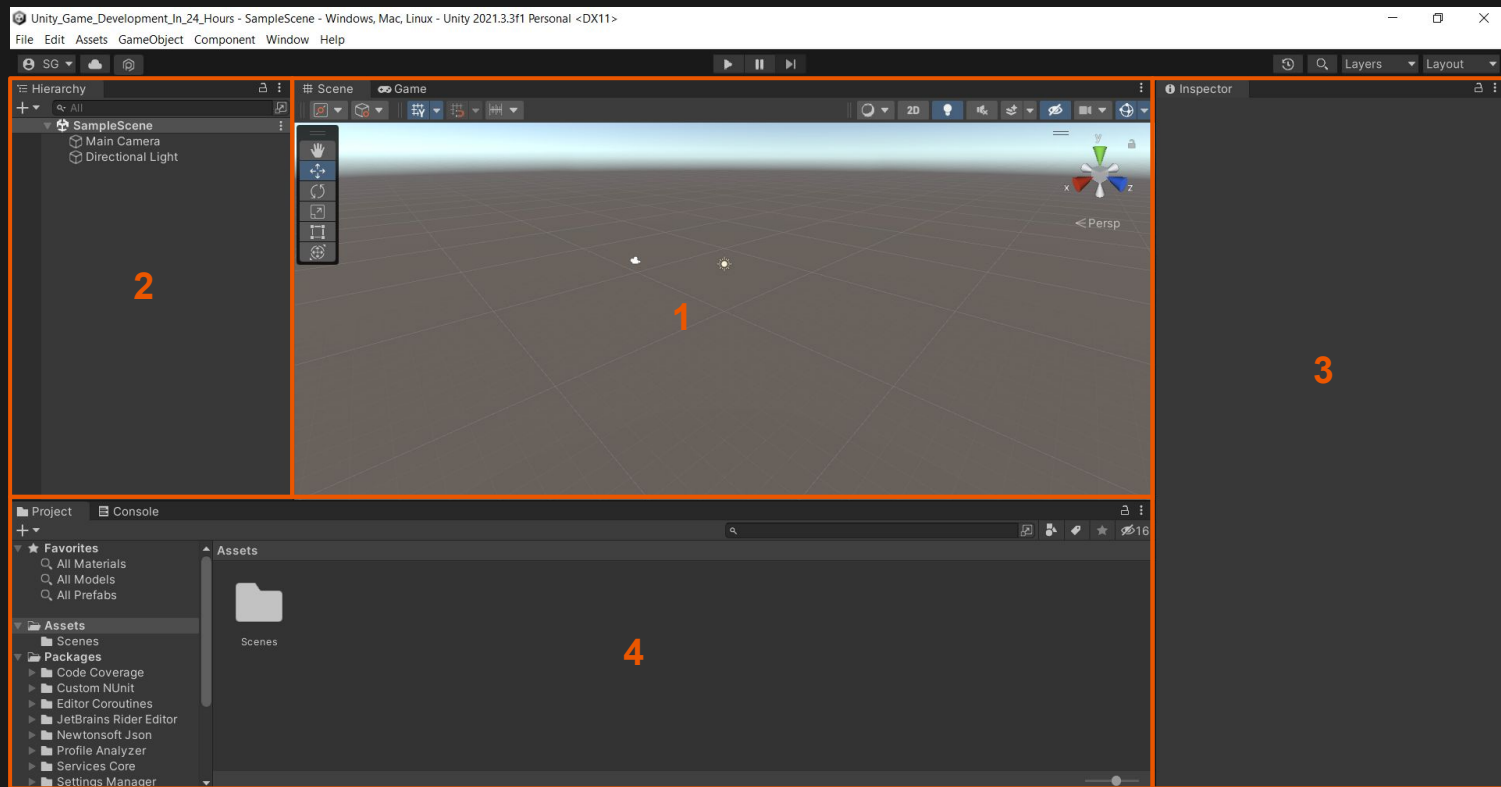
[1] Scene View

[2] Hierarchy

[3] Inspector

[1] Game View

[4] Project View

[4] Console

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Game Object

Before we get into the different views I would like to first define what a Game Object is as the two words will come up a lot.

Game Object is a foundational component of anything that will exist in a game. Think of it as an empty container that you can add any property to turing it from nothing into a car, person or anything else you can imagine.

As we make our ways through all of the Views you will be very familiar with Game Objects.

Additional Resources: Page 23 of the Textbook, Game Objects and Components - Unity Official Tutorials

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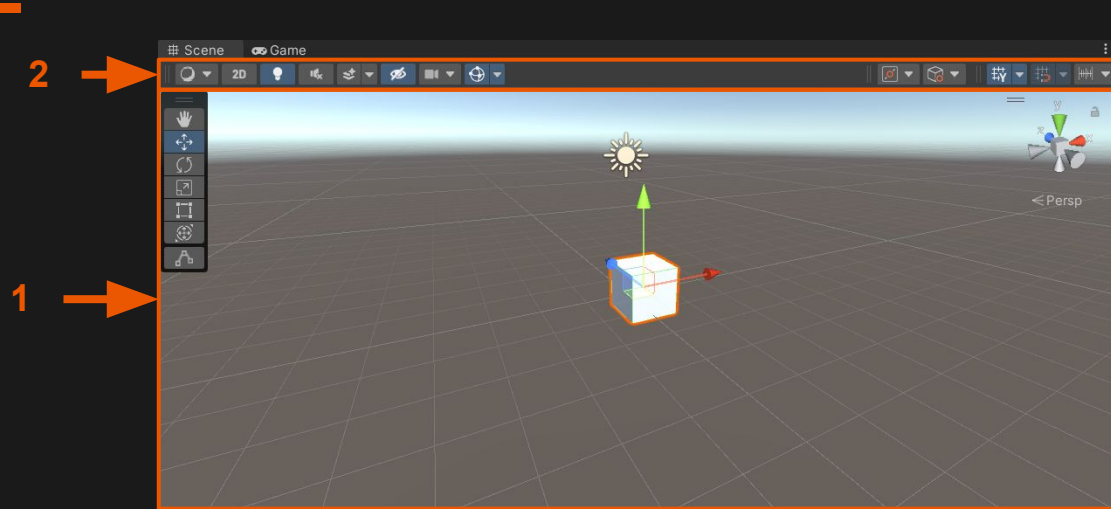
Scene View

The [1] Scene View allows you to visual see the game you are building, and the [2] menu allows you to manually edit the Game Objects in the scene. In this scene we can see two Game Objects, the Cube and the Light Source.

Additional Resources: Pages 14-15 of the Textbook, The Scene View - Unity Official Tutorials

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# Elements inside the Scene View
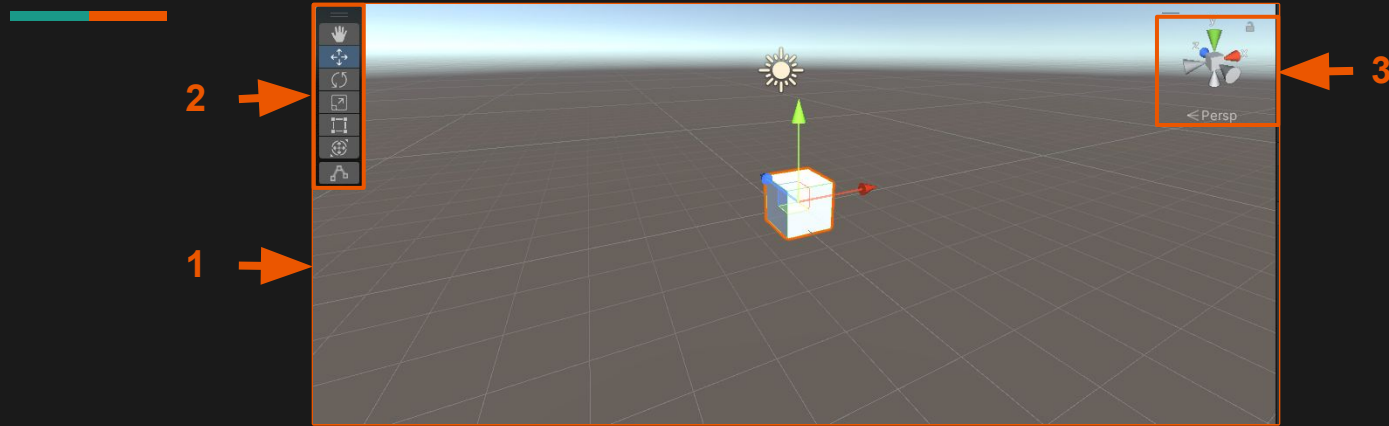
[1] The Scene View, here you can fly/move around the scene or level and edit the position, rotation, and scale of Game Objects using [2] Transformation Tools Bar.

[2] Transform Tools Bar, allow you to manipulate the Game Object that are within the Scene View.

[3] Scene Gizmo, allows you to snap to different planes to see the game at different angles.

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Scene View
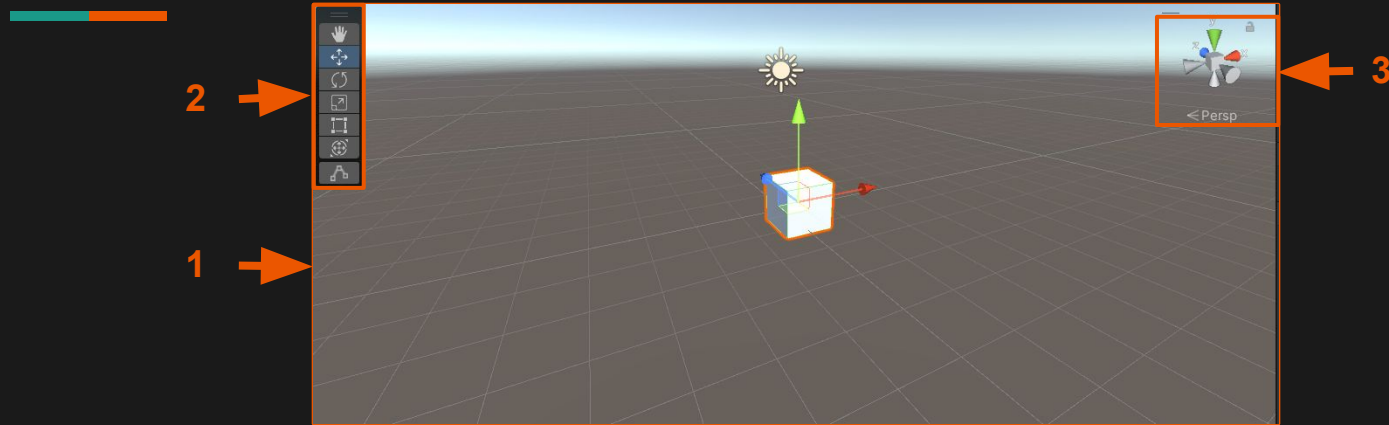
[2] Transform Tools Bar, this collects different tools that will help you navigate the scene and interact with Game Objects. These tools are are the Hand Tool, the Move Tool, the Rotate Tool, Scale Tool, and Rect Tool.

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Hand Tool/Scene Navigation 🖐

When you have the Hand Tool Selected, you can freely explore your scene. There are many button combinations that will allow you to change the way you are navigating.

Holding the Left Mouse Button will let you move along the current 2D plane, allowing you to move left,right, up, and down.

Holding the Right Mouse Button will enter you into Fly Mode which will allow you to use WASD to move freely around the world.

Holding Left Alt locks you in your current position and using the Left Mouse Button you can now rotate around that point or using the Right Mouse Button you can zoom in or out.

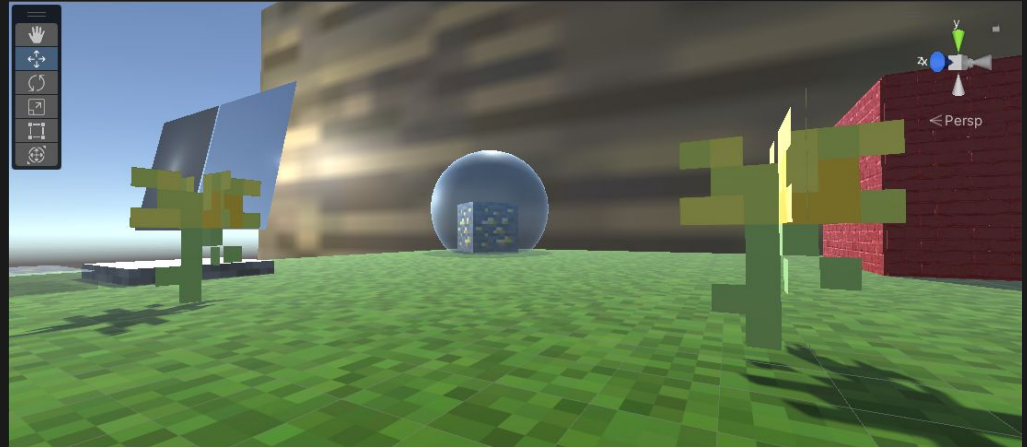You can also zoom in or out using the Mouse Wheel at any point.

Additional Resources: Pages 18-20 of Textbook

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Navigation Challenge

Navigate around the Scene and
Recreate this Screen Shot

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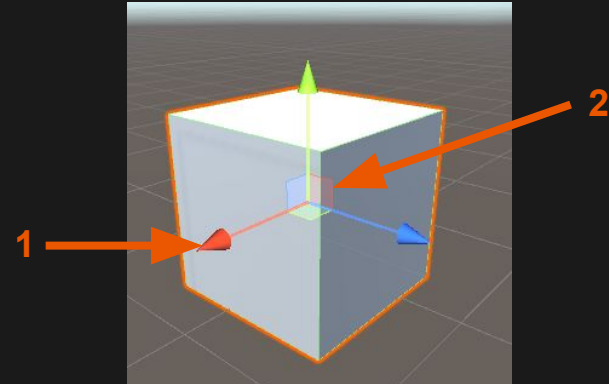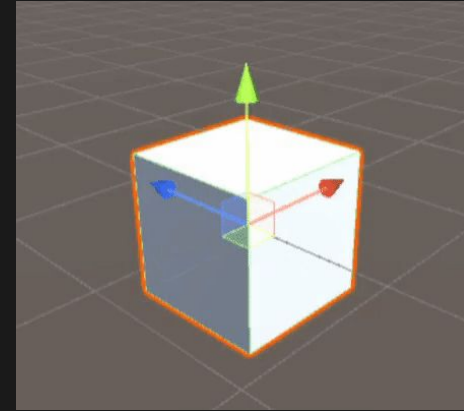
Transform Tools - Move Tool

The move tool allows you to change the position of the Game Object you are currently looking at. You will know what Game Object you are currently view as it will show the handles.

[1] The arrows allow you to move the object along individual axis, X,Y, Z and red, blue, green respectively. This will correspond to the colors on the Scene Gizmo.

[2] The planes will allow you to move the Game Object along the three different plains. XY, XZ, and YZ, and blue, green, and red respectively.

Additional Resources: Pages 32-33 of Textbook

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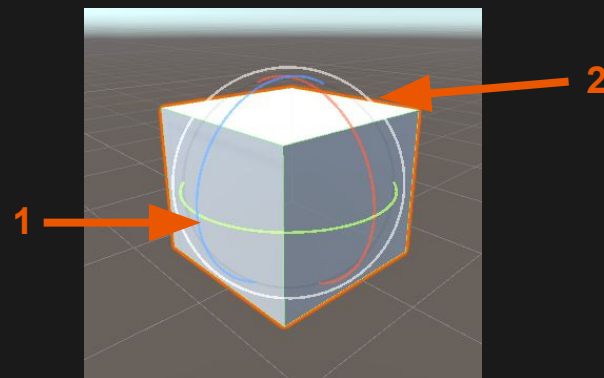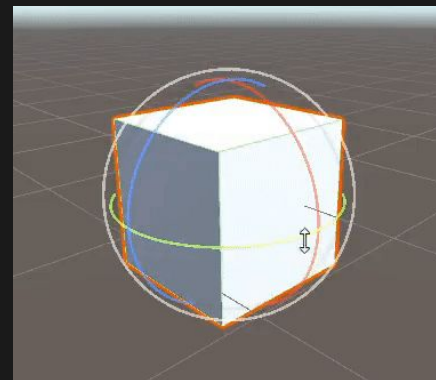# Transform Tools - Rotate Tool

The rotation tool allows you to rotate the object you are working with.

[1] The three rings are broken down into individual colors of red, green and blue, and allow you to individually adjust the rotation of X, Y, and Z respectively.

You will notice a yellow arc show up as you are rotating, it shows you the amount of degrees you rotated from your original rotation.

[2] The White Ring will rotate the around the Scene View Z Axis

Additional Resources: Pages 33-34 of Textbook

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Transform Tools - Scale Tool

The scale tool allows you to modify the size of each side of the Game Object that you are currently looking at.

[1] The Arrows allow you to modify each of the axis individually X, Y, Z with red, green and blue representing each respectively.

[2] The Middle Notch will allow you to scale all three axis at the same rate.
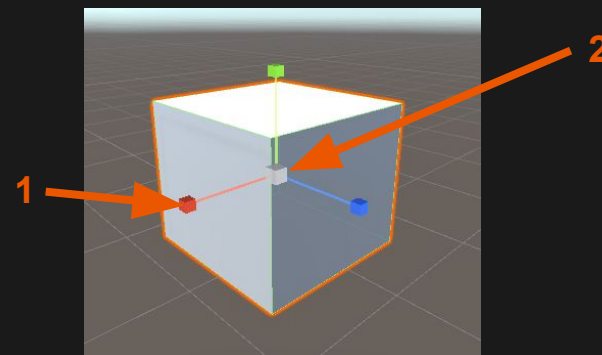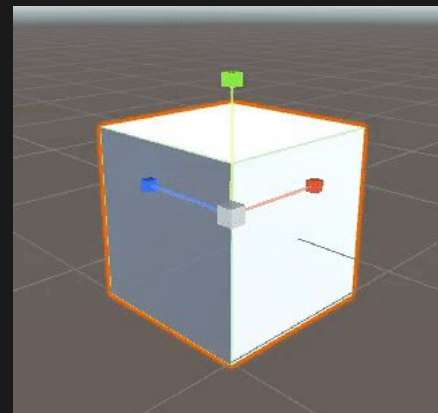
Additional Resources: Pages 34-35 of Textbook

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The Rect Tool combines all three of the previous tools into one, allowing you to translate, rotate and scale the object all at once.

[1] As you can see however the Rect Tool works on a plane, so you will only be modifying the object in XY, XZ, or ZY planes therefore it's relegated for use on 2D elements such as 2D game object or UI elements.

[2] Pivot Point is the center of the object and is the point the object rotates around.

1

2

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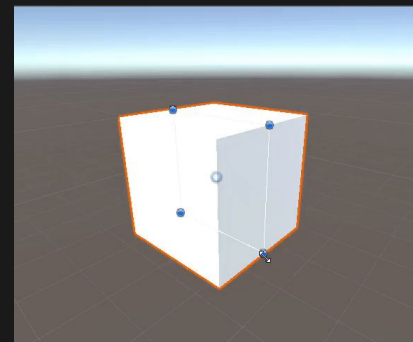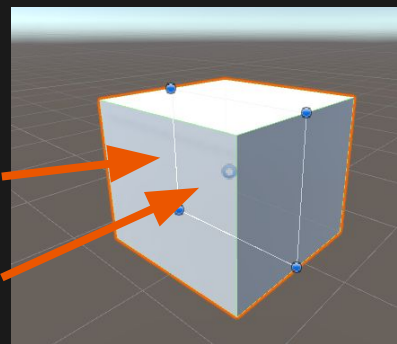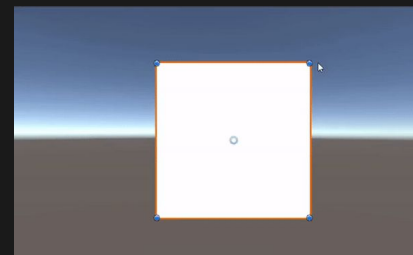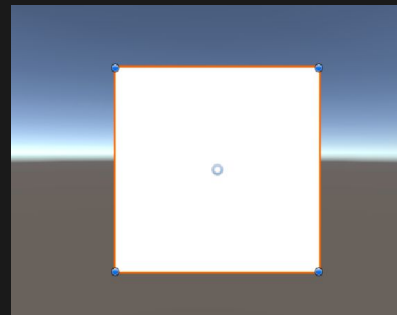
Tool Hotkeys

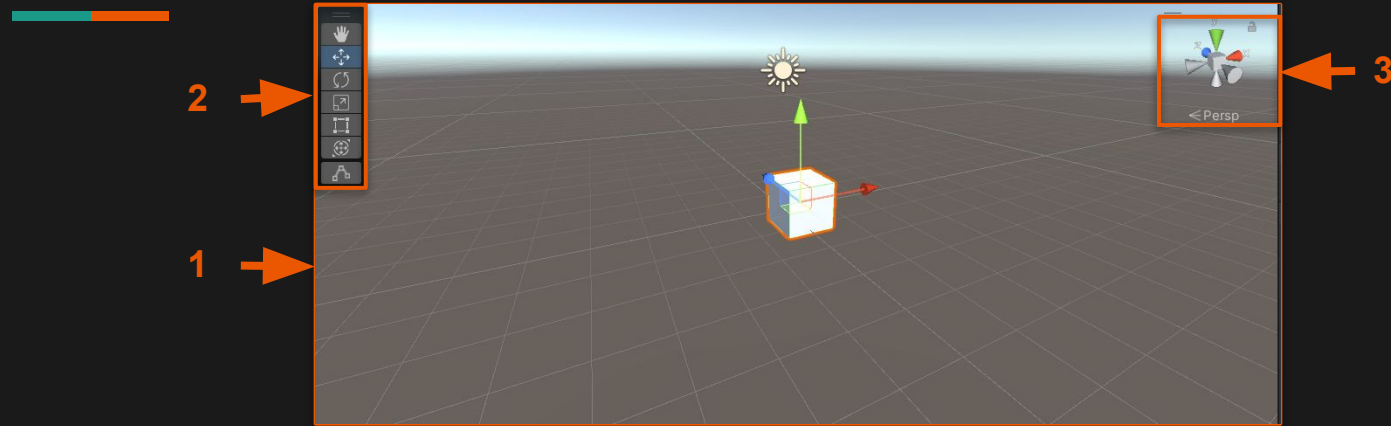All of these functions are mapped to Hotkeys. If you would rather quickly swap between settings instead of selecting from the menu, here's a helpful chart.

Tool	Hotkey	Function
Hand	Q	Navigate in the Scene
Move	W	Translate selected object
Rotate	E	Rotate selected object
Scale	R	Resize selected object
Rect	T	Manipulate 2D object

Scene View

[3] Scene Gizmo allows you to quickly snap to different planes XY, XZ, ZY, -XY, -XZ, and -ZY in addition to changing the camera view from perspective to isometric and likewise. This can be incredibly helpful in transforming Game Objects as manipulating them in 3D space

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Scene Gizmo - Six Planes

Transforming Game Objects in 3D space can be very hard to orient and translate. Thus snapping to a 2D axis could allow us to much easier move the object to desired position, rotation or size.

[1] There are six cones, ones for the positive X, Y, and Z axes and ones for the negative X, Y, and Z axes. Clicking on the Y cone would snap you to the XZ plane.

There is a text indicator that helps you figure out the orientation, while performing the snapping you will go through Top (ZX), Front (-XY), Back(XY), Left (-ZY), Right (ZY) and Bottom (-ZX).

[2] You can lock the view to the current rotation in case you don't want to accidentally move the scene camera.

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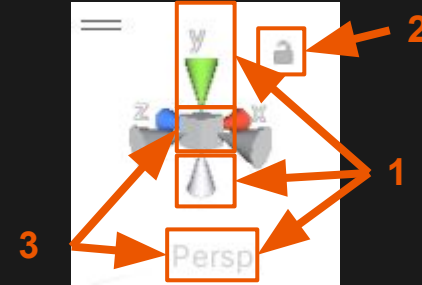
Isometric Vs Perspective

[3] You may have noticed that before we snapped to a single plane the Scene Gizmo indicated that we were in Persp, or Perspective mode.

Perspective is the way we view the world, the further a object is from us the more foreshortened are it's dimension are in relation to us.

Isometric on the other hand does away with that distortion by keeping the projects on all three axis equal. This is helpful when we want to have a detailed drawing but we lose Depth in the process.

To switch between these you can tap on the Cube in the middle of the Scene Gizmo or on the text.

Additional Resources: **Isometric vs Perspective**

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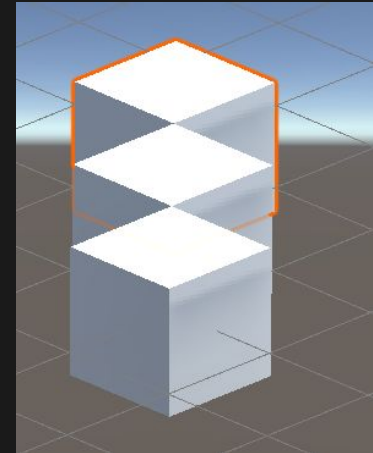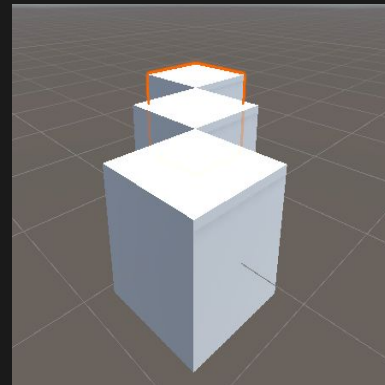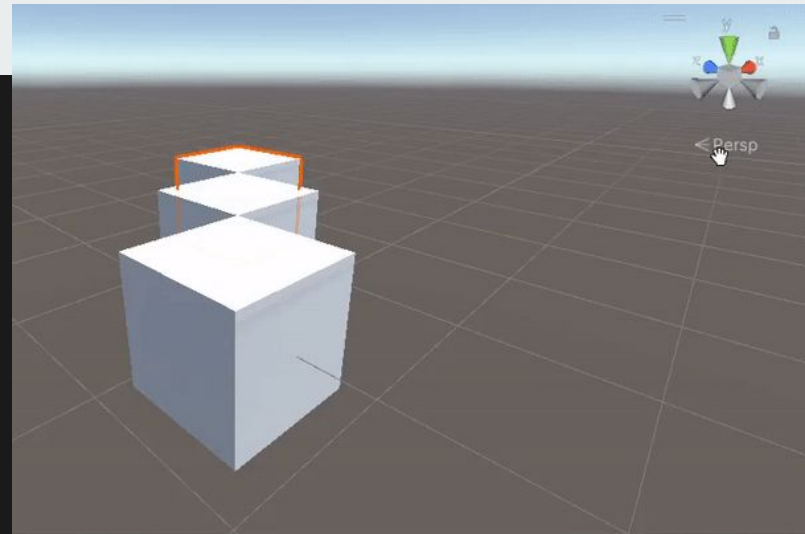
Isometric Vs Perspective Example

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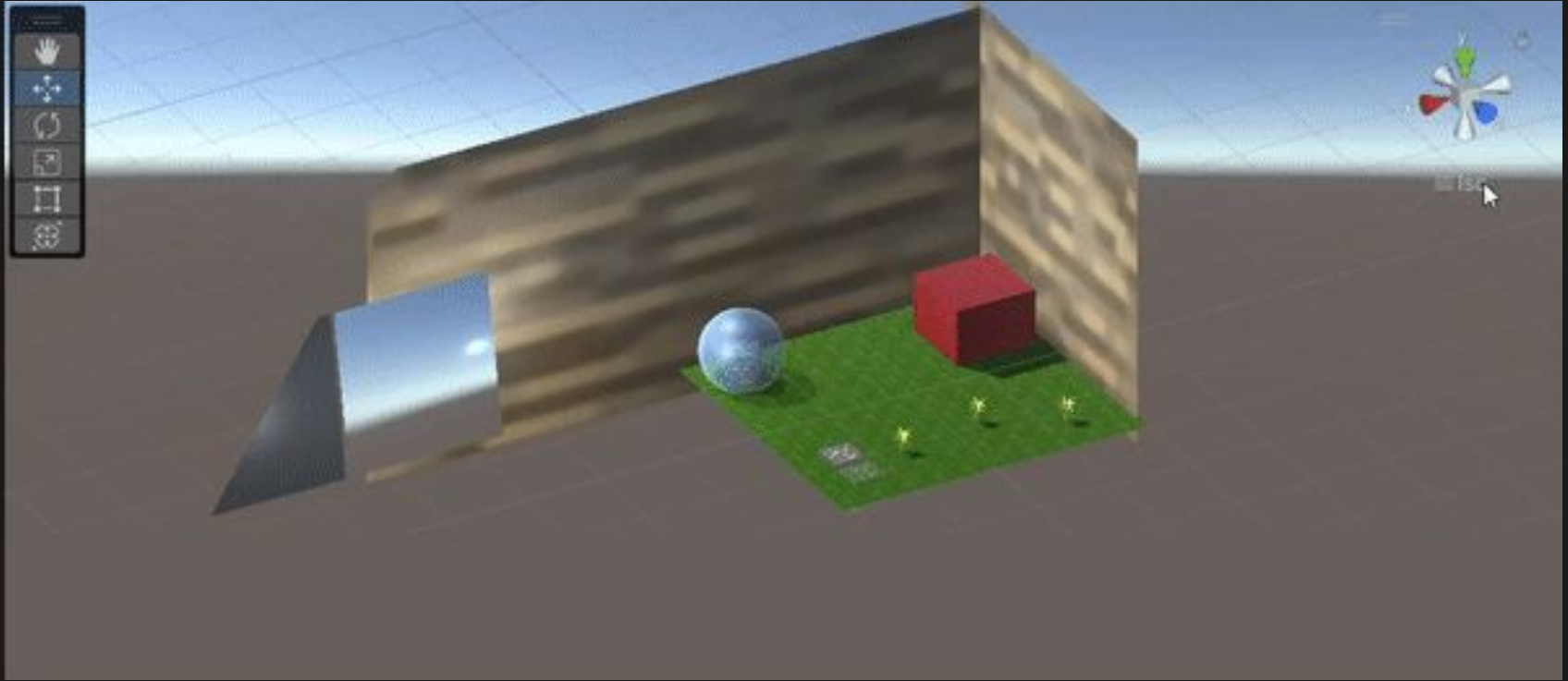
Challenge - Transformation

Scale one of the flowers to be much bigger, Rotate it and Translate on top of the building.

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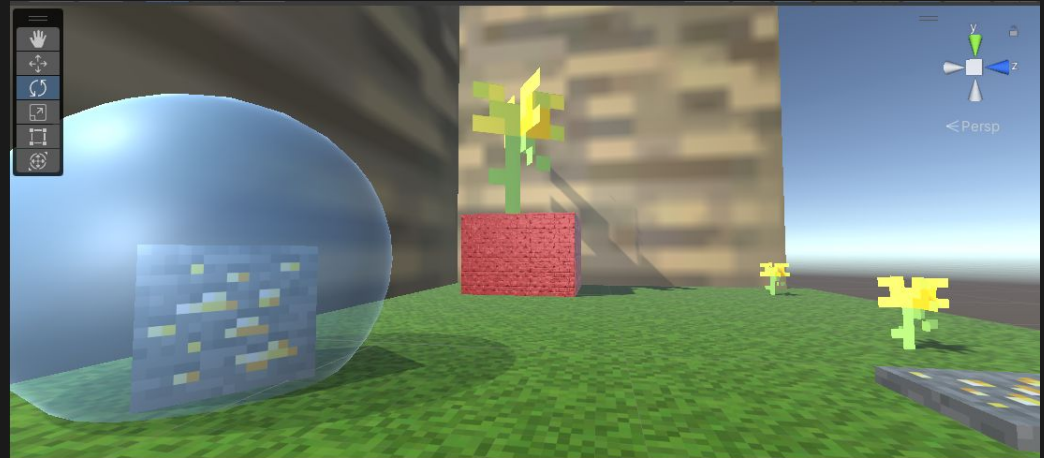
Scene View Control Bar
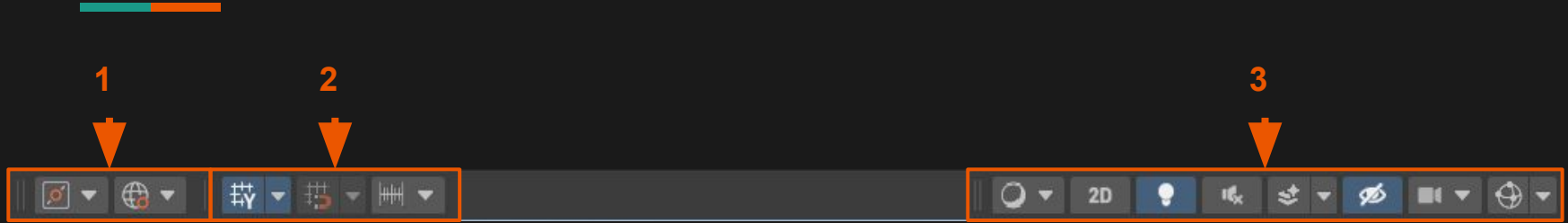
The Scene View Control Bar breaks down into three tools sets, these will further help us manipulate the object to our desire and display the scene that is best at the moment.

[1] Tool Settings, Modifies how the tools work

[2] Grid and Snap, Controls the Grid

[3] View Options, Controls how the Scene is show to you

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Tool Settings: Pivot

[1] Handle Position Toggle lets you switch where you'd like the Transform Gizmo to show up on the Game Object. So far we have seen it always show up in the center of the Game Object, this act as the origin point for the Game Object.

However, if you import an item from a 3D modeling software it may have a pivot point that's not it's center. Unity allows you to use either one as your preferred origin point.

1

2

Center

✓ Pivot

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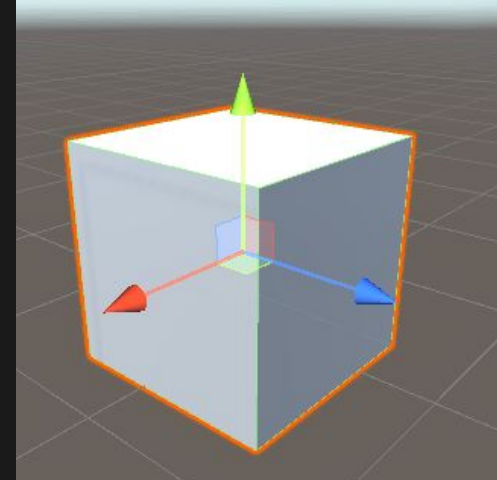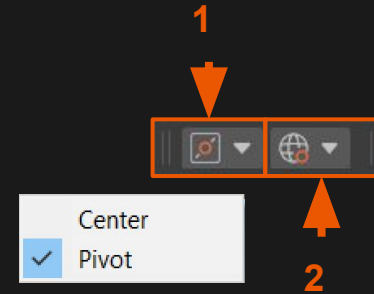
Tool Settings: World vs Local Coordinate

[2] As we have been transforming our Game Objects they always referred to their Origin Point as (0,0,0). This means they are abiding by the World Coordinate System. Each object also has their own coordinate they keep track of, mainly in respect to its rotation.

This is a very useful feature for character control. Rather than having to adjust which way you're moving in accordance to the world you can just program to move forward and using the Local Coordinates you just move in the axis you deemed as forward.

Additional Resources: Pages 28-29 of Textbook, **Unity Tutorial - Local Space Vs World Space in Unity**

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1

2

Global
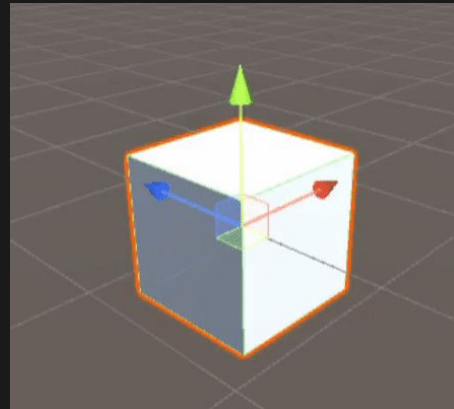
Local

World Coordinates

Local Coordinates
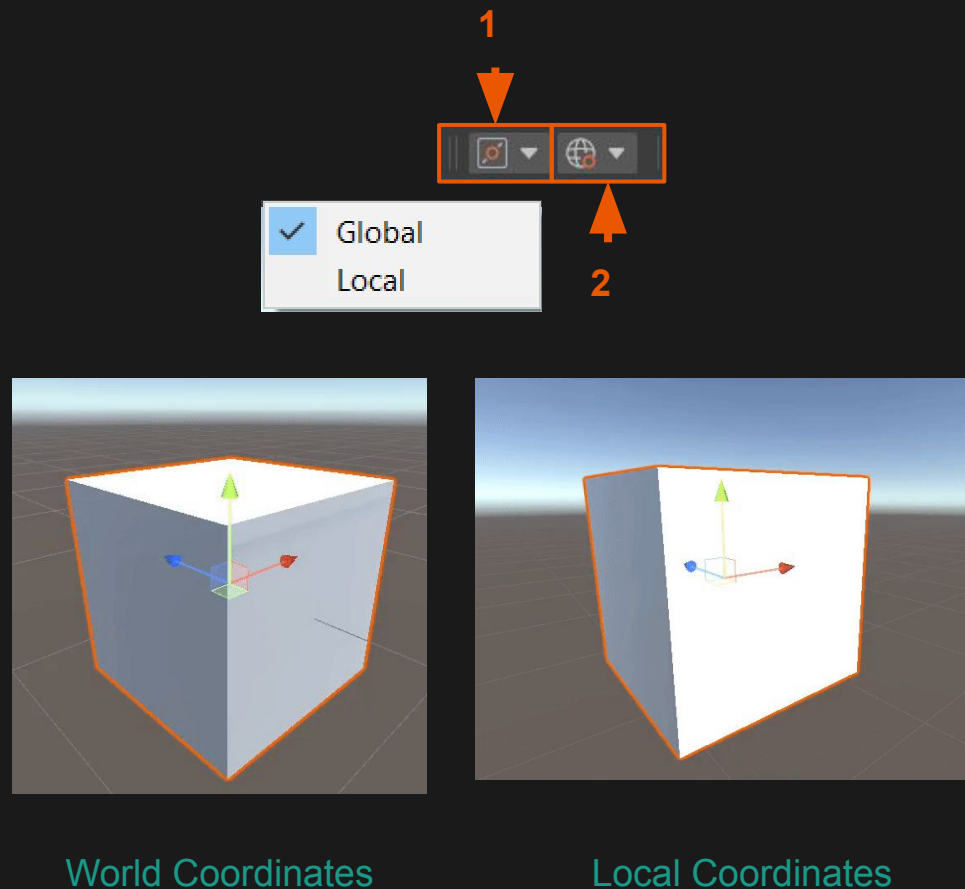
Grid and Snap

[1] The Grid Visual allows you to toggle the Grid On and Off, set the axis on which you'd like it to show up on and adjust the opacity [transparency] of the grid.

[2] Grid Snapping allows you to toggle on and off if you'd like your Move Tool to snap to the points along the grid. You can change the distance between each point.

Grid Snapping is only available while you are translating the Game Object in World Coordinates.

Using the grid you can have better time placing items precisely.

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Grid Visual
Grid Plane   X   Y   Z
Opacity
Move To   To Handle   To Origin

1

Grid Snapping
Grid Size   X 1   Y 1   Z 1
Align Selected   All Axes   X   Y   Z

2
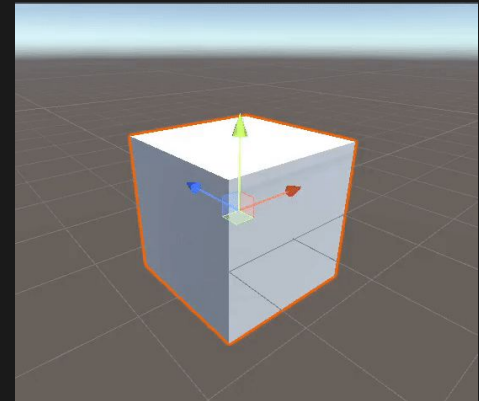
Snapping Off

Snapping On

Challenge - Turn on Grid

1. Make sure you're set in the Global Coordinate System
2. Select the Move Tool
3. Make sure that the Grid Toggle and Grid Snapping are Toggled on,
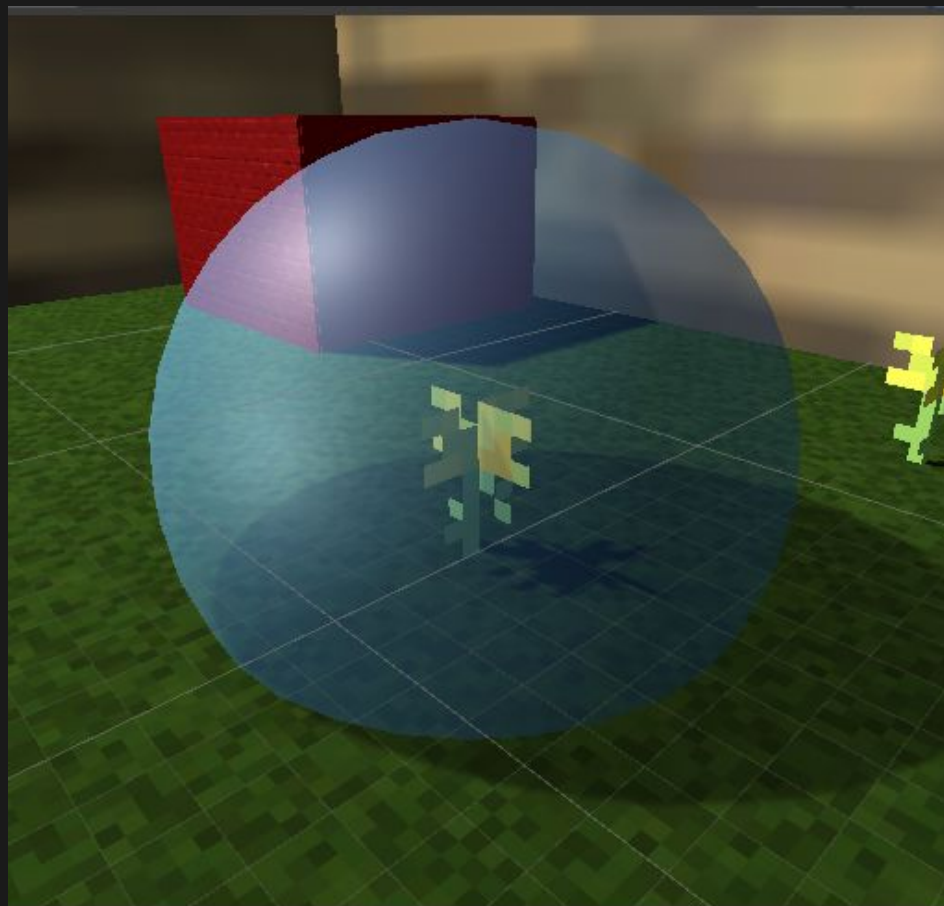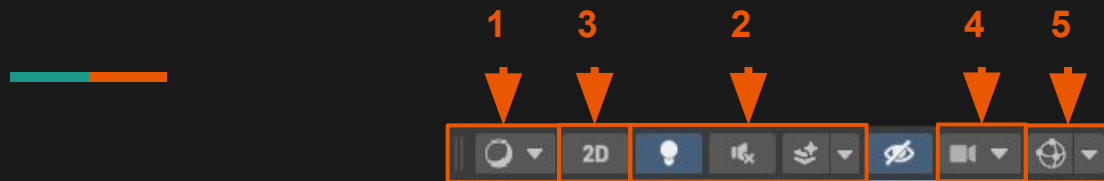4. Move the Glass Sphere over one of the Flowers

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View Options

The View Options give you full control over how and what is displayed in the scene.

[1] Draw Mode picks how the objects should be rendered.

[2] Light, Audio and Other Visual Effects Toggles checks how the scene works.

[3] 2D Toggle flips between using the 3D space or using 2D space.

[4] View Scene Camera Options are camera settings that affect how we move around in the Scene View.

[5] Gizmo Visibility Toggle controls Icon display

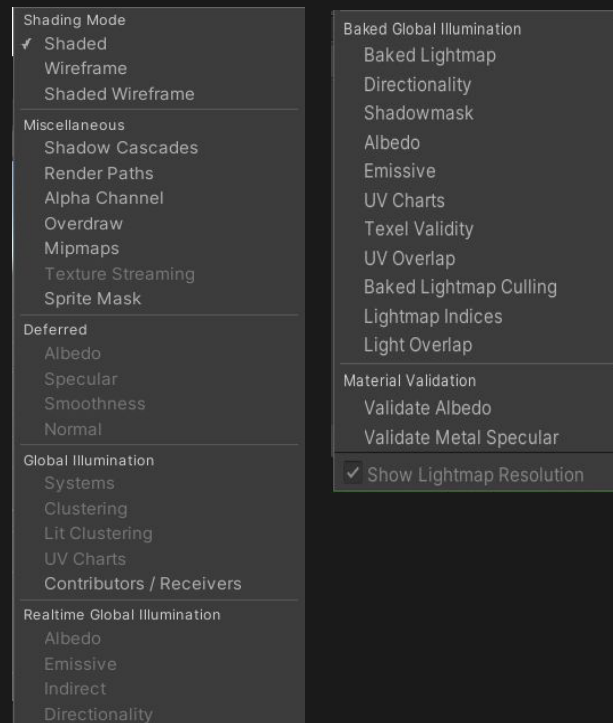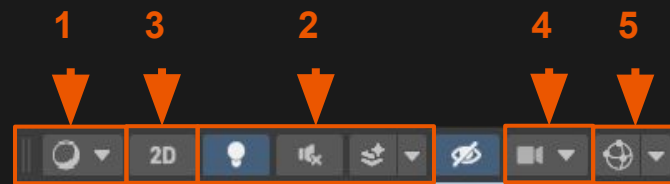Sebastian Grygorczuk - STEM Institute at CCNY

View Options - Draw Mode

[1] Draw Mode allows you to switch between different version of rendering the objects in the scene. For the most part we will stay in the default Shade Model option as all of these option pertain to advanced lighting ideas.
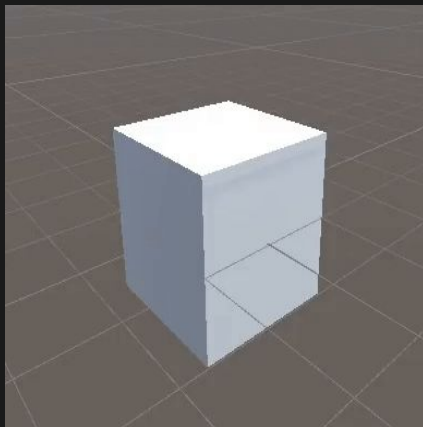
Additional Resources: Scene View Draw Modes For Lighting

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1   **3**   **2**   **4**   **5**

```
Shading Mode
✓ Shaded
  Wireframe
  Shaded Wireframe

Miscellaneous
  Shadow Cascades
  Render Paths
  Alpha Channel
  Overdraw
  Mipmaps
  Texture Streaming
  Sprite Mask

Deferred
  Albedo
  Specular
  Smoothness
  Normal

Global Illumination
  Systems
  Clustering
  Lit Clustering
  UV Charts
  Contributors / Receivers

Realtime Global Illumination
  Albedo
  Emissive
  Indirect
  Directionality
```

```
Baked Global Illumination
  Baked Lightmap
  Directionality
  Shadowmask
  Albedo
  Emissive
  UV Charts
  Texel Validity
  UV Overlap
  Baked Lightmap Culling
  Lightmap Indices
  Light Overlap

Material Validation
  Validate Albedo
  Validate Metal Specular
✓ Show Lightmap Resolution
```

View Options - Lighting, Audio
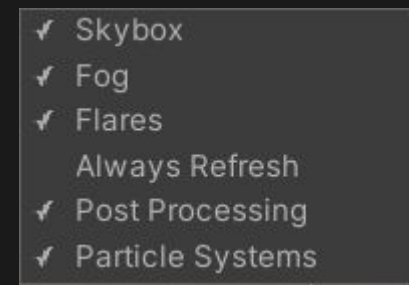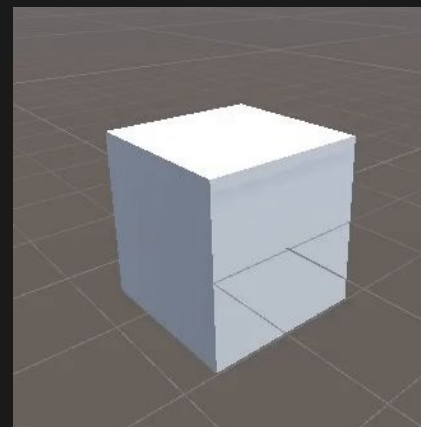
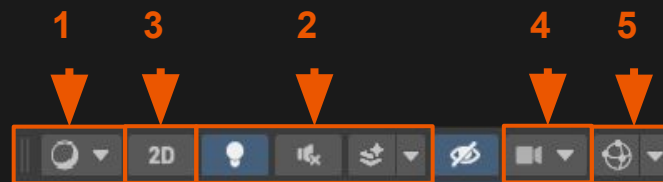

[2] These three toggles are pretty simple, you can toggle on and off

    Lighting Effect

    Audio Effects

    Visual Effects

This can allow you to see what the Game Objects look like when unaffected by the environment.

Turning Off/On Lighting and Visual Effect

✓ Skybox
✓ Fog
✓ Flares
   Always Refresh
✓ Post Processing
✓ Particle Systems

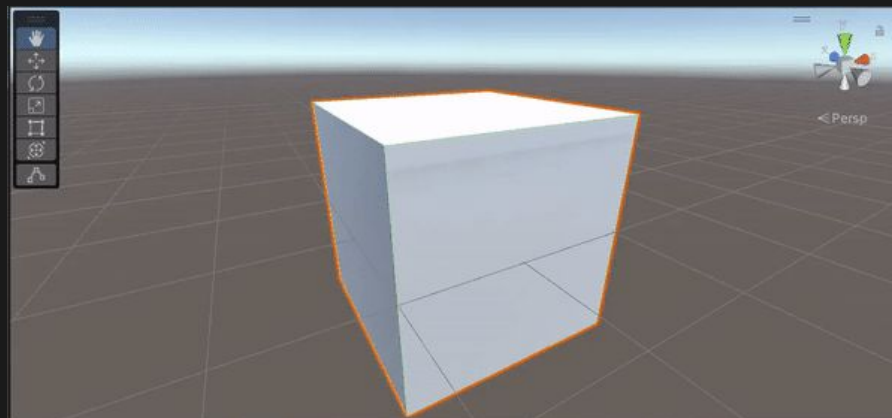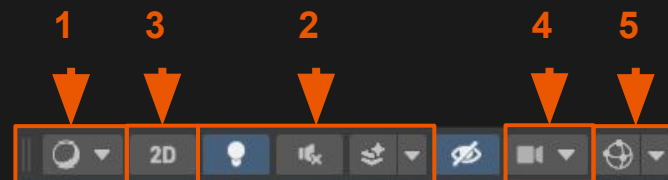Sebastian Grygorczuk - STEM Institute at CCNY

View Options - 2D Mode

[3] 2D On/Off Toggle turning this on will flatten your view against the 2D XY plane.

This will remove your ability to use the Scene Gizmo to snap or go into Isometric View.

This option will be turned on whenever creating a 2D game or working on UI.

View Options - View Scene

[4] View Scene Camera, allows you to control the Field of View. This dictates how near or far the vanishing point is. The smaller the Angle the closer to Isometric view we are the further the angle the more distorted the object is. Default is 60 degrees.

Navigation settings are there to help you with Fly Mode, Easing and Acceleration make the movement feel natural and you might want to set the max and current speed to whatever is comfortable It for you.

Additional Resources: Focal Length and Field Of View

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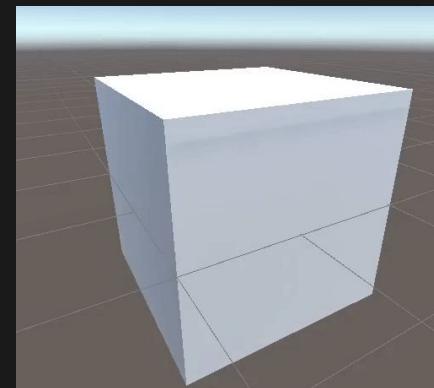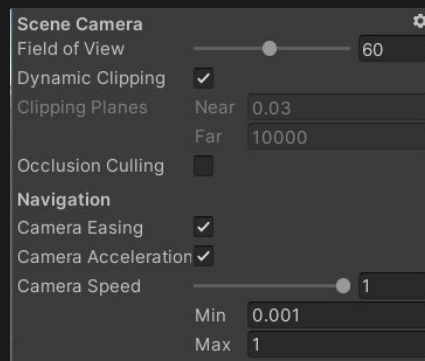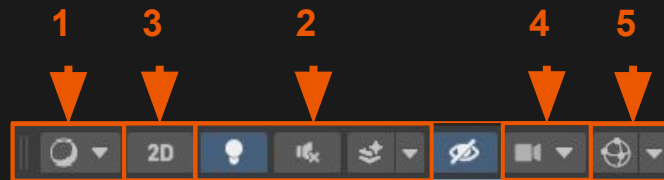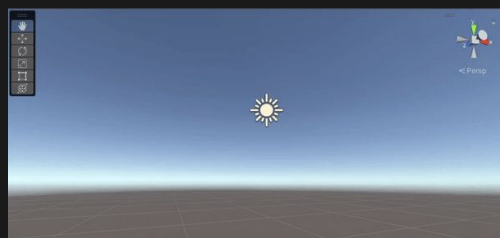
View Options - Gizmo Toggle

[5] Gizmo Toggle allows you to turn off and on visual for game object that may not have visual presence. You've already seen two of those, the camera and the light source both have icons that display their location in the scene.
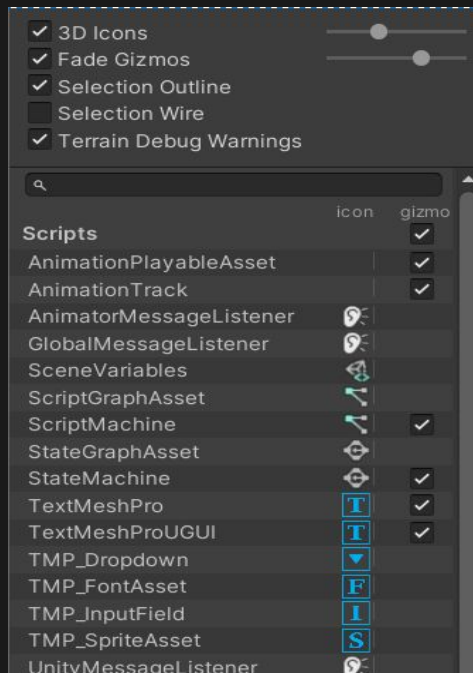
As you can see there are many icons that could be on screen and you have full ability to change which are on and off.

One setting you might want to be aware of is the 3D Icon, toggling it on and off will leave them ay a standard view no matter where you are or keeping their size dependent on your position to it. a

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Hierarchy

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Hierarchy View

Hierarchy View displays a list of every Game Object that's currently in the scene. This View is invaluable when looking for anything as searching for Game Object through the Scene View could be almost impossible once the amount of Game Objects in a scene is large enough.
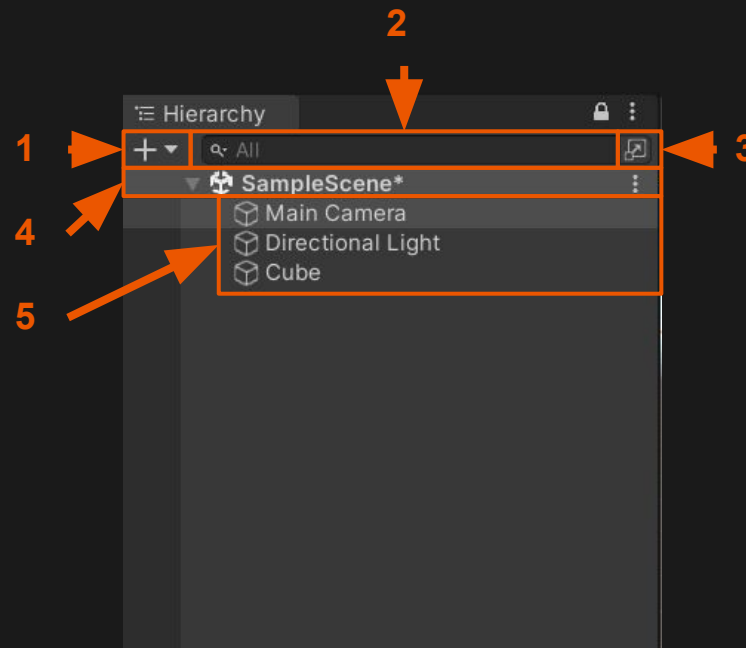
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Hierarchy View

[1] Create, this drop down menu allows you to create a new Game Object. You can create an Empty one or a Unity Premade One with select components. We will create many of these throughout this course.

You can also create a Game Object by right clicking on the empty space in the Hierarchy or clicking the Component button in the File Menu Header.

2

1

3

4

5

≔ Hierarchy

+ ▾ 🔍 All

▾ SampleScene*

⬡ Main Camera
⬡ Directional Light
⬡ Cube

+ ▾ 🔍 All

Create Empty
Create Empty Child
Create Empty Parent
3D Object   ›
Effects   ›
Light   ›
Audio   ›
Video   ›
UI   ›
UI Toolkit   ›
Camera
Visual Scripting Scene Variables
Move To View
Align With View
Align View to Selected
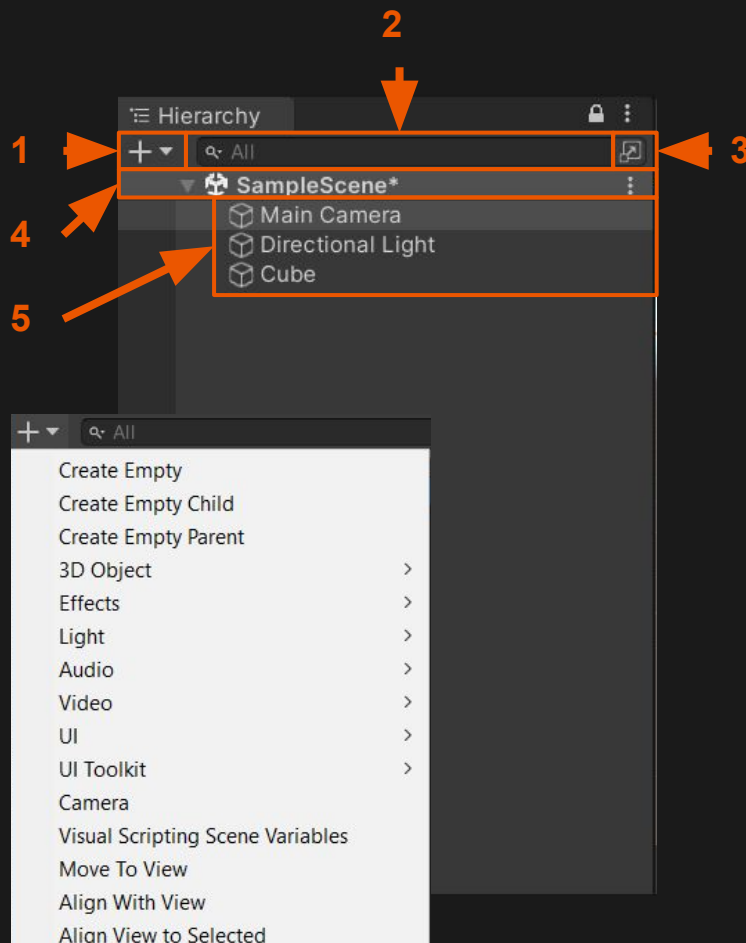
Hierarchy View
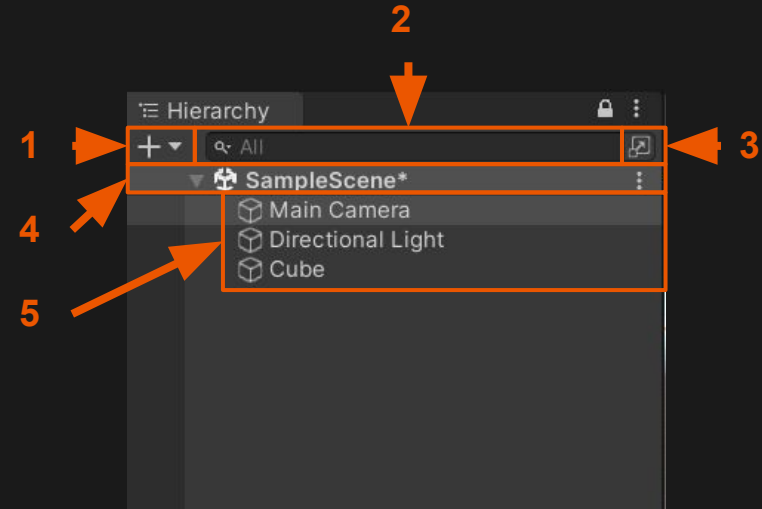
[2] Search Bar, will help you find the Game Object, help you find anything that contains what you type into it. Thus if you type in "Cube", it will show you every Cube you have in the Scene. If you have a very specific Cube in mind, it's best to give your Game Objects descriptive names.

A wonderful feature of the search bar is that it work in conjunctions with the Scene View and will grey out any object that doesn't contain the word typed.

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Challenge Search

Using the Search Bar find a "Cube" and put it in the middle of the grassy field.

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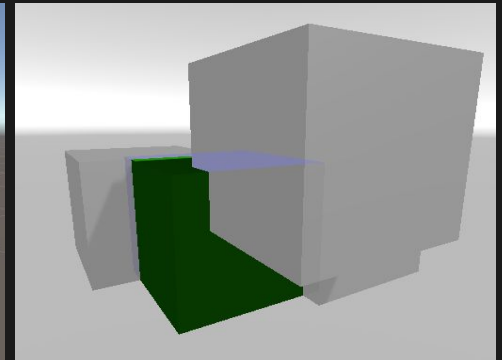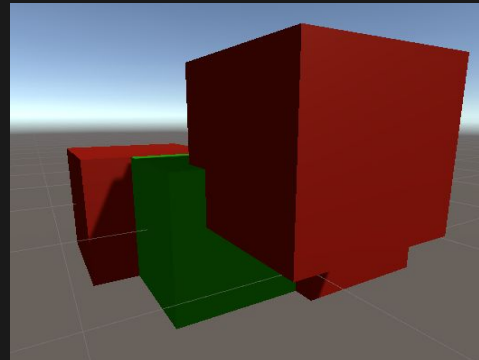
Hierarchy View

[3] Advanced Search, clicking the button next to the search bar will bring up the Advanced Search Window. Here you can look for the Object across Projects, Scene, Hierarchy, and more.

For projects on our scale we won't have to rely too much on this tool but it's good to know about it.

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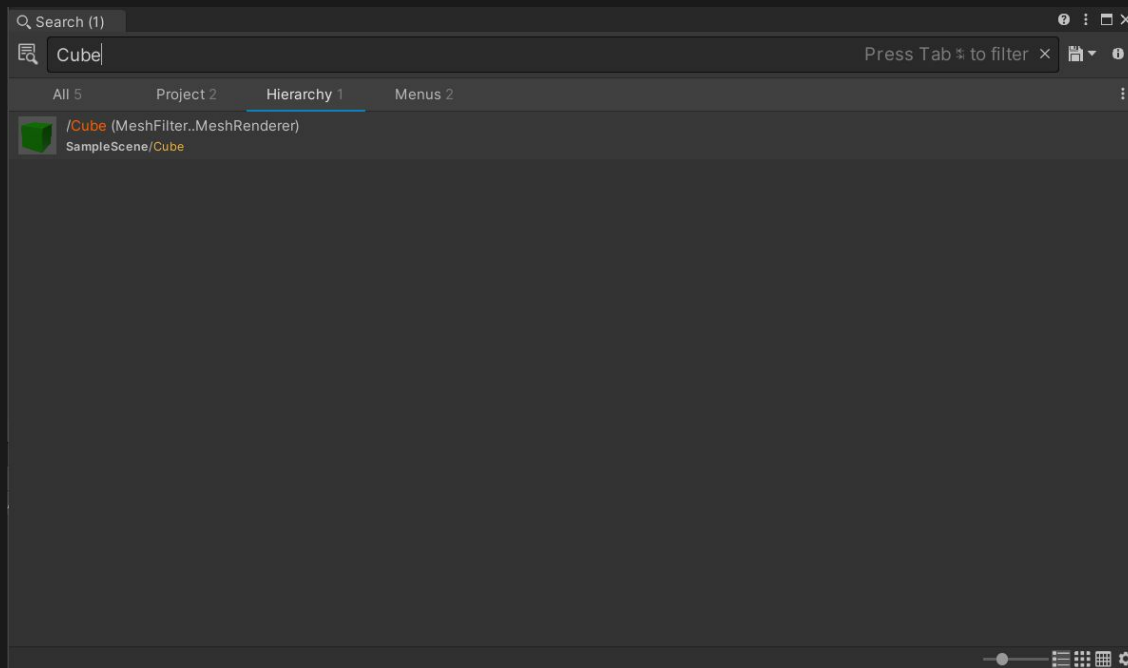
Hierarchy View

[4] Scene Header, this tells us which scene the objects are connected to. For the most part we will work with individual scenes, however in the future you may notice a new header popup when we work with data that's cross scene.

You may have noticed that there's a * next to the SampleScene, that means you've made changes that have not been saved.

Make sure to save your progress often as Unity doesn't have a built in auto-save function and if it crashes all your progress will be gone.

[5] Game Object List, shows you all of the Game Objects in the Scene.
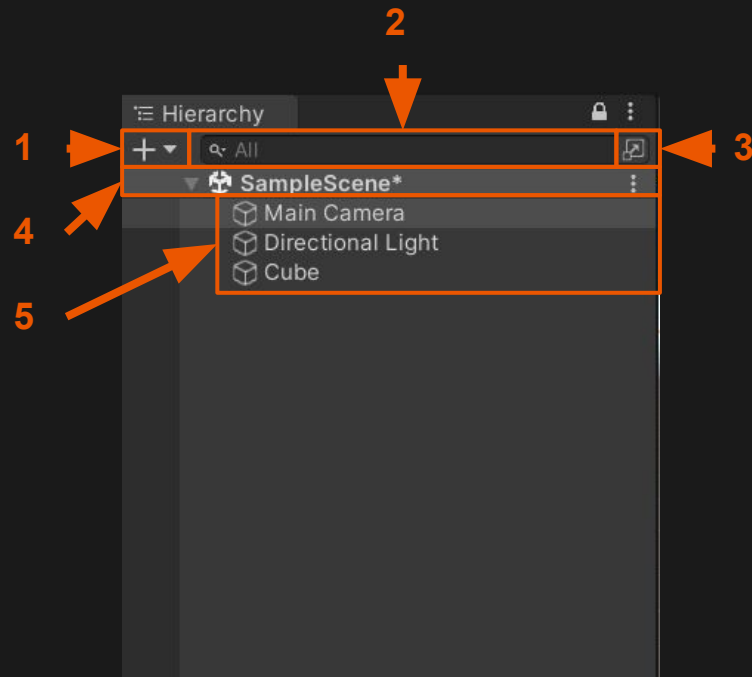
Nesting Game Objects

Nesting is the process of connecting Game Objects to other Game Objects. You can achieve this by dragging one object on top of another. You will know that the Object is nested as it will indent below it's parent.

The Game Object that we connected to is called the Parent and the Object that got connected is called the Child. So in this case Big Mushroom is a child of Decorations. Similarly Trees is a parent and has children Tree, Tree (1) ... Tree (5).

Tree, Tree (1) ... Tree (5), aren't direct children of the base of this Nesting, so they are called Descendants of Decorations.

Bring back World vs Local, when you nest a Game Object the parent object now becomes the world Origin point for it rather then the standard scene view one.
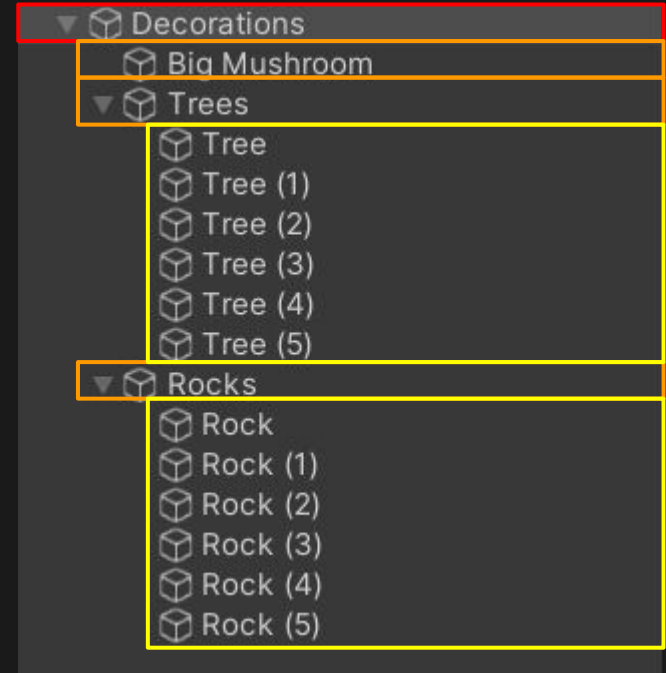
Keeping Hierarchy Organized

Beyond just just nesting a good practice is to put up dividers. These are just empty objects with some kind of symbol to make it easier for the eye to distinguish. It's not necessary for you to do it but your future self will thank you when you can find that one game object at a glance.

==== Divider ====

**** Divider ****

---- Divider ----

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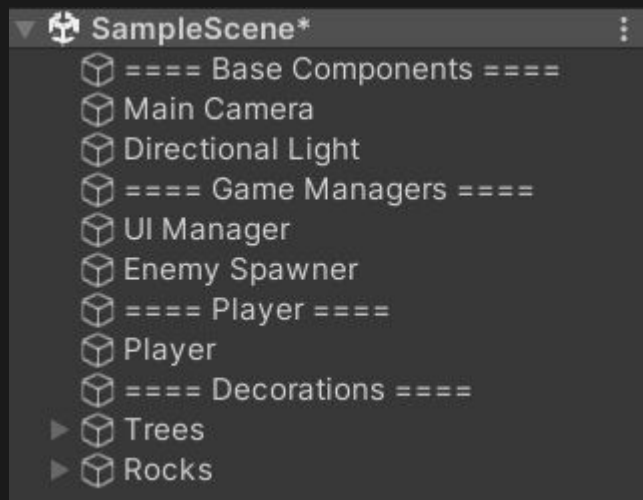
Finding Game Object in Scene View

By double clicking on any of the Game Object the Scene View will automatically zoom in to have to object in view.

Additionally, you can use the Hotkey F while hovering your mouse over the Scene View to zoom in on the Game Object.

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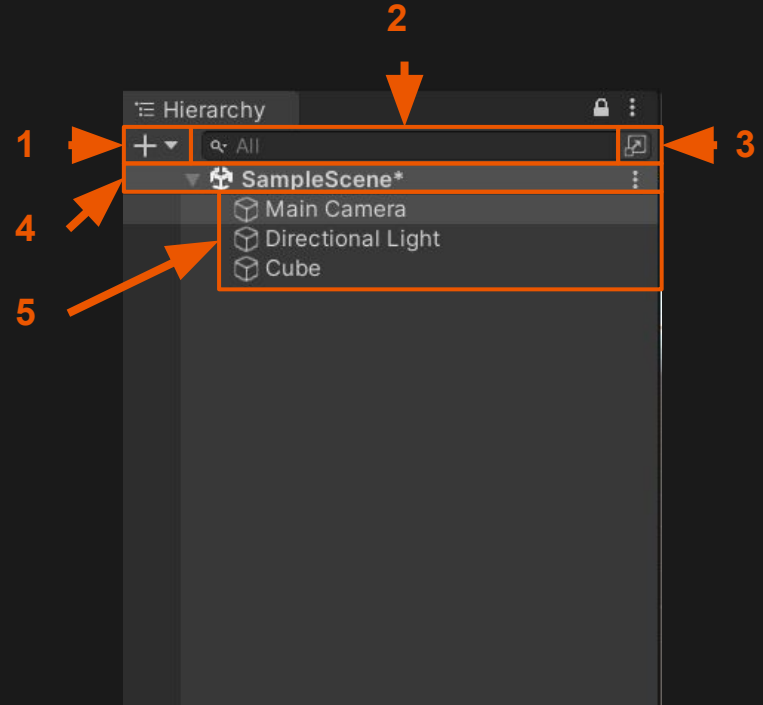
Hierarchy Challenge

1. Make your Hierarchy looking similar to this and then
2. Using the double click method or by selecting a Game object and clicking F while hovering the mouse over the Scene View find Gold In Ground Game Object

Inspector

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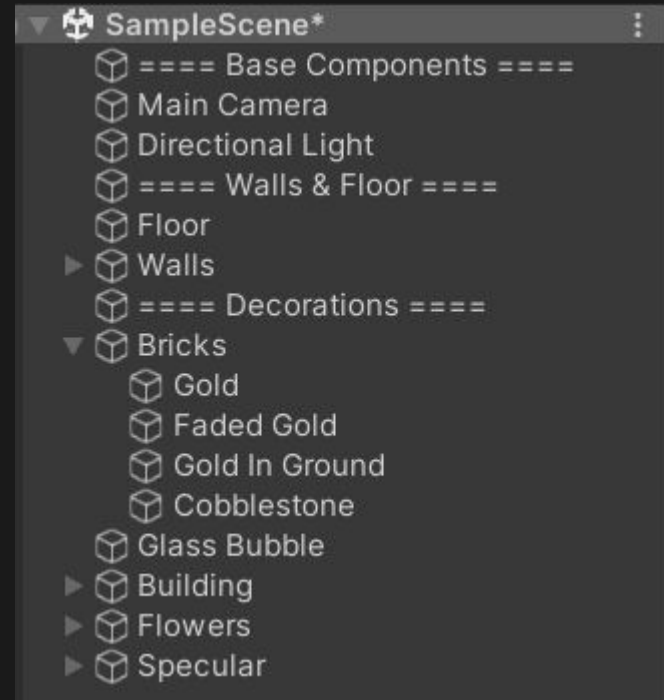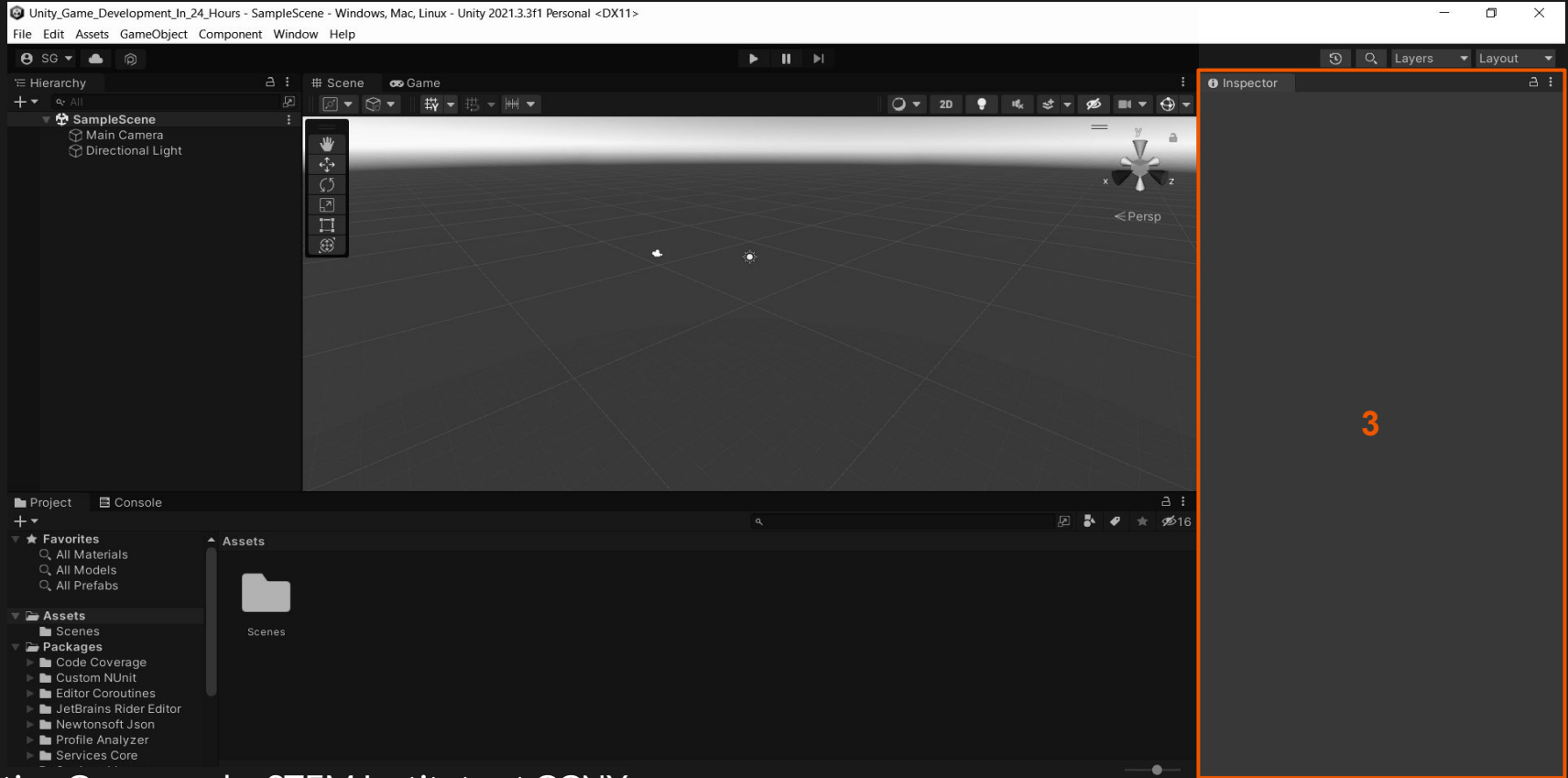
Inspector View

The Inspector View shows all of the properties of the selected object. In this instance it's a Cube.

With this we can see the the:

[1] Inspector View Overhead

[2] Game Objects Component List.

Additional Resources: Pages 13-14 of the Textbook, The Inspector Window - Unity Official Tutorials

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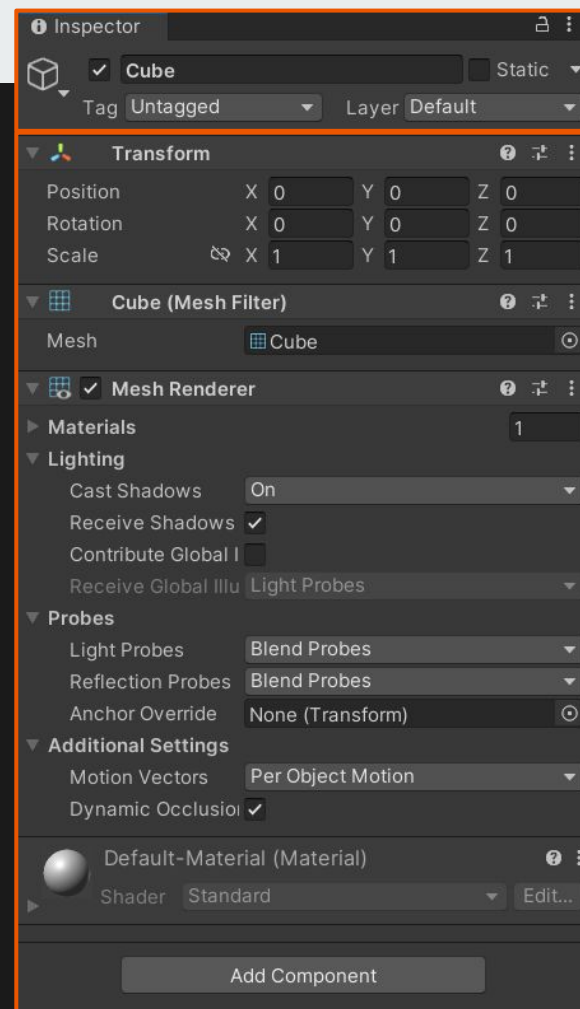
Inspector View Header

There's a lot of thing here but don't worry most of them are very simple and very useful to us.

[1] Icon, all game objects can have an icon, but start without one; that's what the empty cube means. Given that game objects don't necessarily have a visual thing to represent them an Icon can be attached to find. These are mostly used for things like Game Managers and Spawn Points to help you visualize the scene better.

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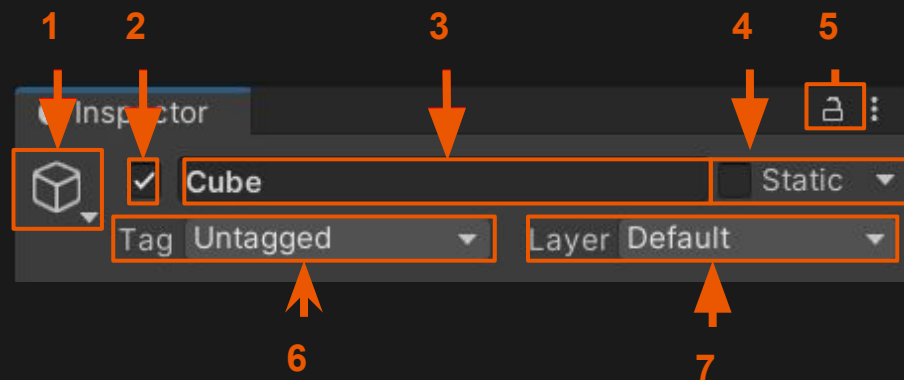
Inspector View Header

[2] Enable, the check mark represents that the Game Object is enabled, meaning it's active in the scene. If the toggle is uncheck that means the Game Object will not appear in the scene and interact with the level.

There are many reasons to turn of the Game Objects such a performance; if the physics and Rendering are turned off the computer will have an easier time calculating everything else happening in the game.
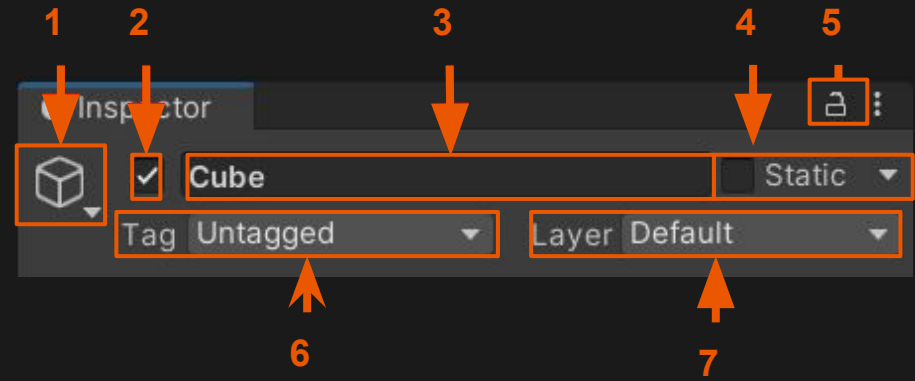
[3] Name, you can edit the name of object from here and it will be directly change in the Hierarchy View. Keep the names simple and direct to the point so that you can find it later when editing the Scene.

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Inspector View Header

[4] Static, means the Game Object should be ignored by built in Unity systems such as lighting or navigation. You can set it to all or toggle specific systems you want to be ignore. We'll put a pause on this tool as it's not necessary for anything we'll be doing.
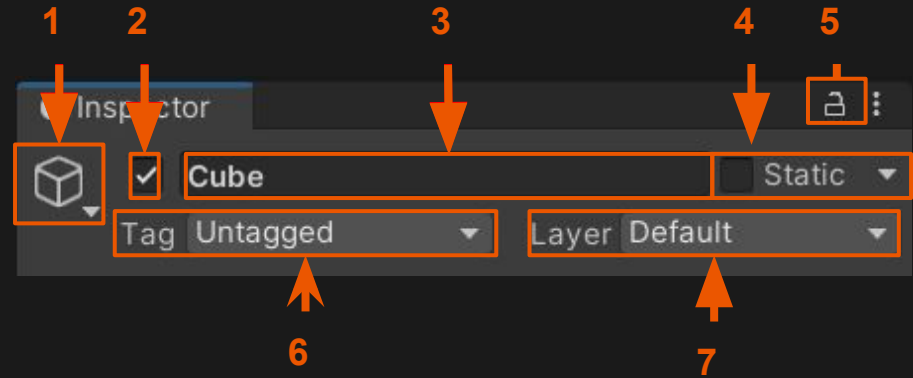
[5] Lock, this will lock the Inspector to the Game Object you are currently viewing. This is useful in situations where you might be working two or more objects and in so would end up having the Inspector switch between them but you want consistently edit the property on a light for example.

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Inspector View Header

These two allow us to distinguish what the Object is and how it should interact with the given environment.

[6] Tag, using tags we can use our Scripts to identify game objects and apply wanted behaviors; very effective for checking collisions and applying behaviors if any are required.
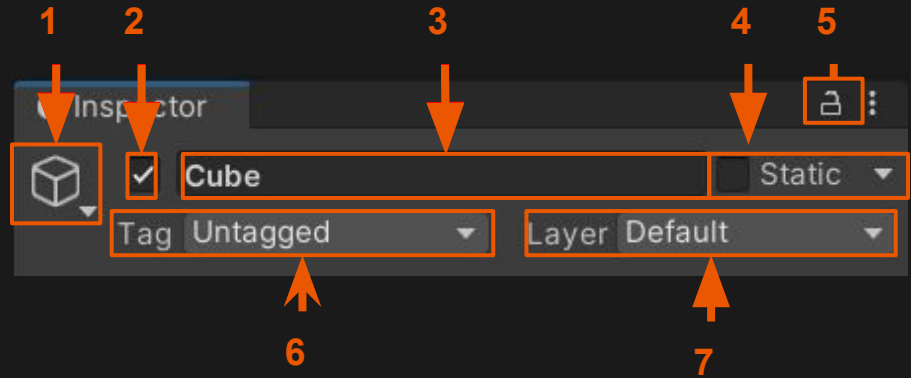
[7] Layer, are similar to Tags but rather than identifying Game Object for our script it's used for built in Unity tools such as lighting or navigation.

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Inspector View Header

It's important to note that even though both Tags and Layers come with a predefined lists you can add your own categories.

You can access this list by clicking the drop down menus on the Tag or Layer drop list and selecting "Add Tag" or "Add Layer".

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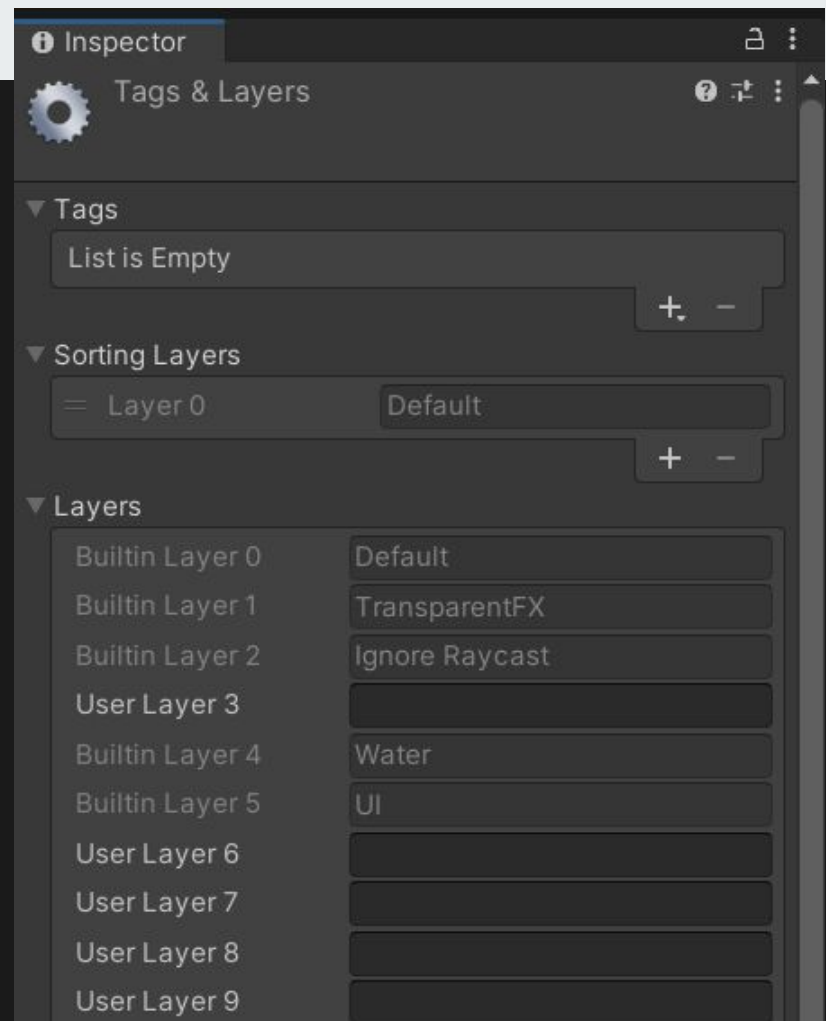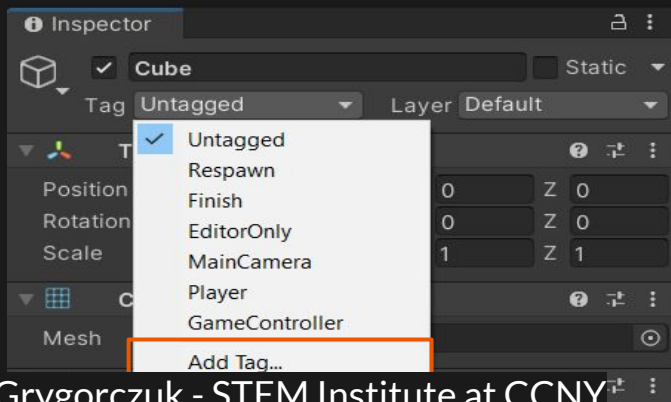
Components List

The Component List will show you everything that's attached to the Game Object, from Renders, to Lights, to your own Scripts.

As you see the Cube has three game objects. The Transform, Mesh Filter, and Mesh Rendered. It might look like The Material underneath Mesh Render is a Component but that's part of the Mesh Render.

You can tell because all of the Components have a slight different color Header that holds a little arrow next to the name of the Component allowing you to collapse it if the properties aren't important to you at the moment.

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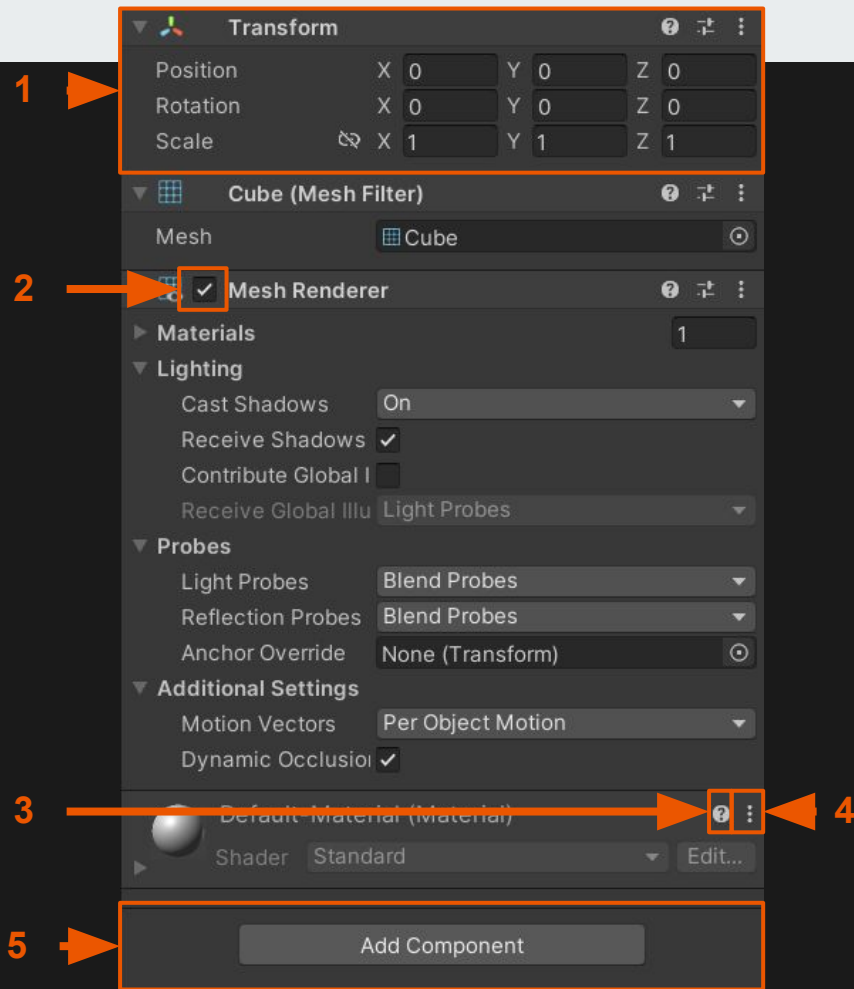
Components List

[1] Transform, every Game Object will come with a transform. It defines where it is in the Scene, which way it's rotated and how large of a space it takes up. Every Transform is also 3D, even when building 2D games the Z axis will be available to edit.

[2] Enable, notice that certain Components such as the Mesh Render have a similar Enable toggle like the Game Object has, this could allow you to keep the Render of a Game Object but turn of it's Collision, such that you can see it but nothing will touch it.

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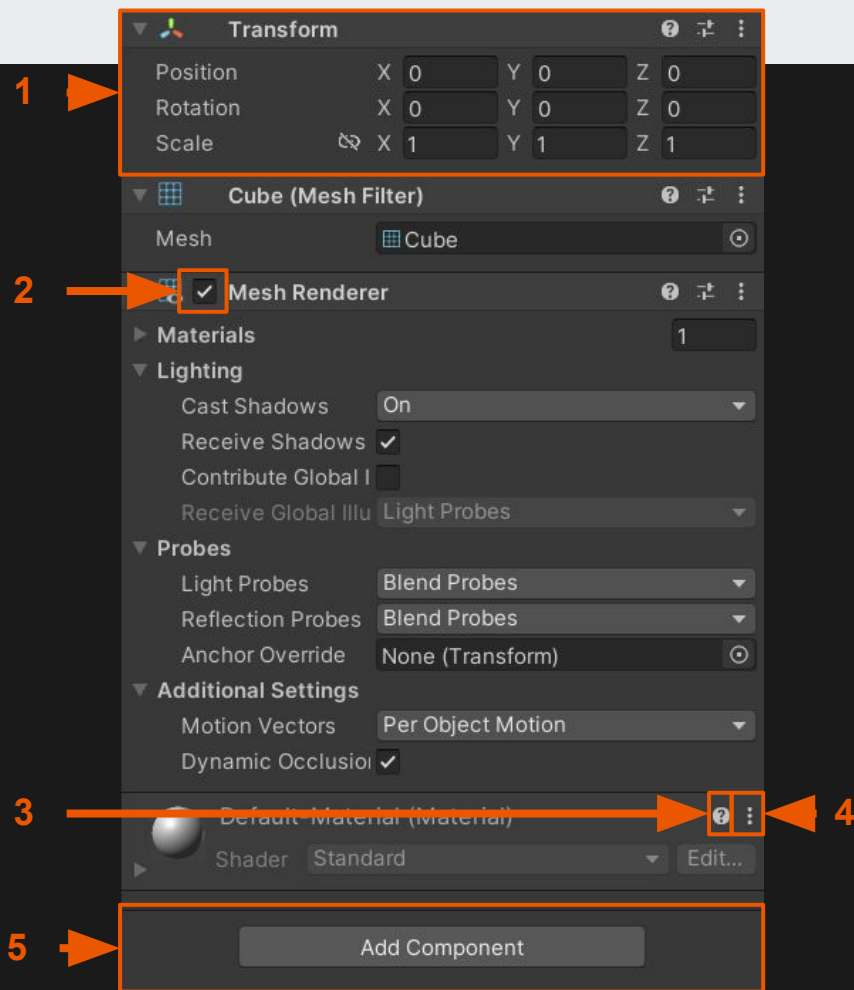
Challenge: Create and Move

1. Create a new Blank Game Object name it "House" and give it a Icon
2. Make sure you have the Gizmos Toggled on otherwise the Icon won't show up
3. Place it over the brick house and adjust its coordinates using Transform Component.
4. Click the play button and notice that the Icon isn't there

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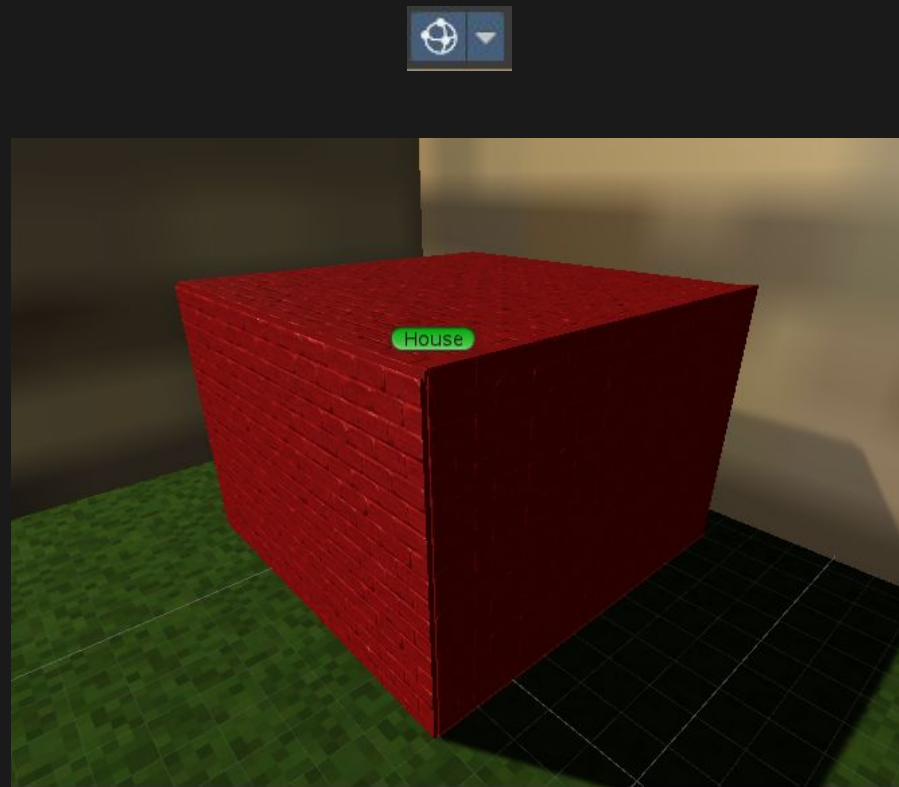
Components List

[3] Information Link, clicking this will bring you to the Web Unity Manual page for the given Component.

[4] Component Properties, allows you to Reset the Component to default state, allows you to move the Component up or down the list [Also possible by dragging the Component Header], Copy and Paste the values and altogether delete the Component from the Game Object.

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Components List

5 ⮕
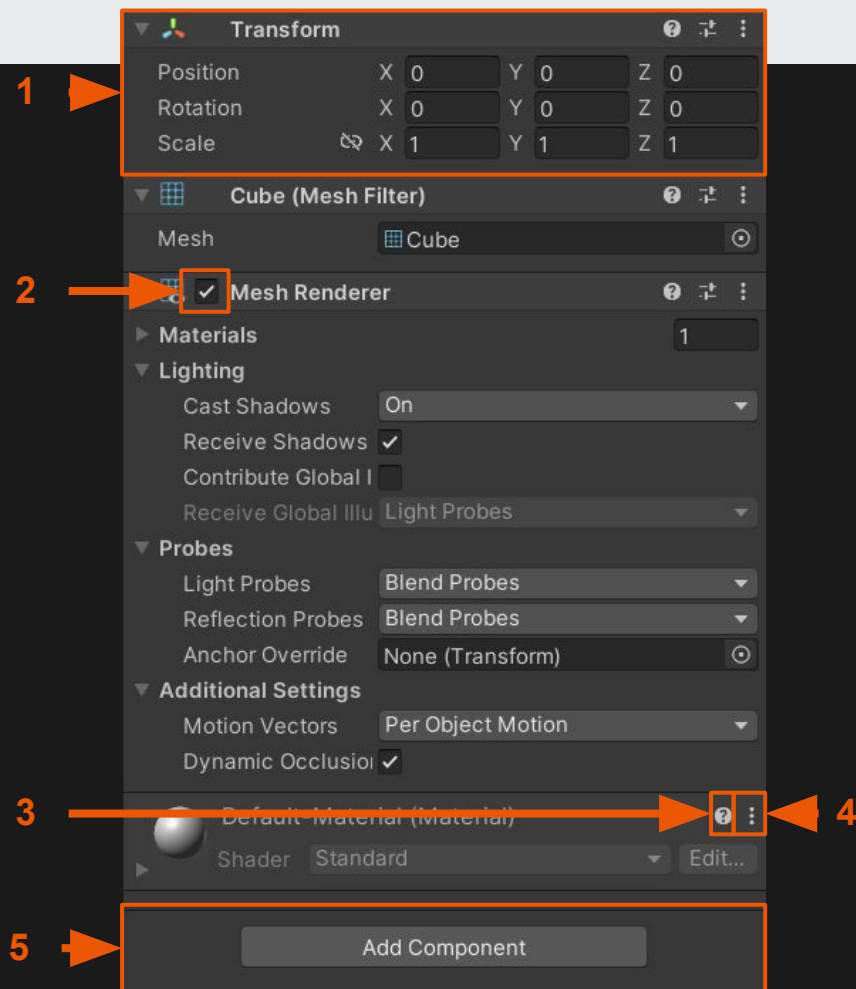
[5] Add Component, this will be a highly used feature. It allows you to bring in any Component that is pre built by Unity or any custom ones you may create such as Scripts. You can also add Components by dragging them from the Project View into the Component List or using the drop down menu from the File Menu Header named Component.

As you can see there are many categories, we will go over many of the Components held by them by not all.

Feel free to use the Information Link, to look up any we may miss through the course of this class.

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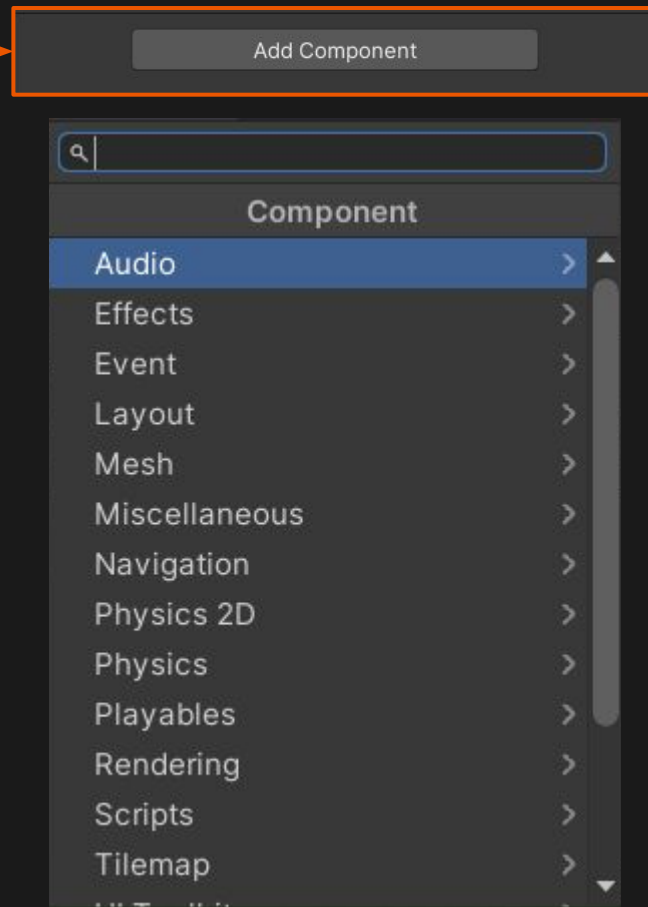
Game Object Challenge

1. Using the Hierarchy View, right click and create a new Cube Game Object
2. Notice that the Game Object has a Collision Component already on it. That allows it to touch other object that have Collision Components.
3. Using the Inspector View add the Rigidbody Component, [not Rigidbody 2D]. This gives the Game Object Physics.
4. Place the new Game Object over the Floor and click the Play Button on the top of the screen.
5. You should see your new made block fall

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Game View

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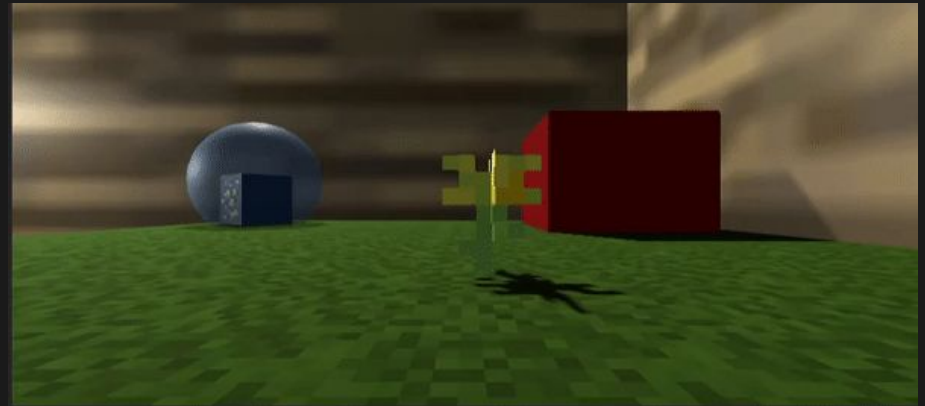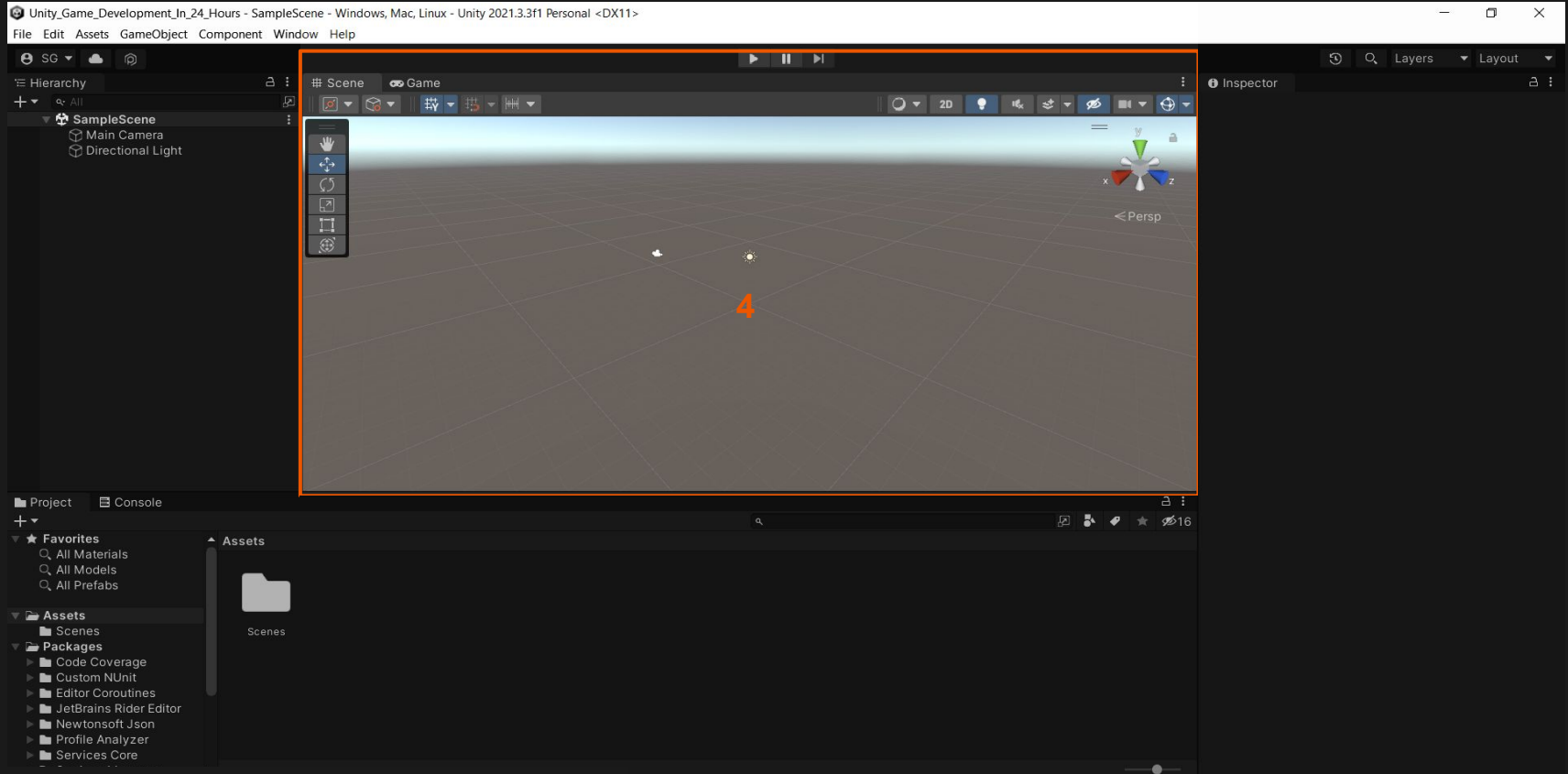
Game View

Game View shows you the final product, here you can play test the game and all of the mechanics that have been built into it.

[1] The Game View, here you see the game through the Camera Game object that was created alongside the project or a new one you may have predefined.

2

3

1
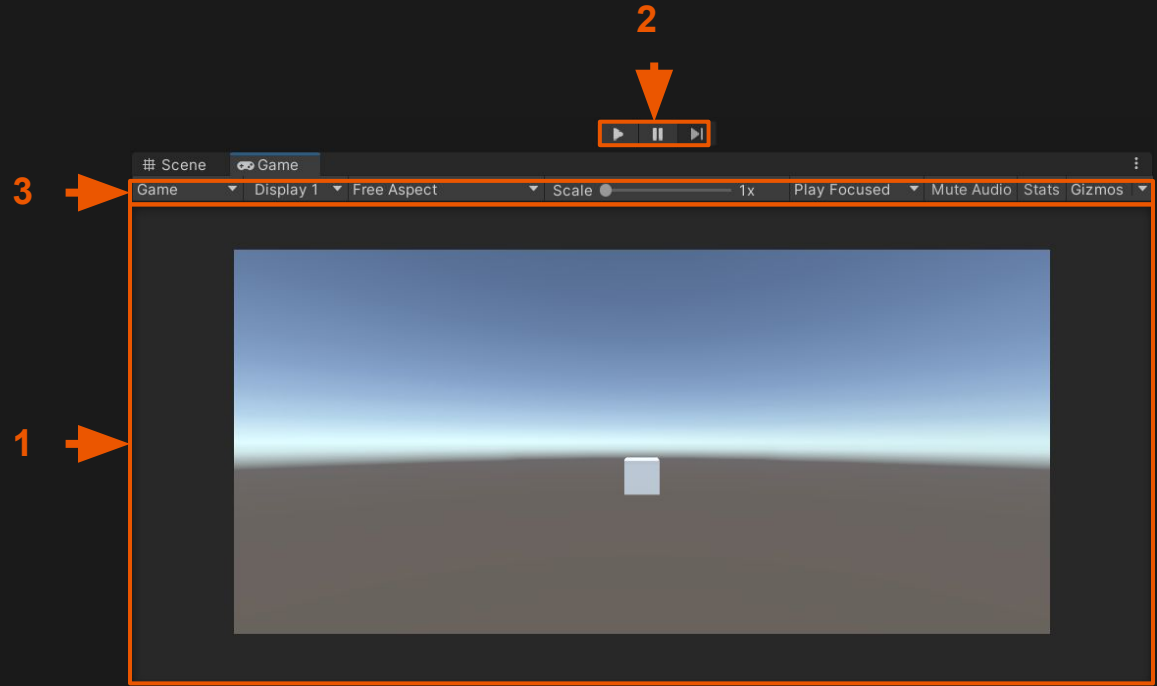
Additional Resources: Pages 16-17 of the Textbook, The Game View - Unity Official Tutorials

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Play Bar

The Play Bar is always available to you, it consists of three buttons

[1] Toggles Play/Off, clicking the grayed out version the the play button will assemble the game and have it available for you to play. This can also be called Running or Executing the game.

Toggling the Play button Off, will reset everything to the way it was before you played. Any enemies you may have spawned will be gone and any progress you may have made in the level will be reset to the start.

Also while in Play Mode you are free to change and move any of the Game Obejct through the Scene View or the Inspector, however be caution that the changes will revert to their original state once Play Mode is off.

1   2   3
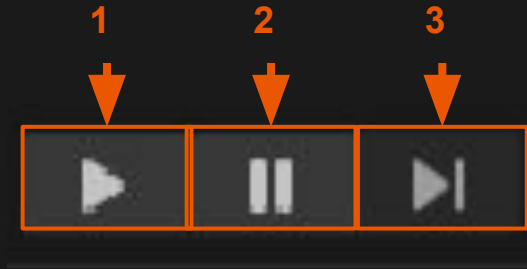
[2] Pause, stops the execution of the game but keeps it at the progress you've made in the level. This is very useful when something isn't acting the way you intended so you can execute the game have it run for a bit, pause when the problem occurs and move to the Scene View to examine the game objects that are cause the problem.

[3] Step, similarly to pause is a great way to debug your game, each click progresses the game by a step so you can see what occurs every step or tick of time that passes in the game.

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Challenge Play Game

1. Click the Play Button the game and allow the Cube to fall down once again
2. Click the Pause Button and go to the Scene View Tab. Translate the cube up again while making it larger and rotating it using Transform Component in the Inspector View
3. Go back to the Game View Tab and using the Step Button let the cube fall a bit.
4. Stop the game and see that the changes didn't stay.

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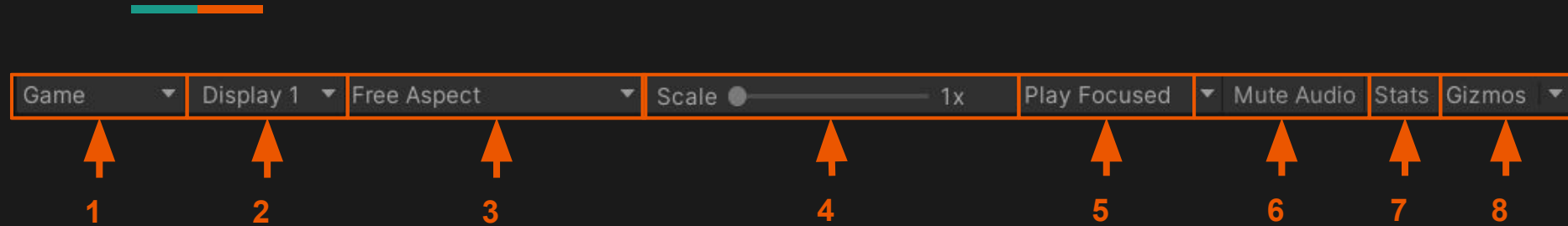
Game View Toolbar

The Game View Toolbar will allow you to change the game is presented to you, allowing you to see what it would look like on different screen and resolutions.

The way you game is seen by you and the player is important as it will dictate how much and what you can show on the screen at once. Creating hard Game Design Decisions.

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Game Drop Down

[1] The Game-Simulator Dropdown, will allow you to switch between a game view that is built for Desktop/Console vies to those available on the different mobile devices.

This also changes the available settings on the Toolbar, however we won't be covering Mobile Games in this class so it's good to know but not necessary for rest of the class.

1

Game

Game   Display 1   Free Aspect   Scale   1x   Play Focused   Mute Audio   Stats   Gizmos

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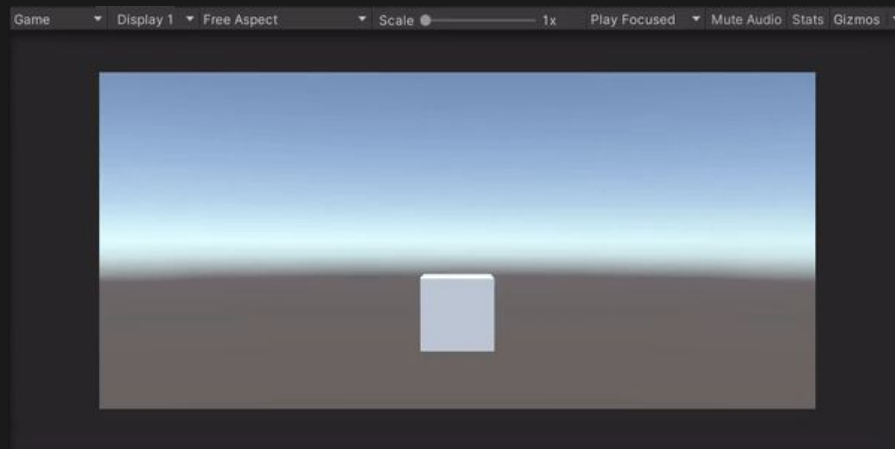
Display DropDown

[2] The Display Drop Down, allow you to set up to eight Displays or monitor that the game would run on.

Not to be confused by Split Screen or camera that would be positioned at a different character or location the game you can switch to.

This is for the games being connected to two or more monitors, for example the racing games at Arcades that have two to four player seats and are all connected each monitor following their own player.

We won't be working with feature.

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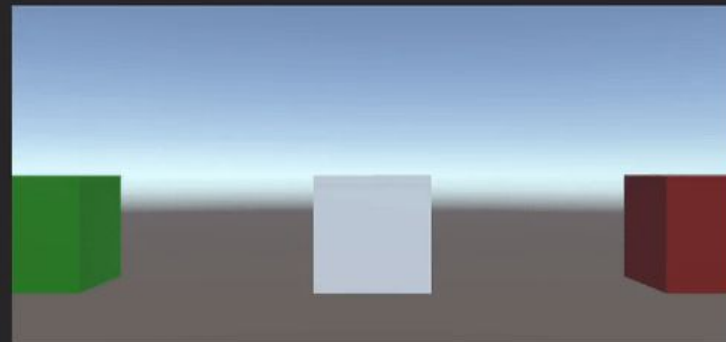
Aspect Dropdown

[3] Aspect Dropdown, allows you to set the Aspect Ratio at which you will be viewing the game through the Game View.

This does not set the Aspect at which the game will be exported out of Unity only how you are currently viewing it.

If you find the options lacking you have the ability create your own aspect ratio.

Depending on what type of game you want to make, you might want to use less of the screen setting up this aspect ratio will let you design your level in accordance with that.

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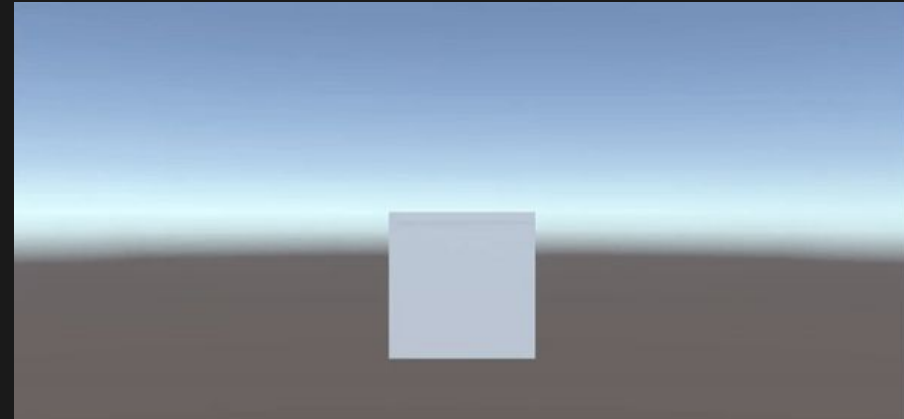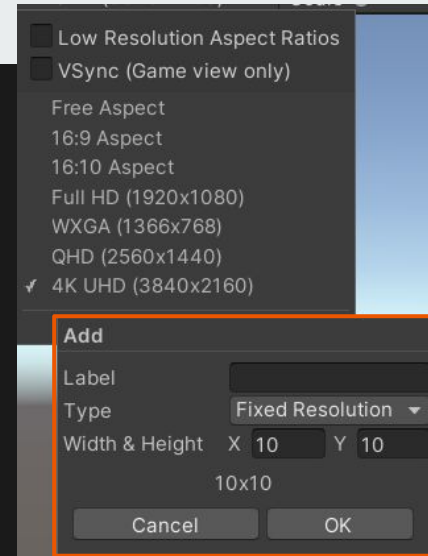
Scale, Play Focused / Maximized, Mute

[4] Scale, allows you to zoom in and out on the game screen. This isn't like navigating close to the Game Object in the Scene view but zooming in on the pixels of the current scene.

[5] Play Focused / Maximized, allows you to set the play setting to take up as much of the screen as possible while keeping the aspect ratio you've selected.

[6] Mute, pretty self explanatory, once you start testing your games for bugs you will be hearing the same sound effects and music over and over and it's good to turn it off when not necessary.

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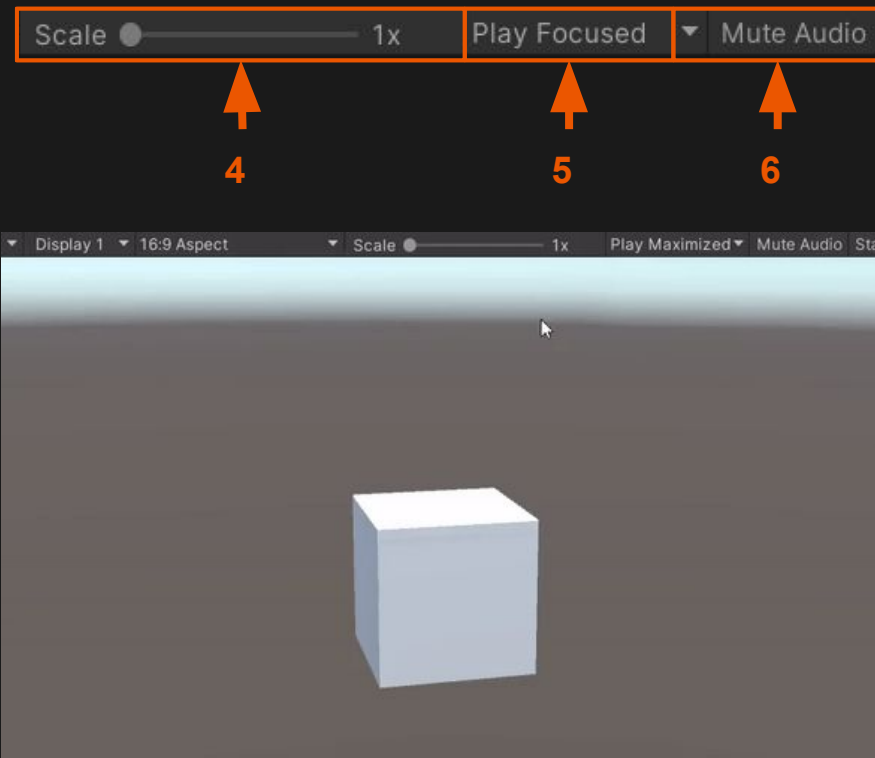
Stats and Gizmos

[7] Stats, a very useful tool telling us how the game is running. It's broken down into Audio and Graphical strain on your computer. With the scale of our projects you won't really have to look at this menu unless you've really messed up.

[8] Gizmos, work pretty much exactly like their counterpart in Scene View allowing you to see all Gizmos that are toggled on.

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Stats | Gizmos ▼

7   8

Statistics

Audio:
Level: -74.8 dB   DSP load: 0.4%
Clipping: 0.0%   Stream load: 0.0%

Graphics: 66.5 FPS (15.0ms)
CPU: main **15.0**ms render thread 1.4ms
Batches: **6**   Saved by batching: 0
Tris: 1.7k   Verts: 5.1k
Screen: 1535x863 - 15.2 MB
SetPass calls: 6   Shadow casters: 1
Visible skinned meshes: 0
Animation components playing: 0
Animator components playing: 0

Project View

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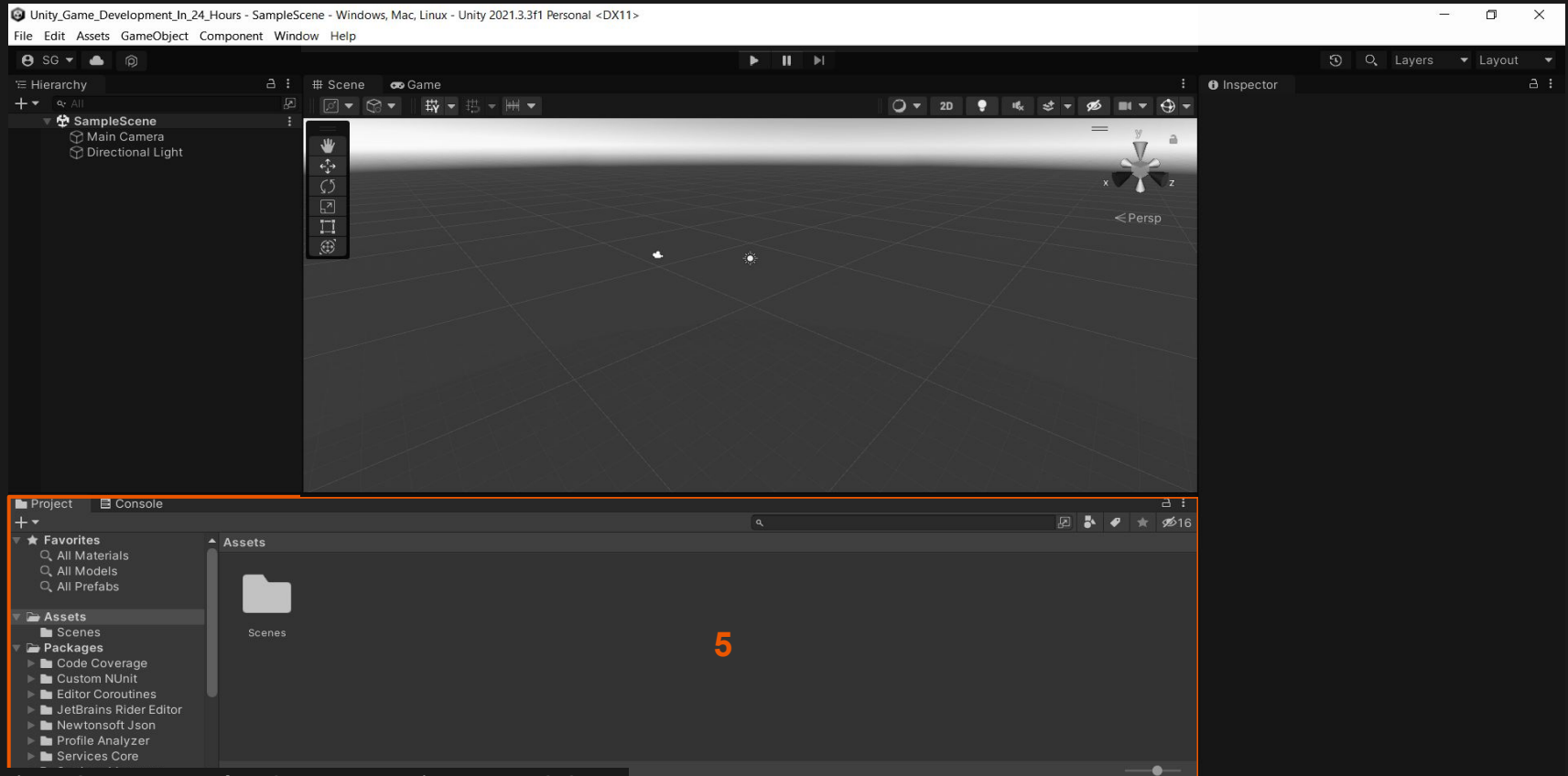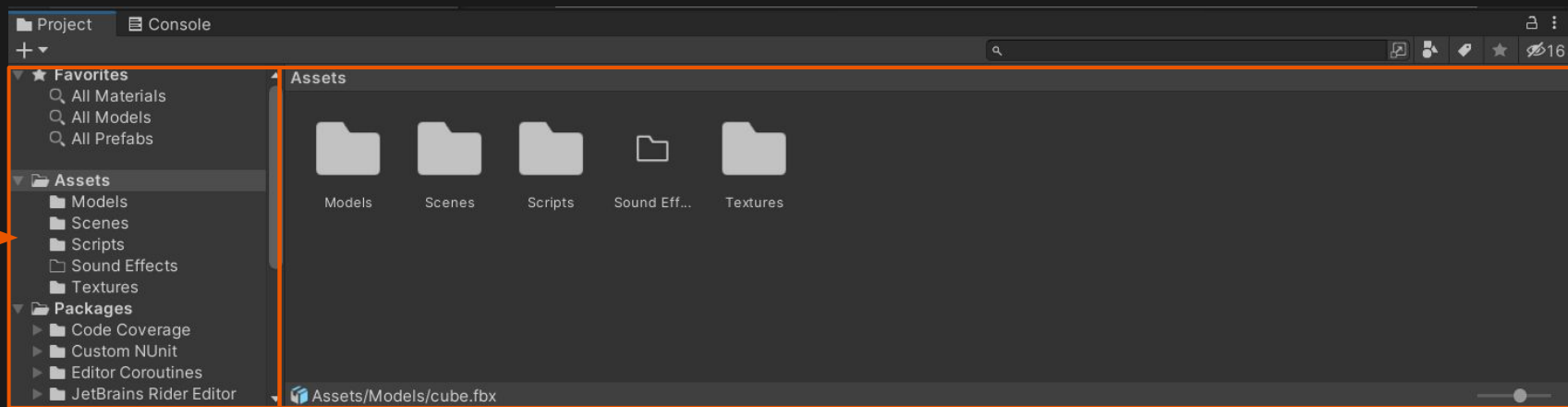
Project View

The Project View will display all of the Game Assets that are available to you, [1] shows you a list of all of the folders available to you, and your favorite searches. [2] Shows the current folder you are looking at.

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Game Asset Vs Game Object

A Game Asset is anything that has the potential to be Instantiated or created while Game Object is an instance of a Game Asset.

You can instantiate a Game Asset into a Game Object by dragging it from the Project View to the Scene View. Notice that instantly the Game Object is added to the Hierarchy and the Inspect View is filled with its Components.

Later on we will instantiate Game Objects using code.

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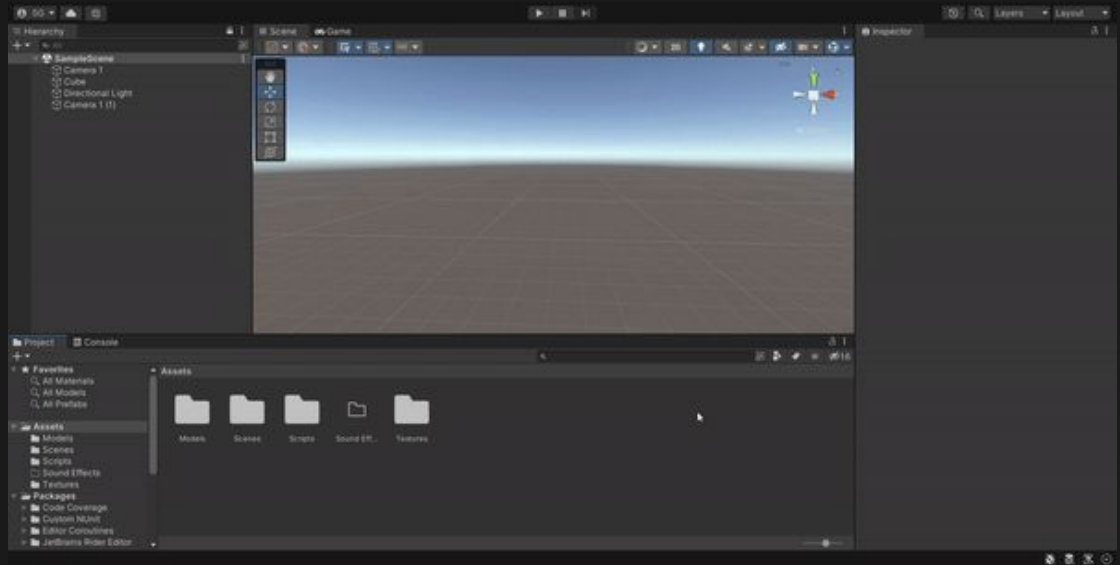
Project View

When looking at Assets in the Project View you will have [1] The Breadcrumb Trail which is the path to the folder we're currently viewing. This will be also displayed in the Folder Column by highing the folder currently accessed.

Next let's look at a [2] Game Asset, here I have a 3D imported cube. More complex Assets such as 3D Models will have hierarchy of sub assets, you can click the [3] Arrow to expand or collapse them.

Finally you can see one of the sub assets for the cube which is it's [4] 3D model, when the asset or sub asset is selected you will see the Path to the asset on the bottom of the Project View and extra details will be shown in the Inspector View.

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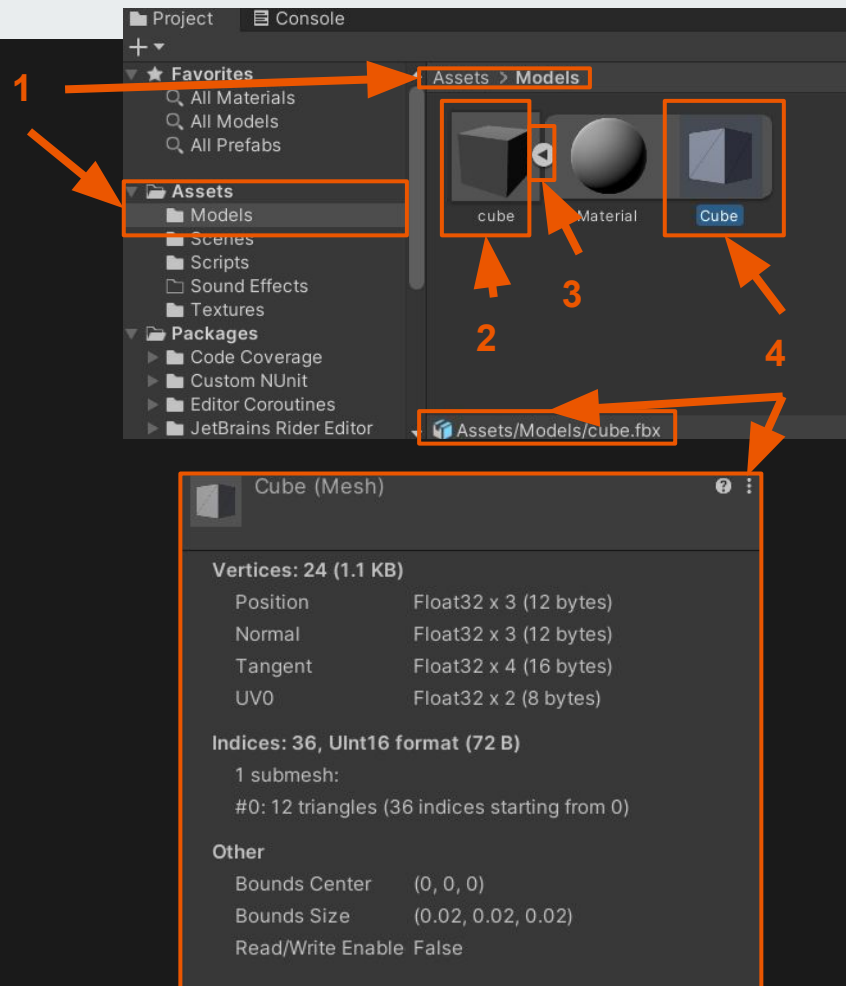
Creating Asset and Organization

There are many Game Assets that you can create directly from the Project View by right clicking on the empty space and selecting Create. This will provide you with a massive list but the main two we are going to focus on for a moment are Folder and Scene.

[1] Folder allows you to create new Folders in the Project View. It's not exciting but just like keeping the Hierarchy View organized is necessary for good game development same goes for the Project View.

[2] Scene Asset allows you to create a new scene or level. Everything we've been doing has been within one scene with this you'll be able to make many level with many scene and later combine them to make a game world.

1 → Folder

C# Script
2D
Visual Scripting
Shader
Shader Variant Collection
Testing
Playables
Assembly Definition
Assembly Definition Reference

Text
TextMeshPro

2 → Scene
Scene Template

Models   Scenes   Scripts   Sound Eff...   Textures

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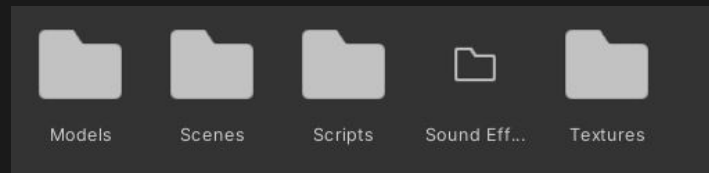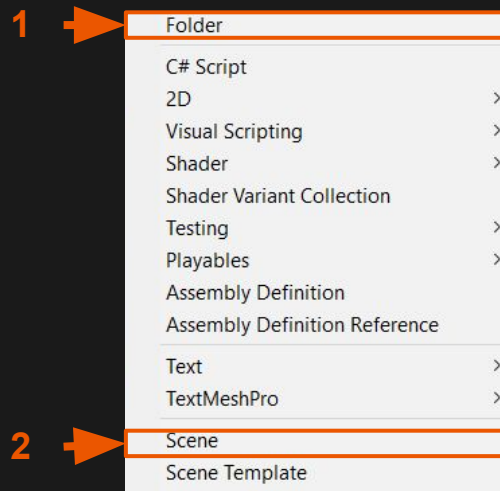
Search & Organization

1 **2** **3**

Finding Assets quickly can shave hours off work. Thus we can use the [1] Search Bar and the Advanced Search just like the one in Hierarchy View. With the next three buttons working as filters for the inputted search.

[2] Allows you to view all items that fit into selected category, Models, Scripts etc. The Project view will look for items that have the correct extensions.

4

[3] Tags are things you can connect to specific Game Assets through the Inspector View, on the very bottom there will be a tag symbol with a list of descriptors, you can set as many as you'd like and then search by them.

[4] Favorite Search, when you search for a name in Search Bar you can favorite that search and it will pop up as a saved search in the Folder Column.

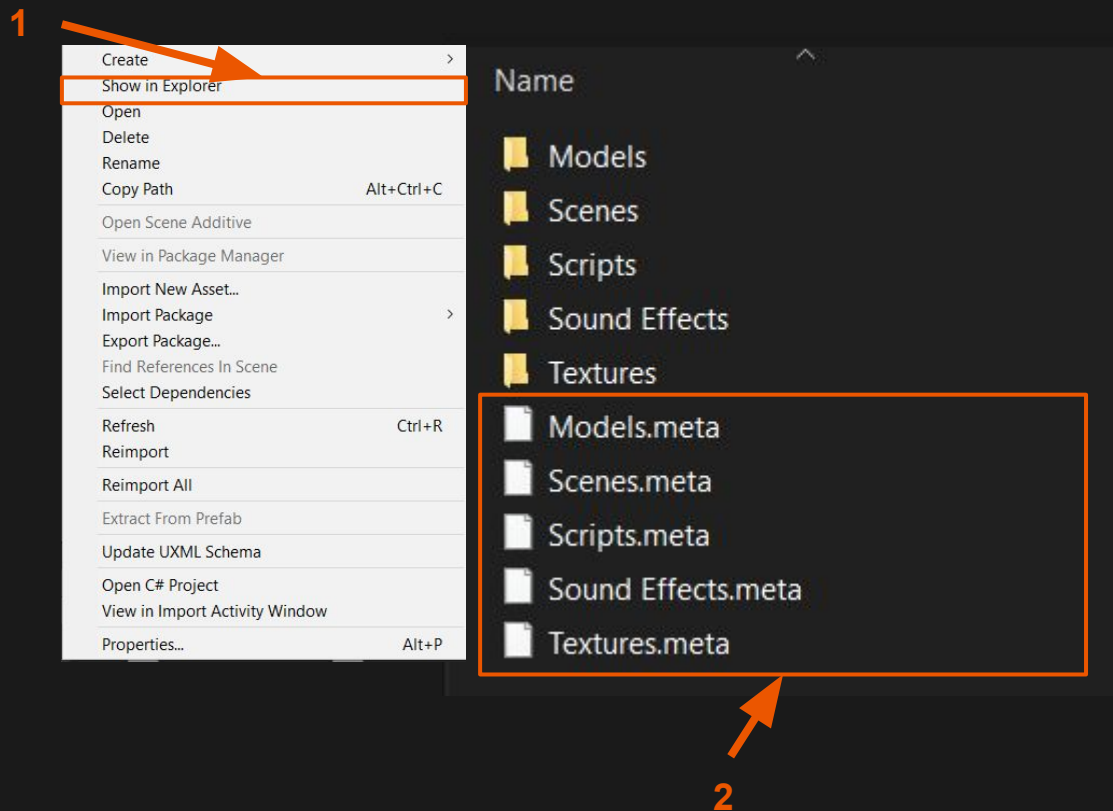Sebastian Grygorczuk - STEM Institute at CCNY
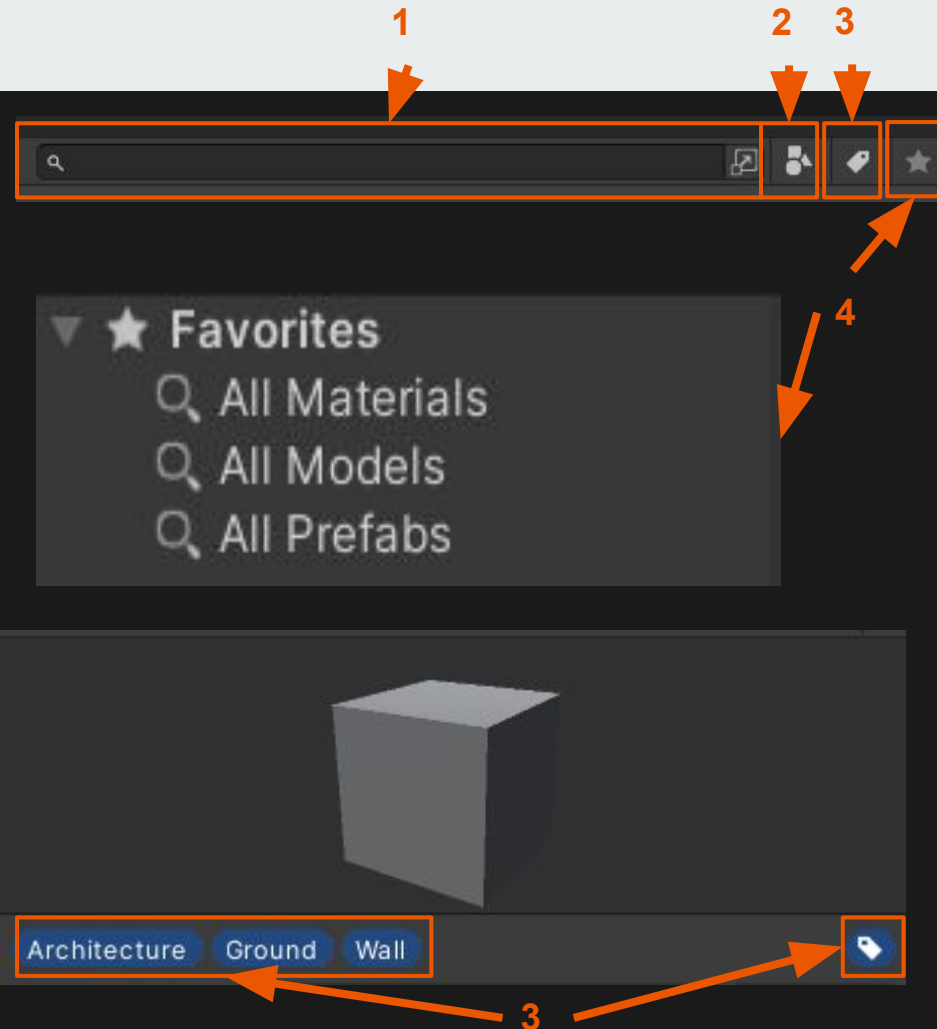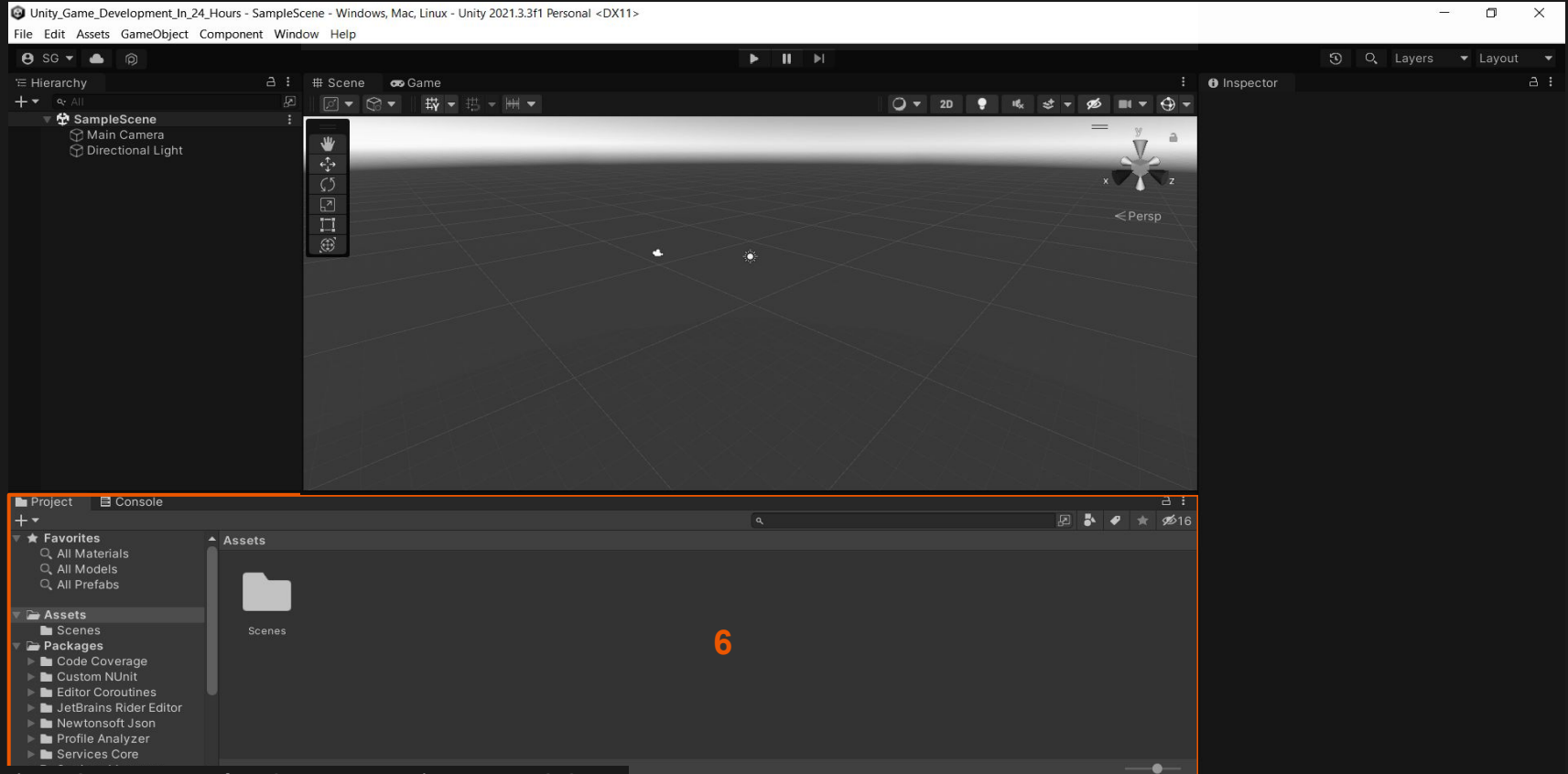
Files Connect Directly to Project Folder

Each folder that's displayed in the Project View is directly connected to a folder in your project files. You can right click any folder and select [1] Show In Explore to open that Window Directly.

You may notice that inside the folder there are [2] meta files. These are files created by Unity that connect the assets to all it's functions in the game. Unity will automatically update them if you move or edit the file in any way.

Only edit your files in the Project View as Unity may not update whatever changes you've done to a asset in the widow explore.

1

Create
Show in Explorer
Open
Delete
Rename
Copy Path   Alt+Ctrl+C

Open Scene Additive
View in Package Manager

Import New Asset...
Import Package   >
Export Package...
Find References In Scene
Select Dependencies

Refresh   Ctrl+R
Reimport

Reimport All

Extract From Prefab

Update UXML Schema

Open C# Project
View in Import Activity Window

Properties...   Alt+P

Name

📁 Models
📁 Scenes
📁 Scripts
📁 Sound Effects
📁 Textures
📄 Models.meta
📄 Scenes.meta
📄 Scripts.meta
📄 Sound Effects.meta
📄 Textures.meta

2

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Console View

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Console

Lastly there's the console, this will be heavily used once we start programming our game. From here you'll be able to print out states of object and look for bugs. We will return to this window in Week 2 once we being programing.

Additional Resources: Page 126

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Layouts

One last thing that's important to mention is that every one of the views we've looked at can be moved and placed anywhere in the Unity program. There are many pre made but you also have option to create your own and save them for future use.

As we continue in the class we will introduce more views and depending on the task a new layout may be in order.

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