

REU Modeling Course - Part 2

Blender

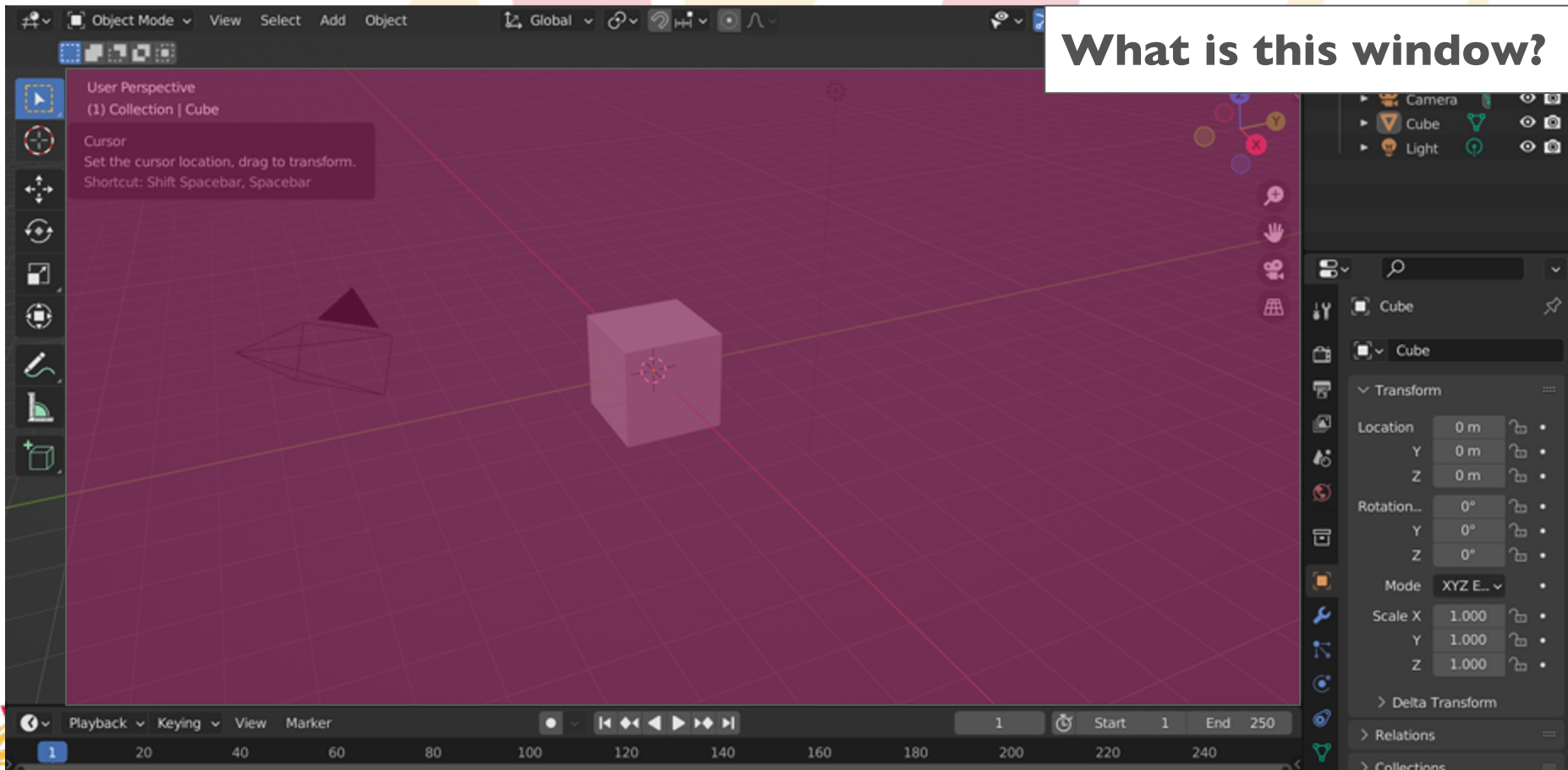
More Modeling

Workshop Workflow

- **Review Previous Session**
- **More Modeling Operations**
- **Organizing Scenes/Objects in Blender**
- **Today's Mini Creation**

Review

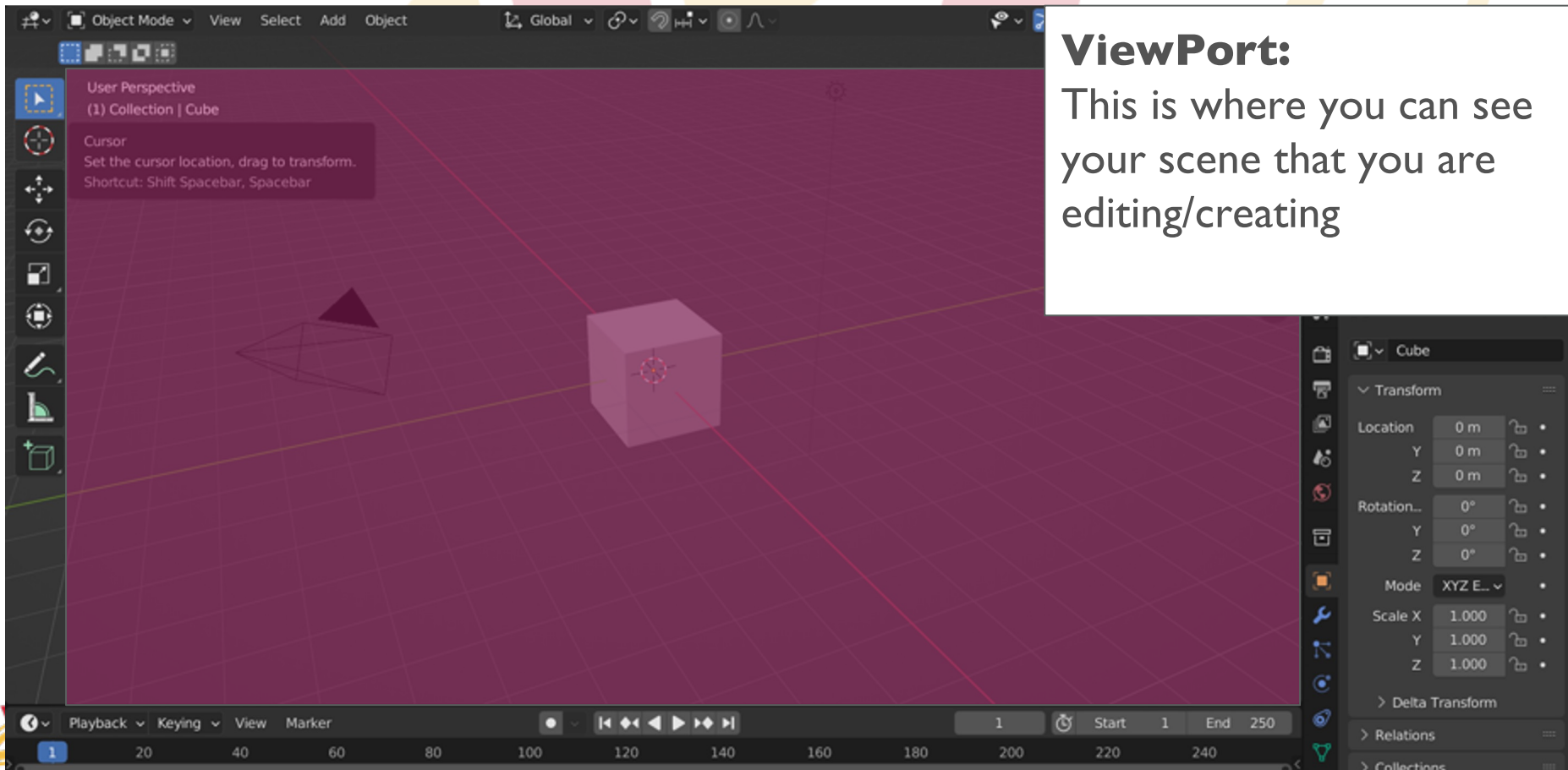
What is this window?



Review

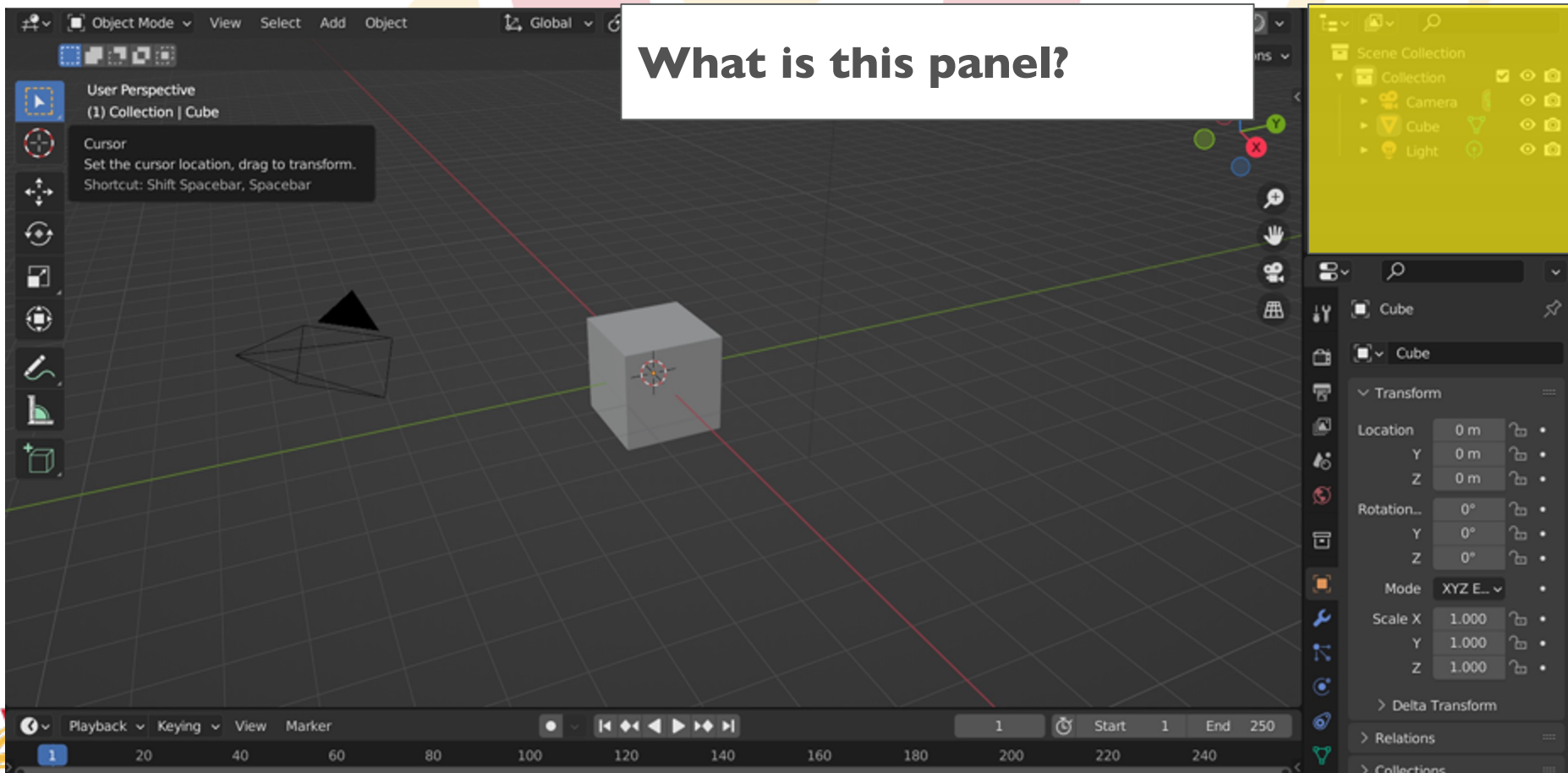
ViewPort:

This is where you can see your scene that you are editing/creating



Review

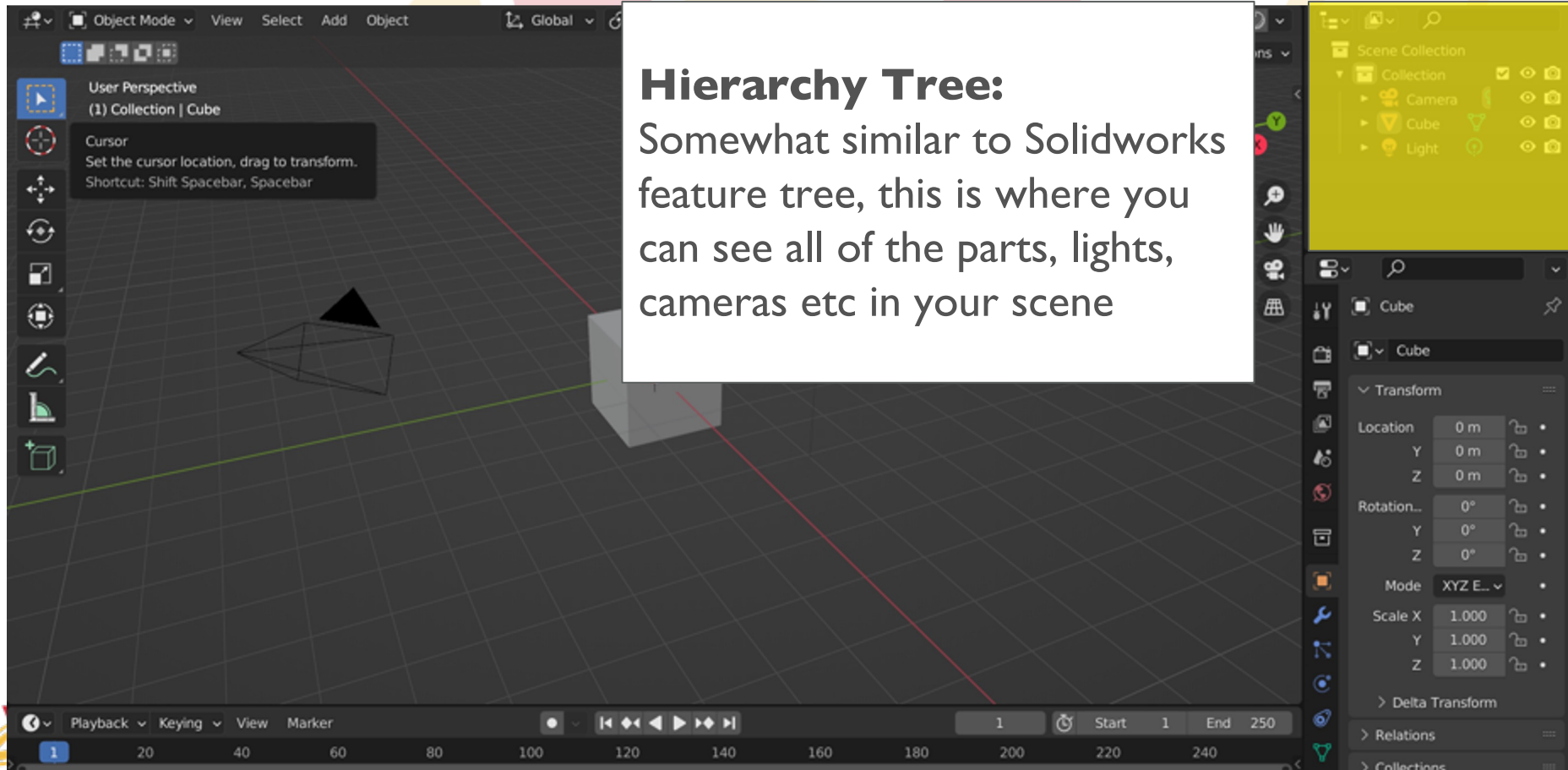
What is this panel?



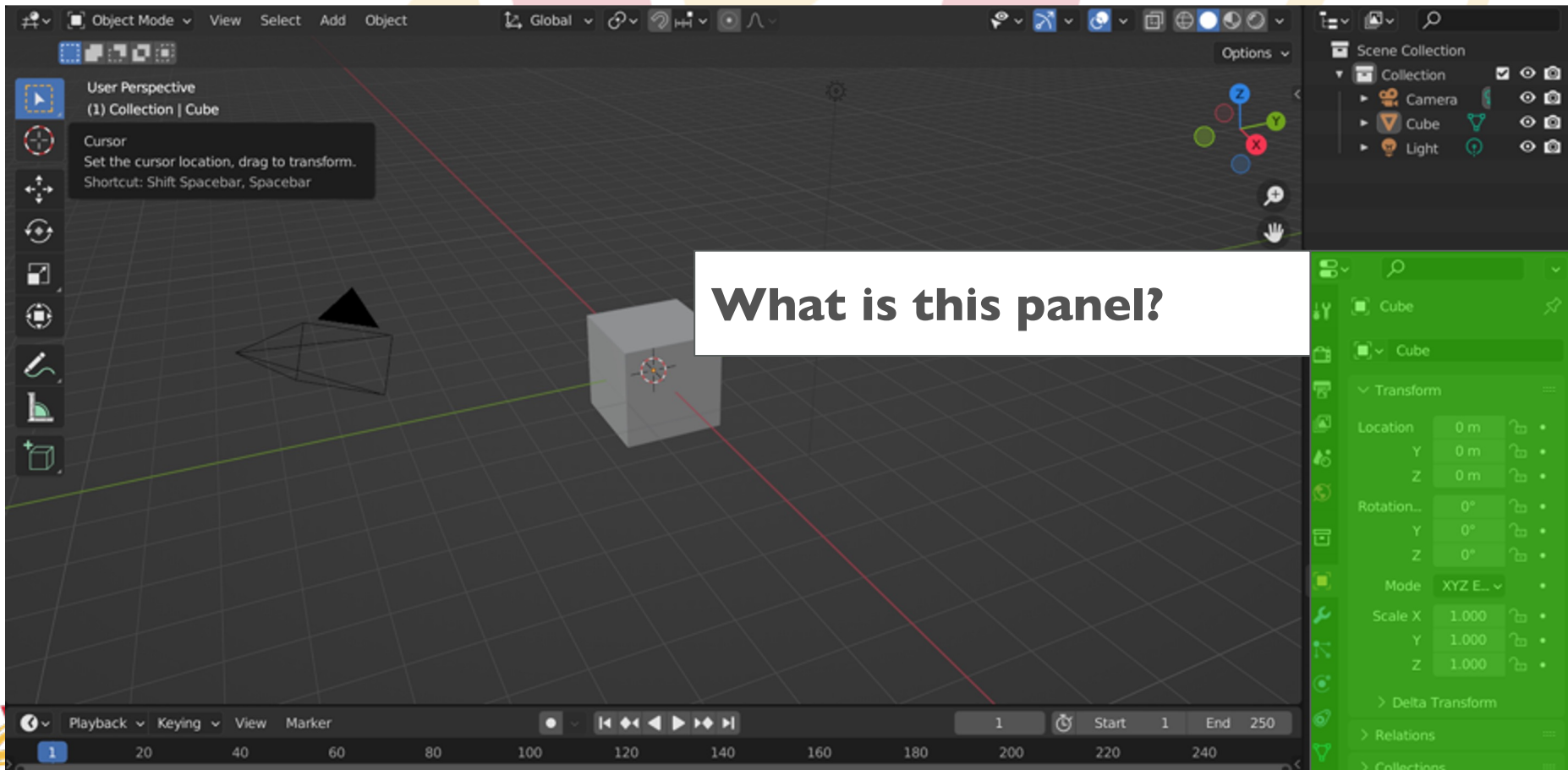
Review

Hierarchy Tree:

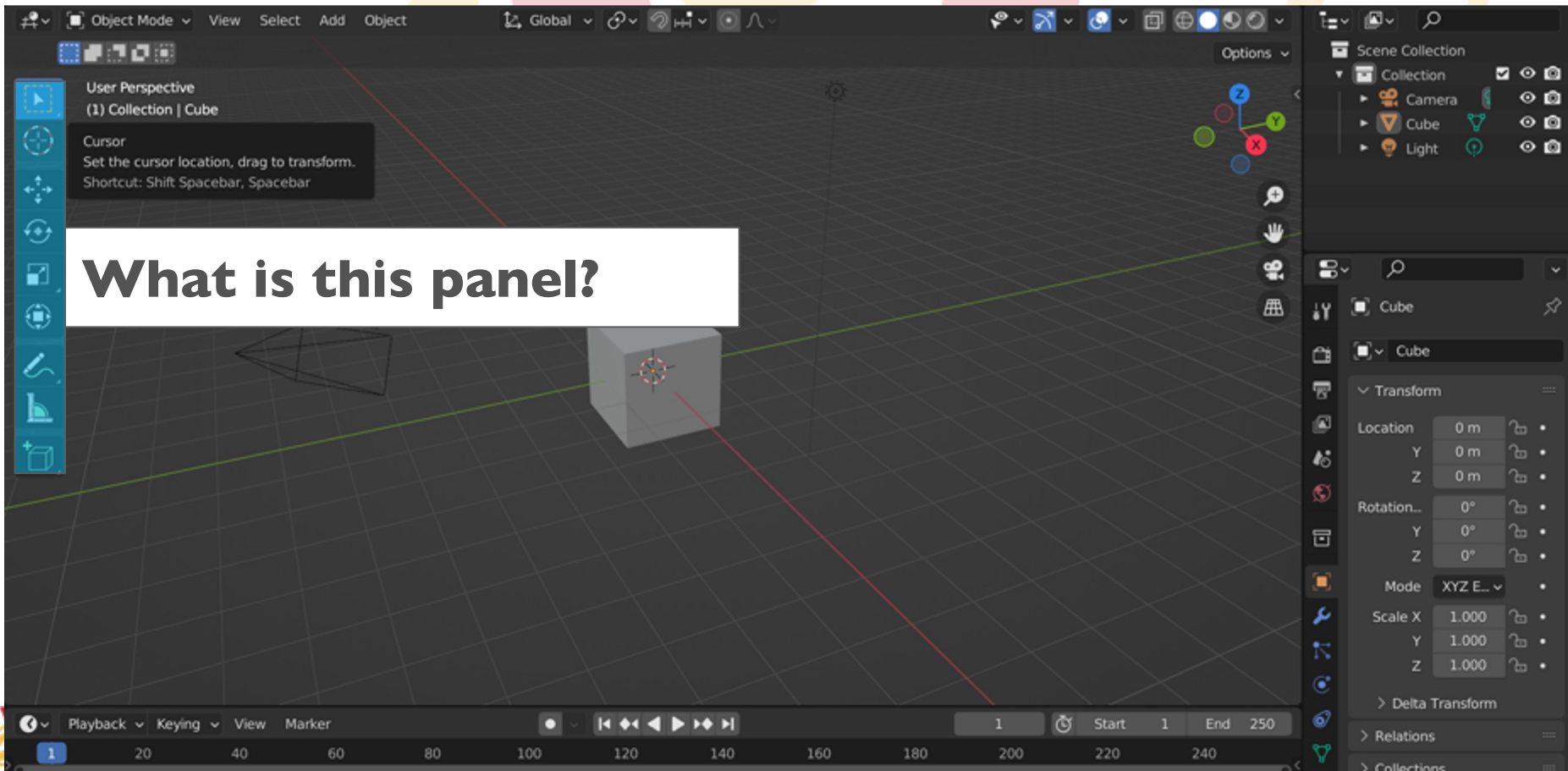
Somewhat similar to Solidworks feature tree, this is where you can see all of the parts, lights, cameras etc in your scene



Review



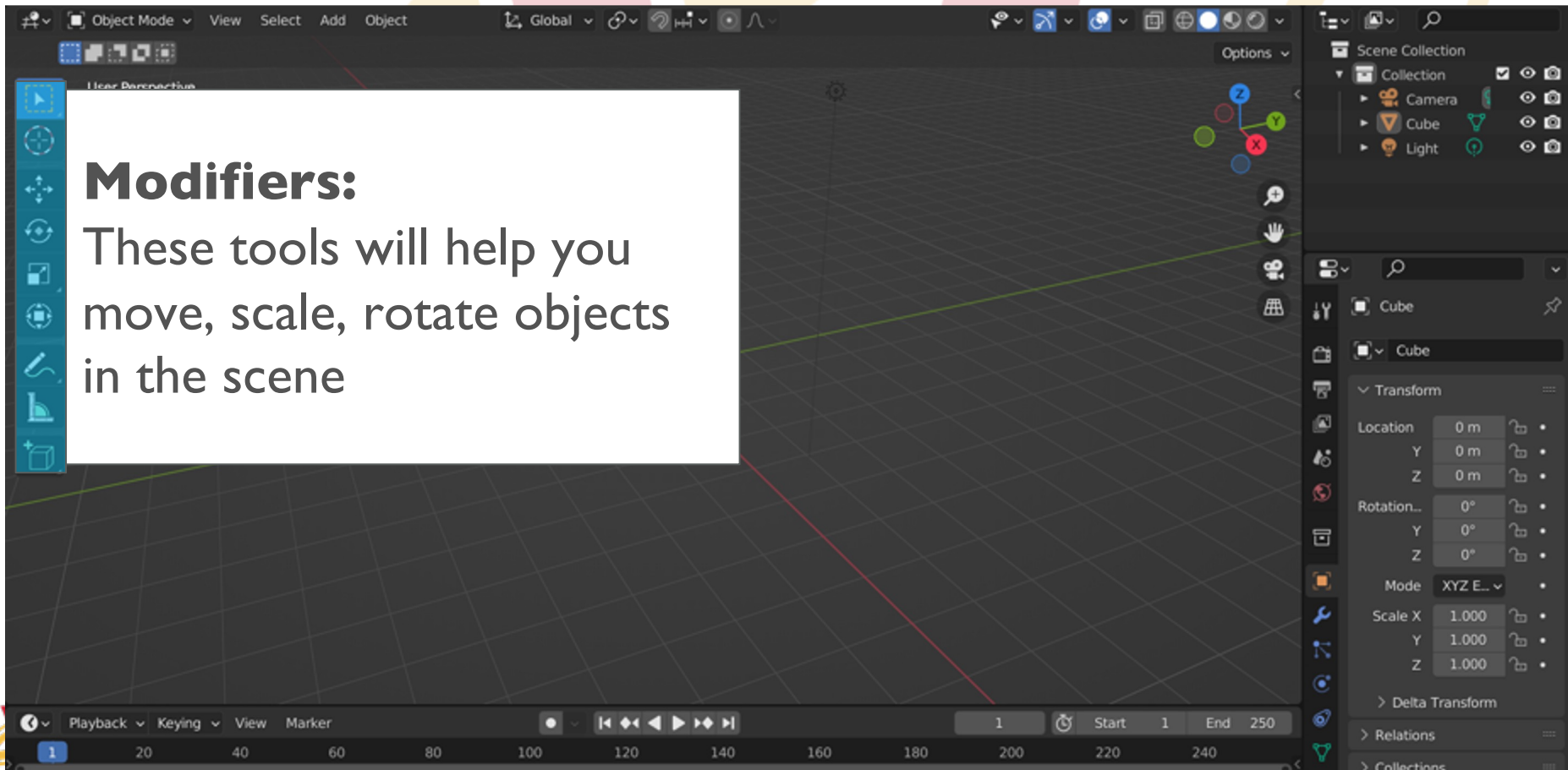
Review



Review

Modifiers:

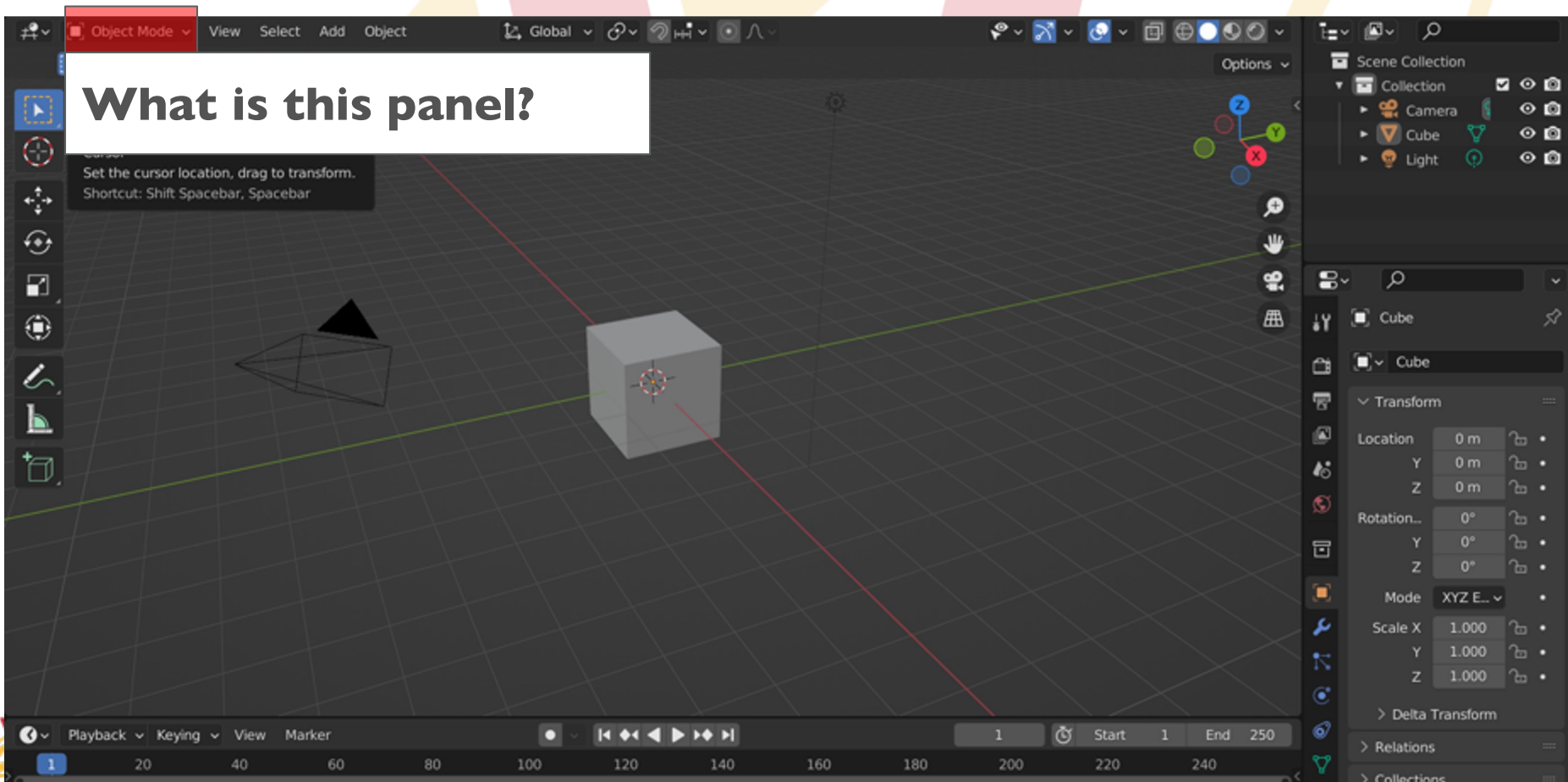
These tools will help you move, scale, rotate objects in the scene



Areas

What is this panel?

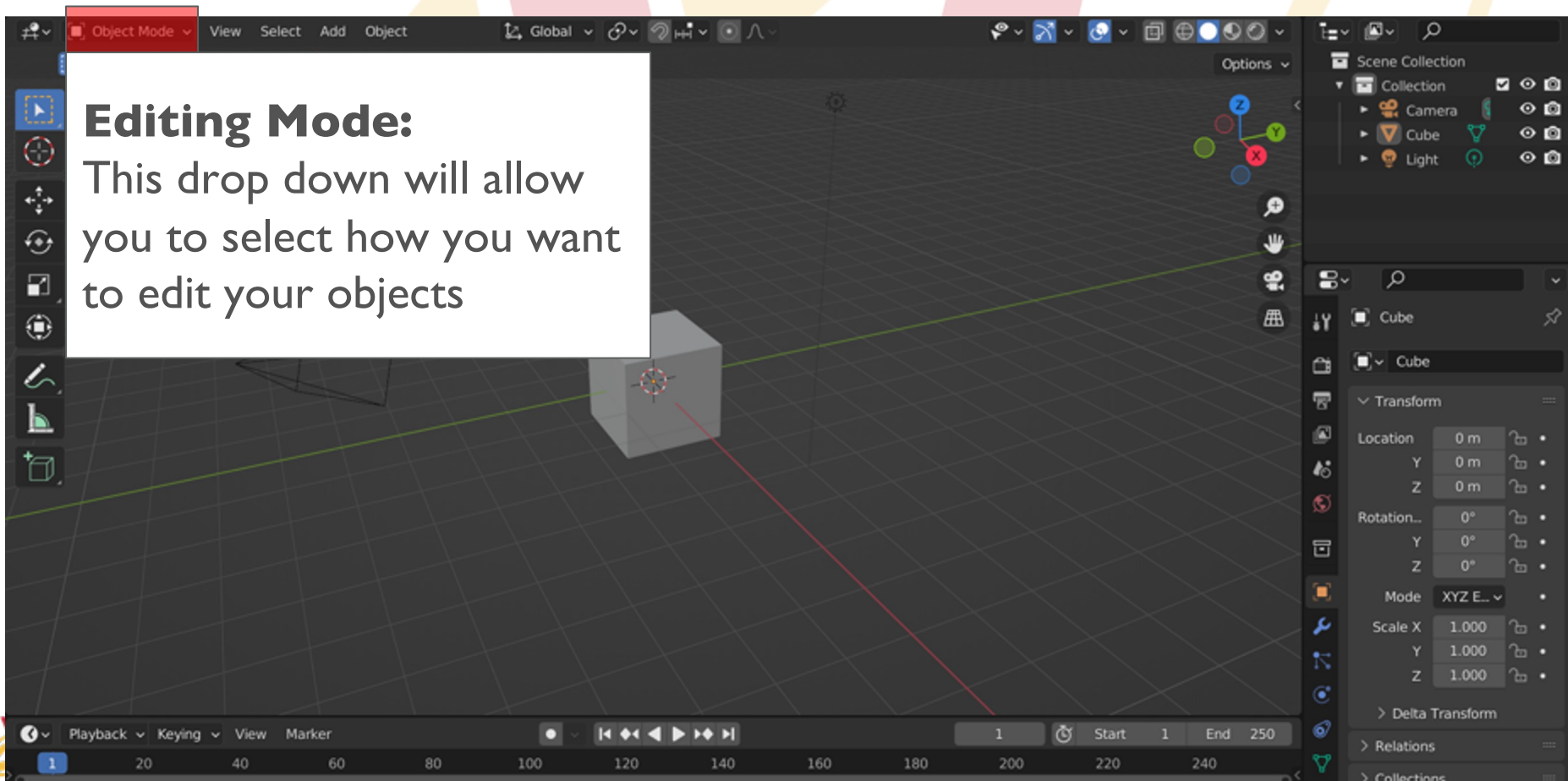
Set the cursor location, drag to transform.
Shortcut: Shift Spacebar, Spacebar



Review

Editing Mode:

This drop down will allow you to select how you want to edit your objects

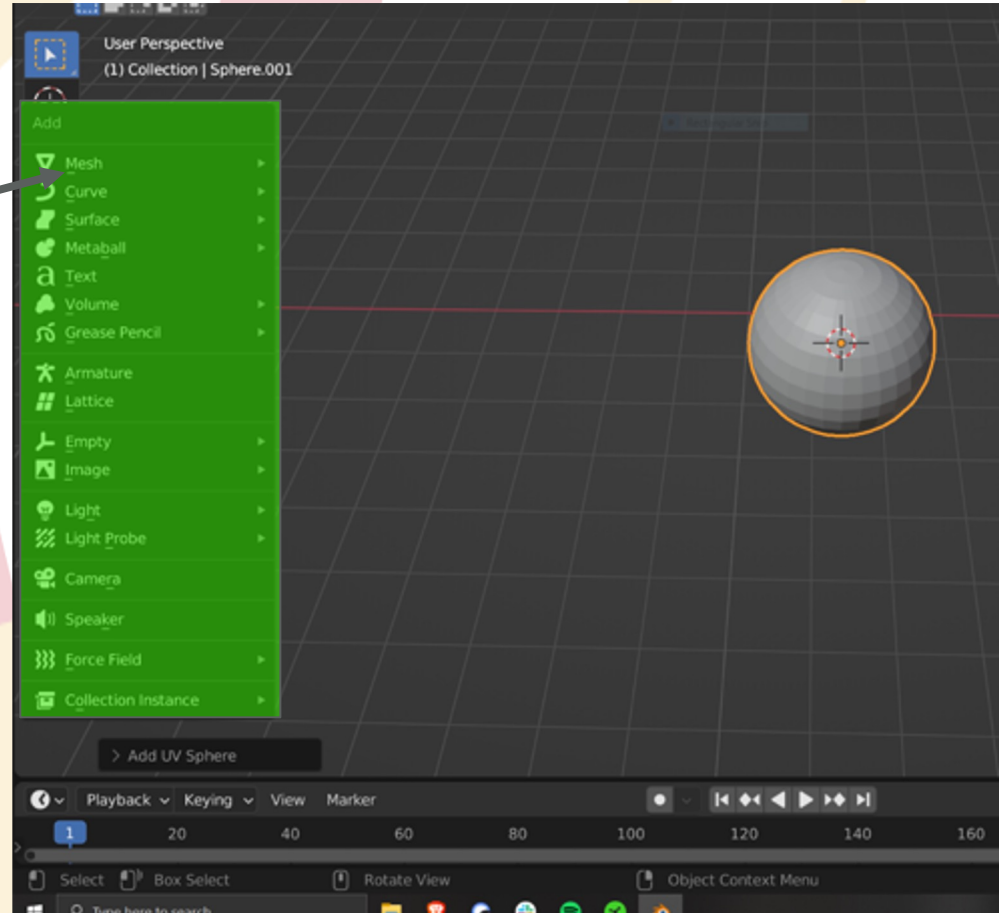


Review

- Shift + A is a crucial hotkey!
- (Open Add Menu) Shift + A
- Add Menu > Mesh > UV Sphere

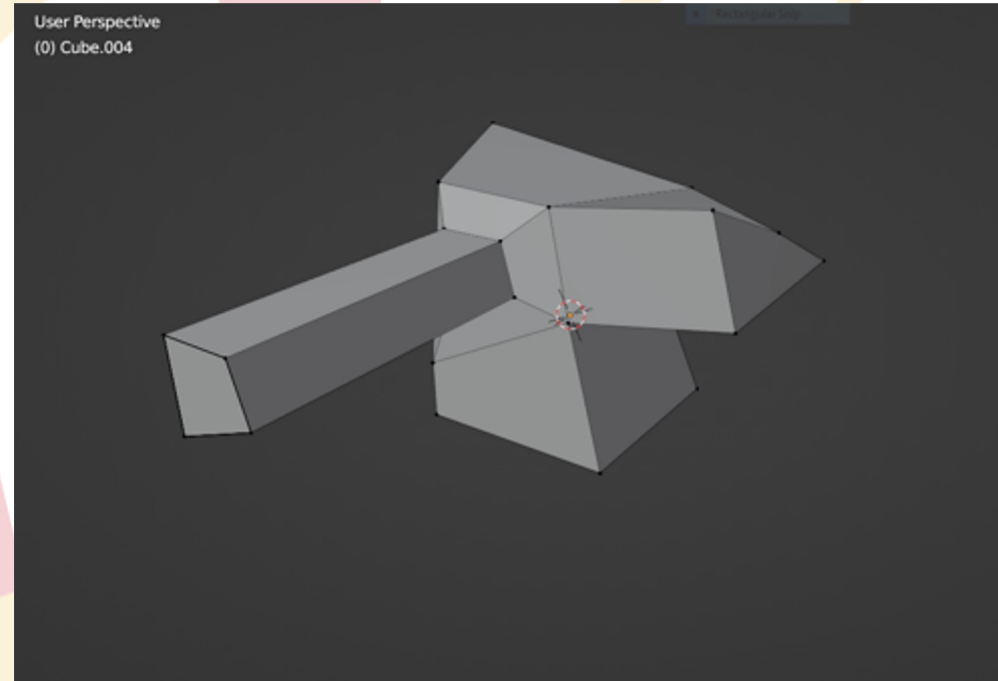
Hotkey Review:

- Move: G
- Scale: S
- Rotate: R
- Switch Editing Mode: Tab



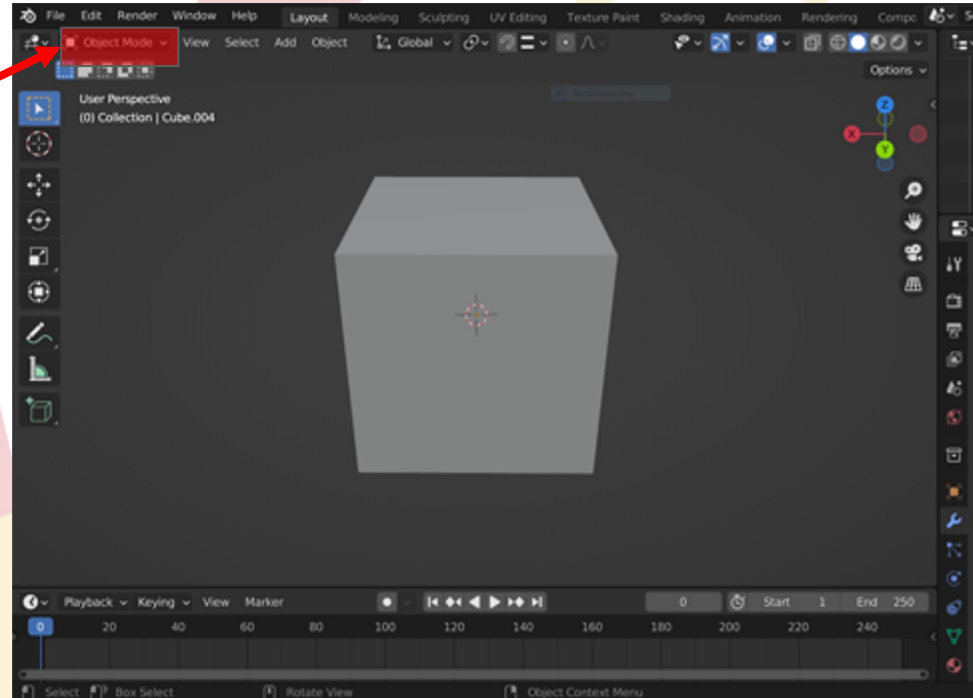
More Vertex Operations

- The following tools were used to make this shape from a simple cube:
 - Extrude
 - Bevel
 - Edge Slide

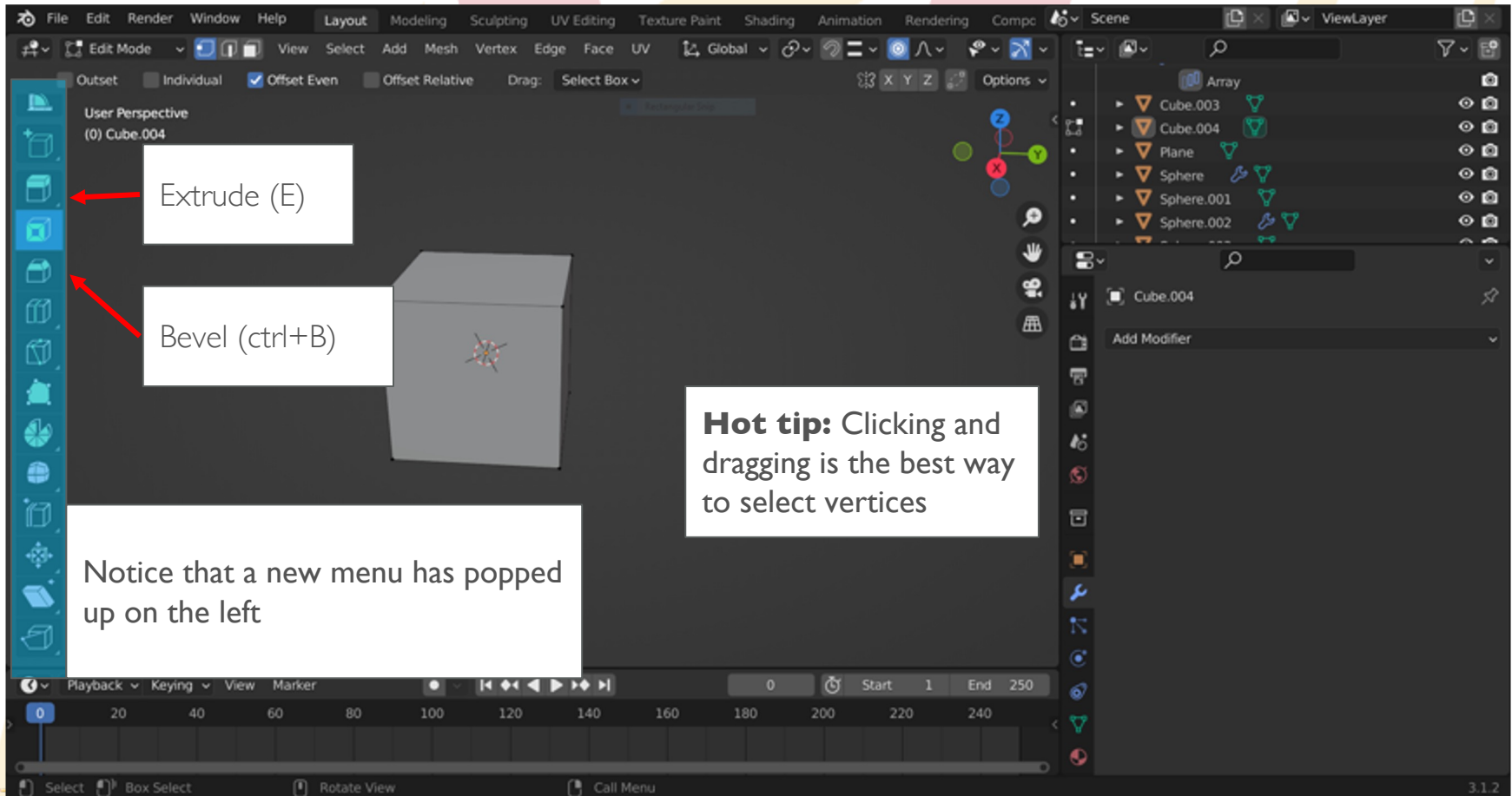


Vertices: Extrude

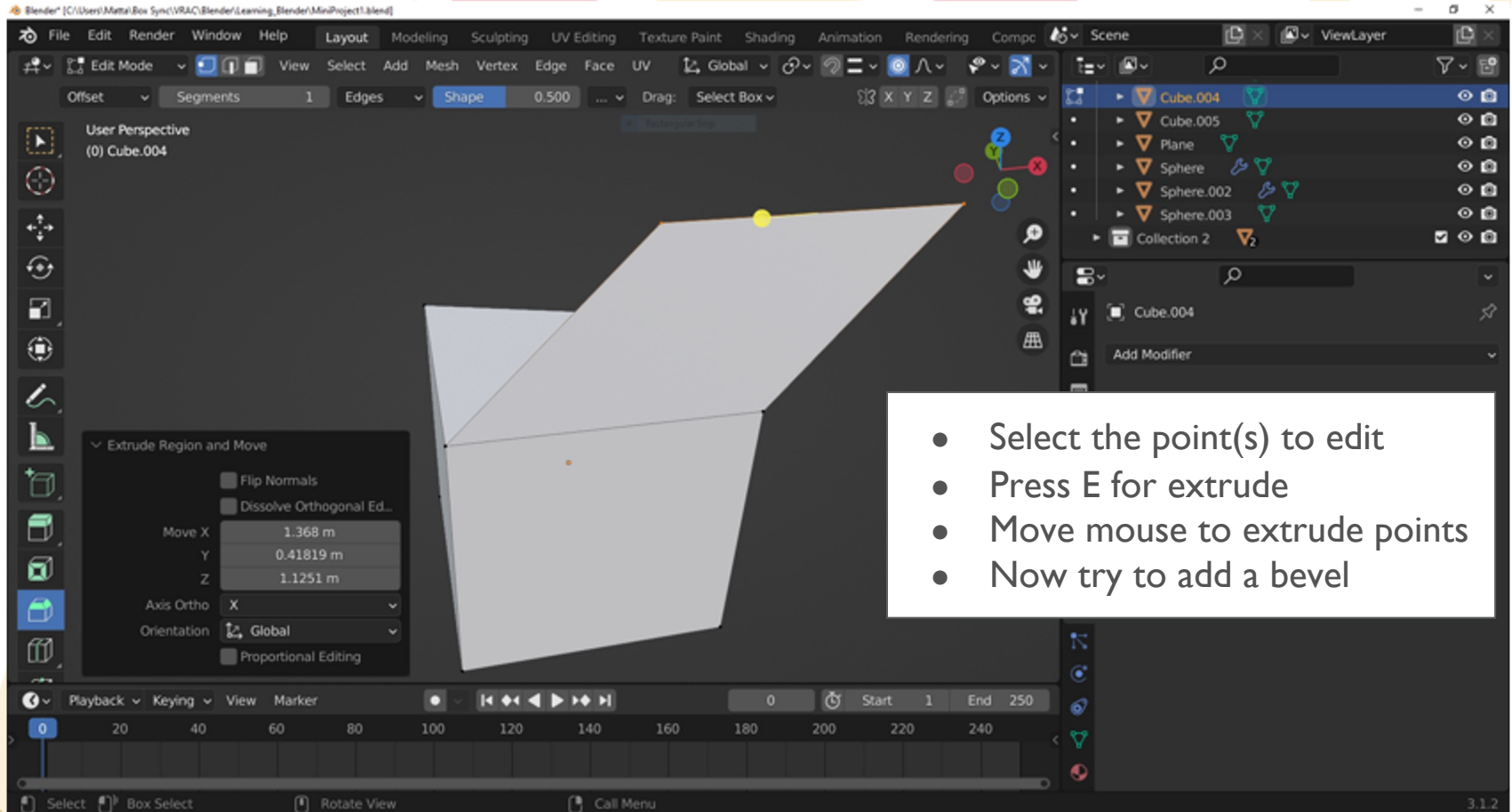
- Add a cube to scene
 - (Hint: Shift + A opens add menu)
- Enter “Edit Mode”



Vertices: Extrude



Vertices: Extrude

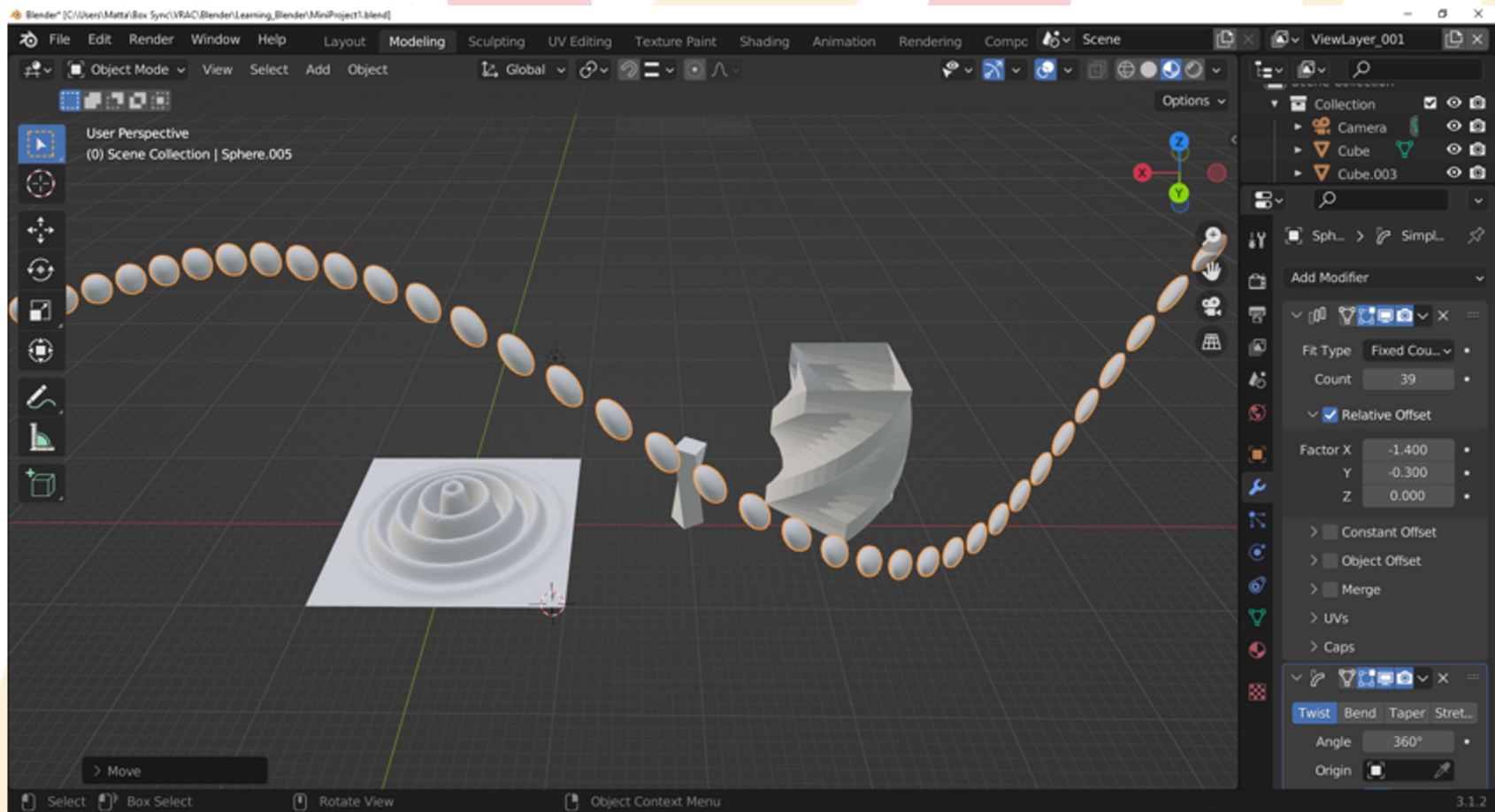


- Select the point(s) to edit
- Press E for extrude
- Move mouse to extrude points
- Now try to add a bevel

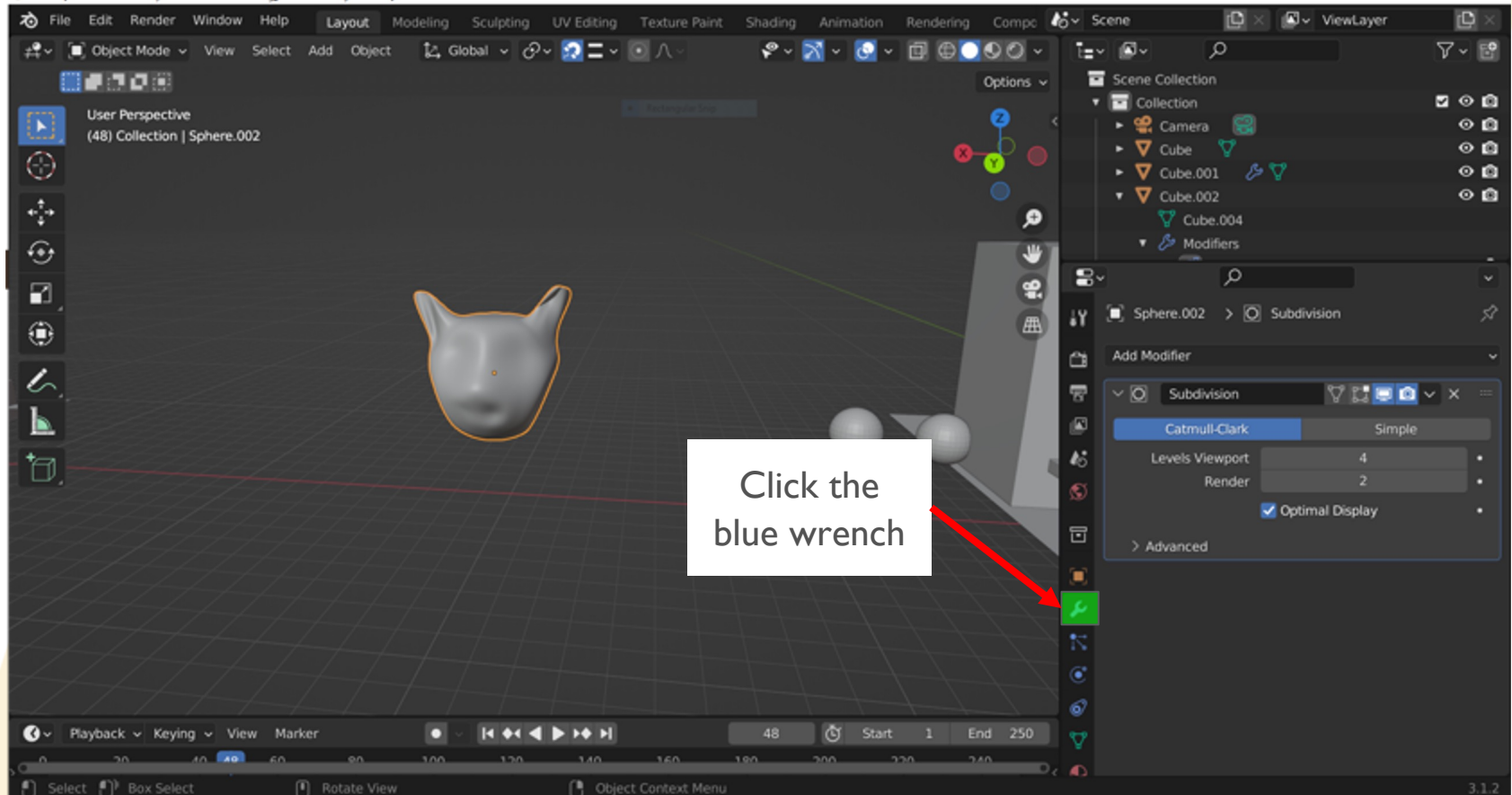
Break Time!



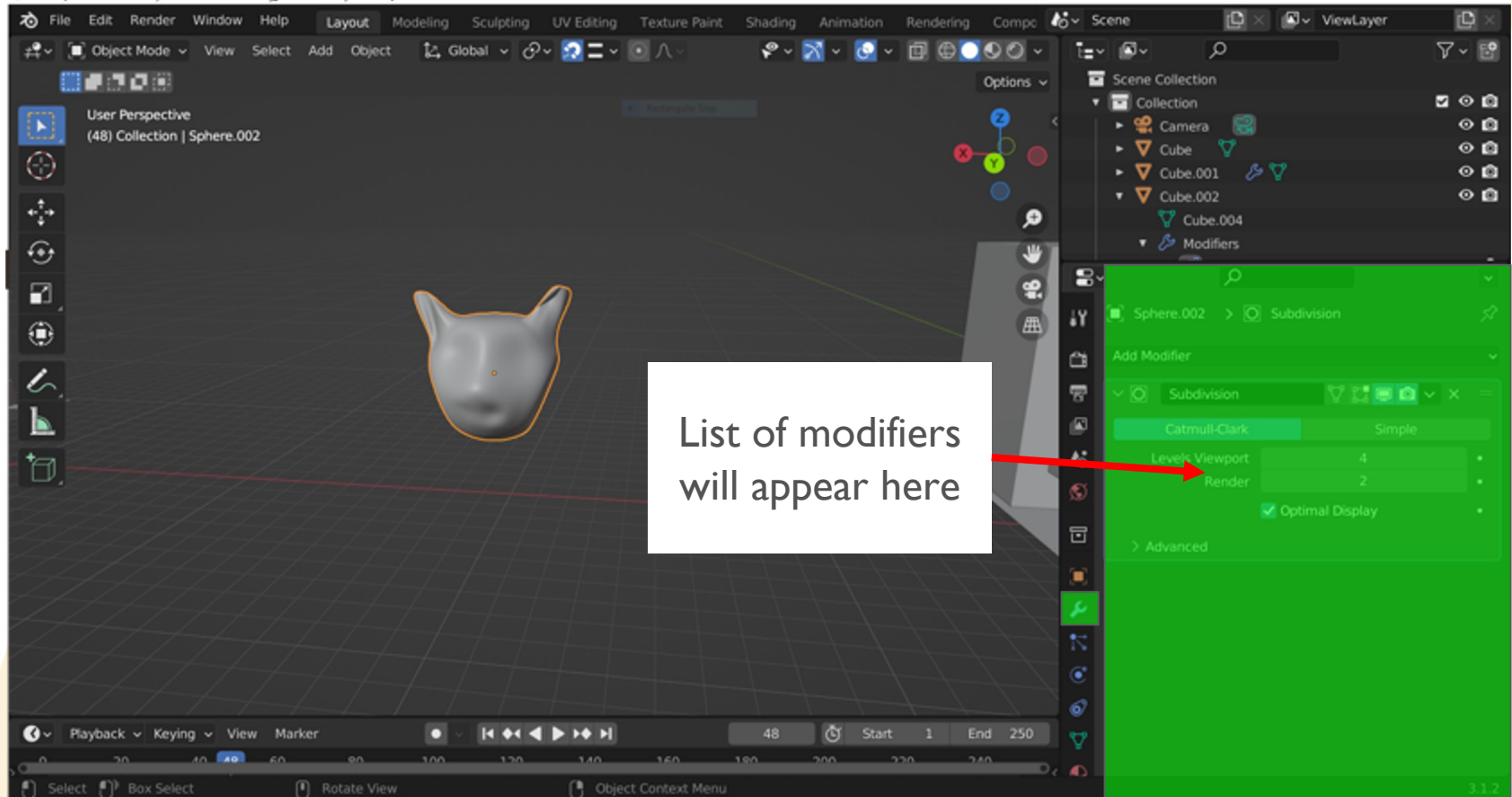
Modifiers!



Modifiers: Menu Introduction



Modifiers: Menu Introduction



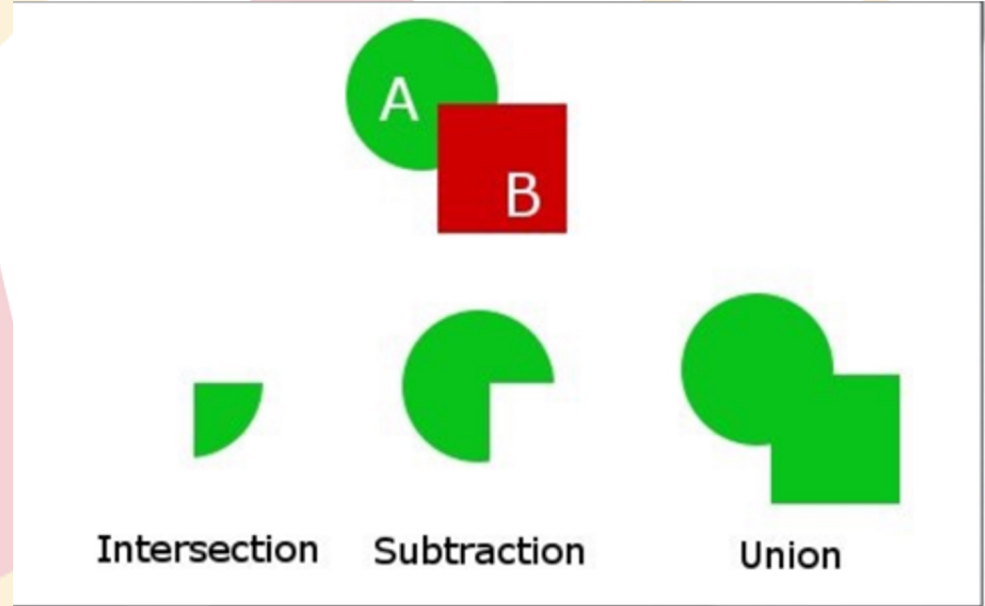
Boolean Modifiers

- **Boolean Modifiers**

- Booleans let you subtract, add or intersect an object's geometry onto another object (merging)
- Usually used for objects that will not be deformed (mechanical)

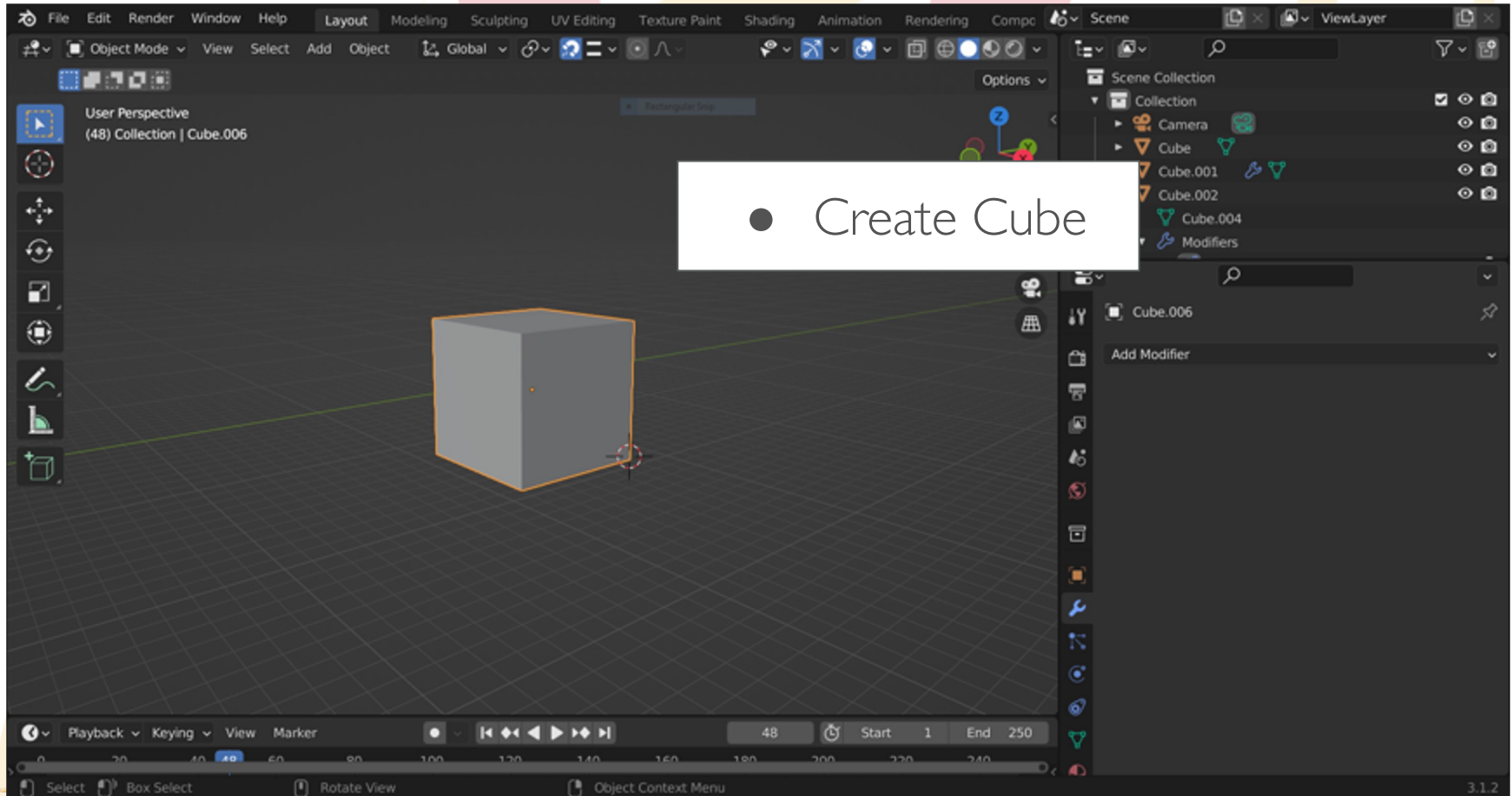
- **Drawbacks:**

- Geometry cannot be deformed

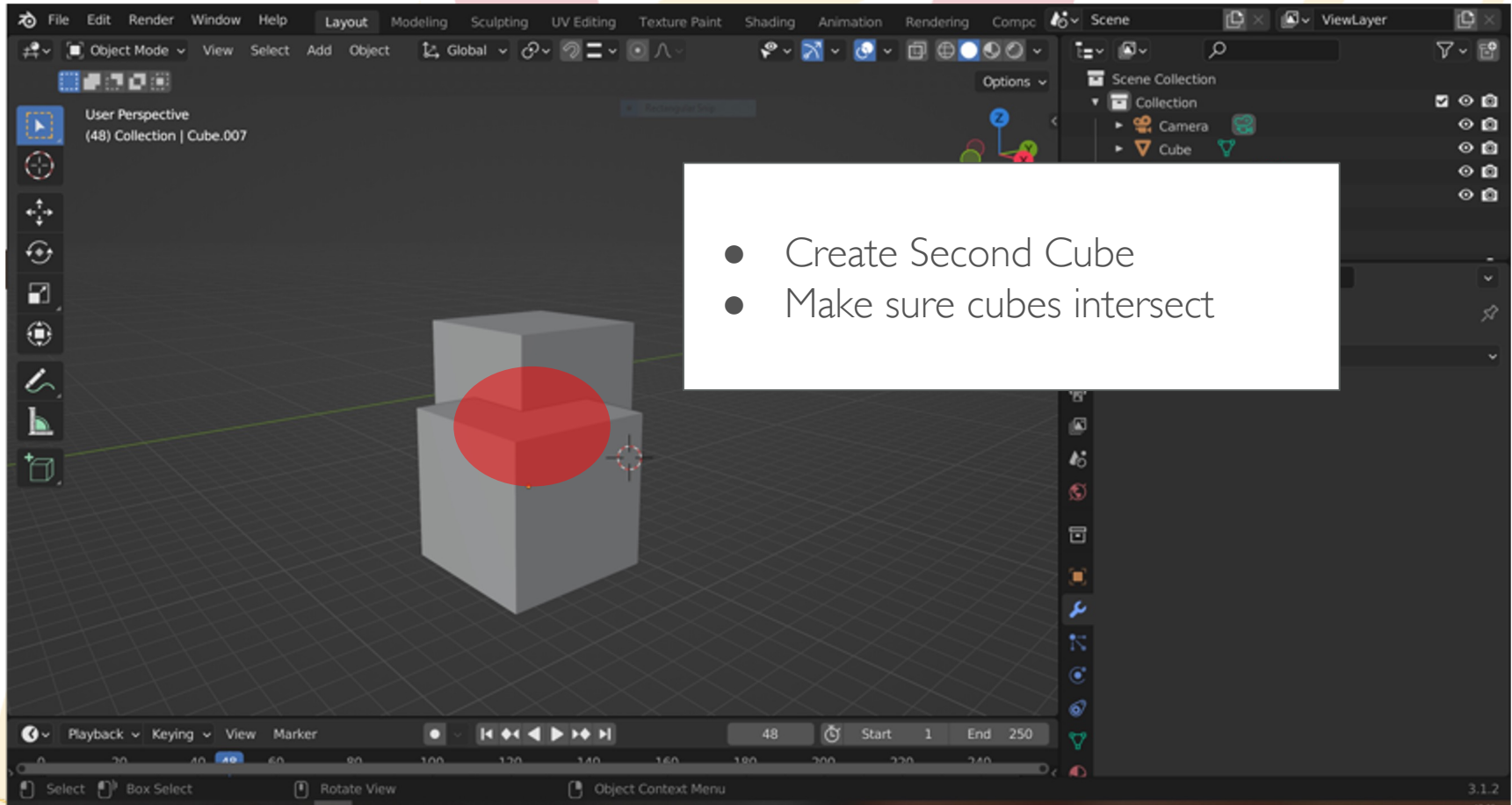


Modifiers: Boolean Difference

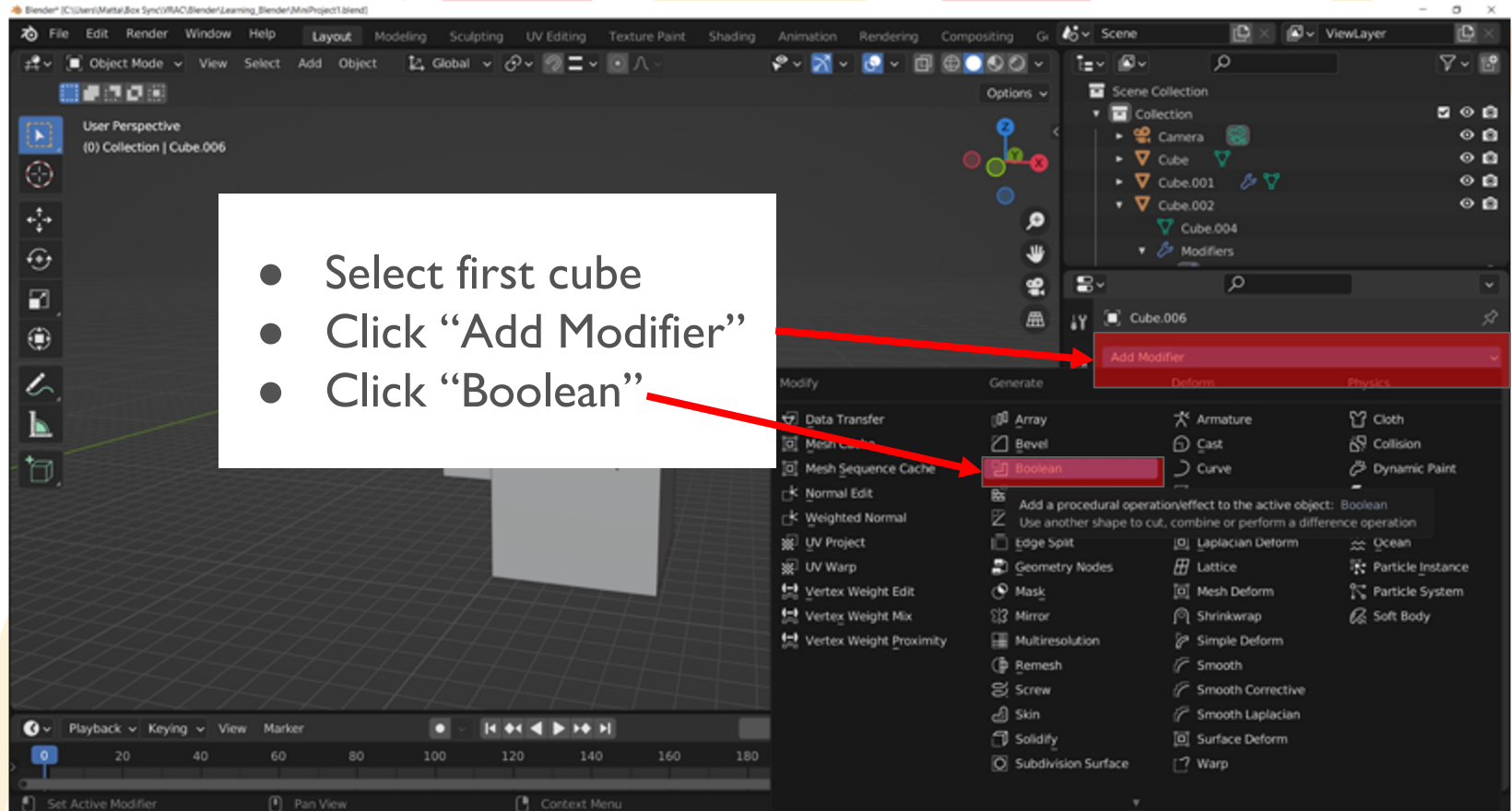
- Create Cube

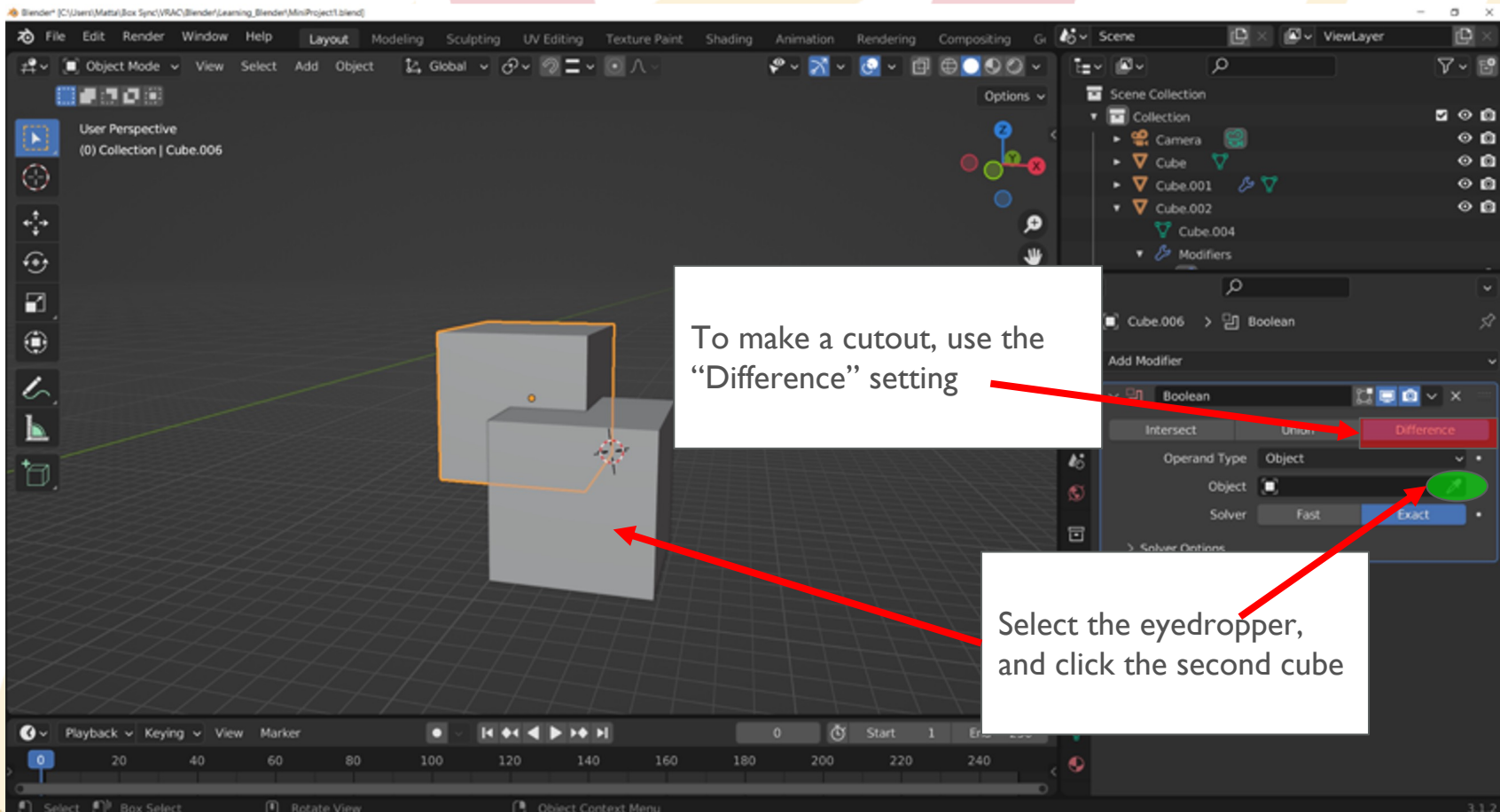


Modifiers: Boolean Difference



Modifiers: Boolean Difference

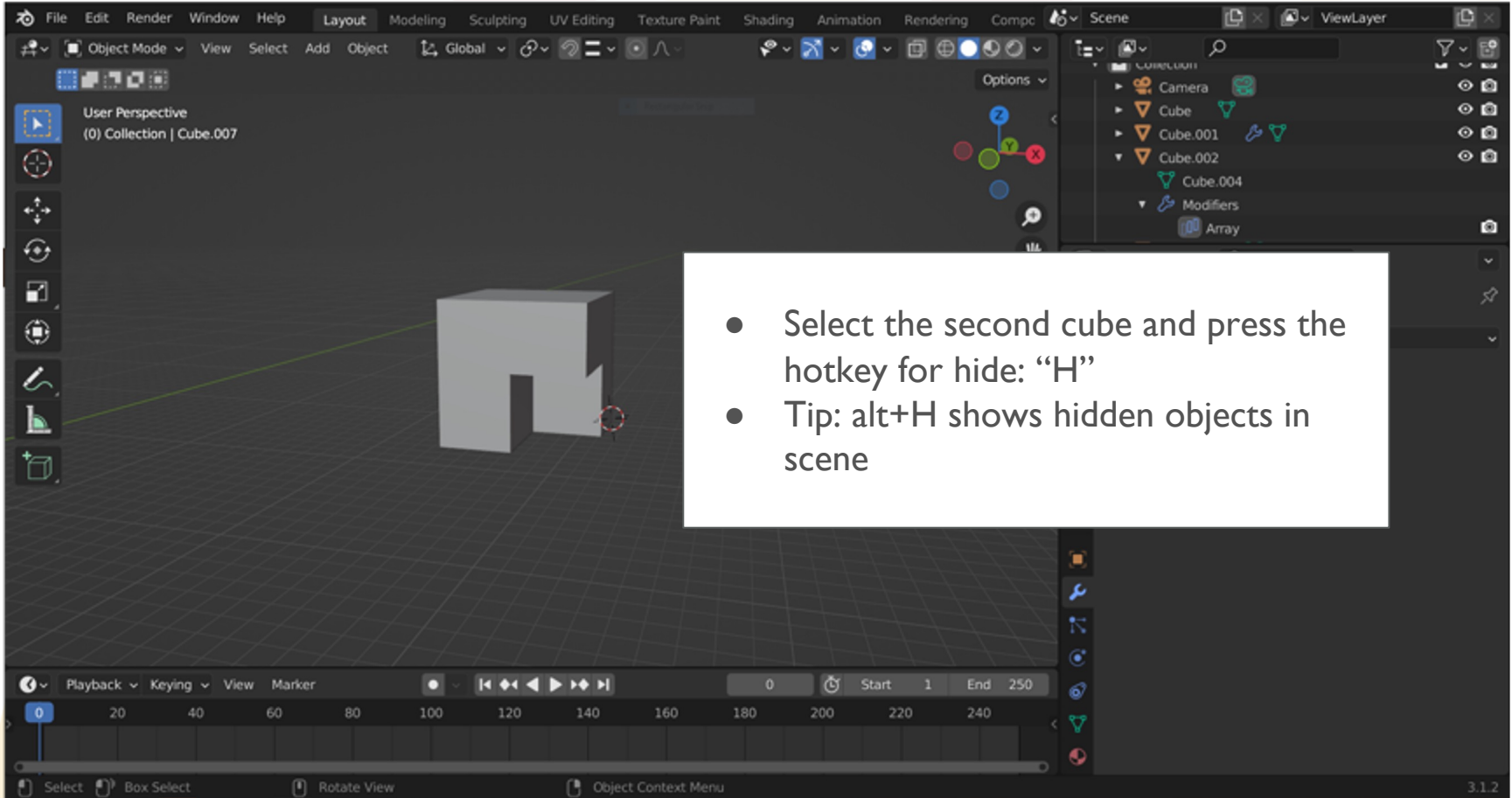




To make a cutout, use the
"Difference" setting

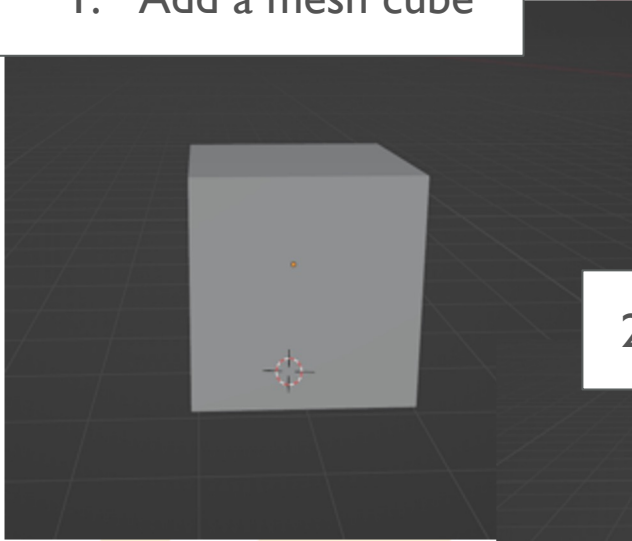
Select the eyedropper,
and click the second cube

Modifiers: Boolean Difference

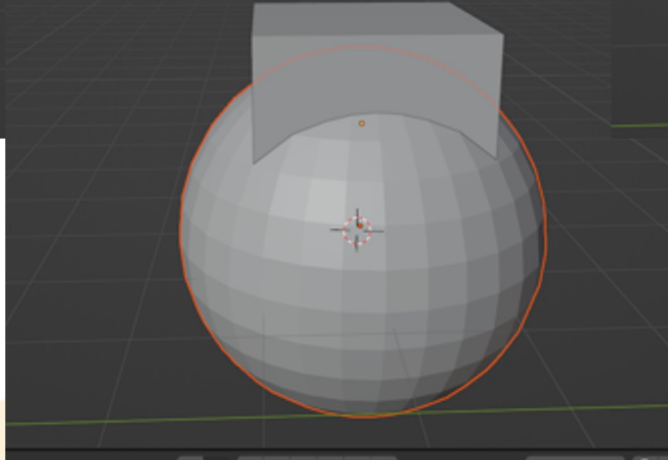


Boolean Modifiers: Intersect Example

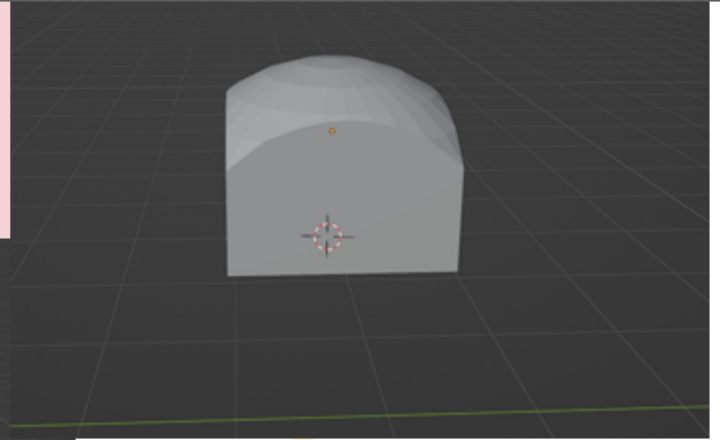
1. Add a mesh cube



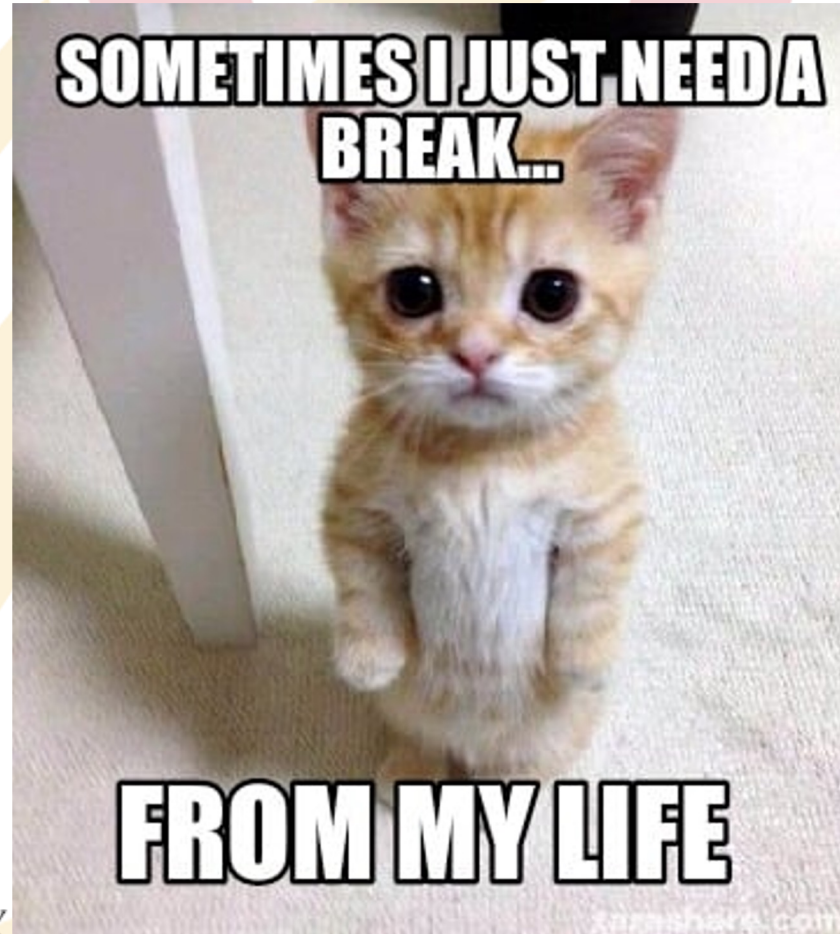
2. Add a mesh sphere



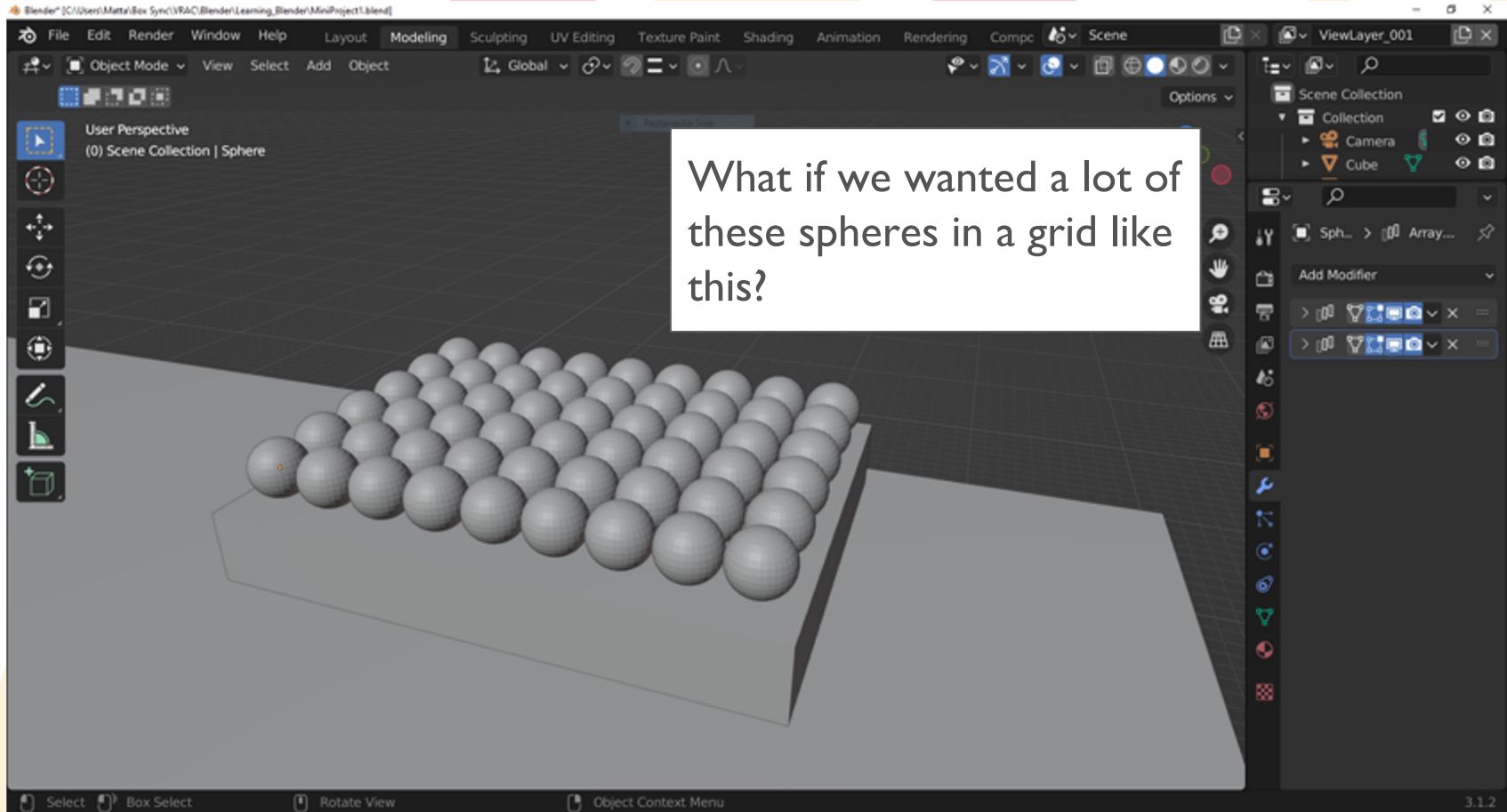
3. Apply the bool modifier to cube



Break Time!

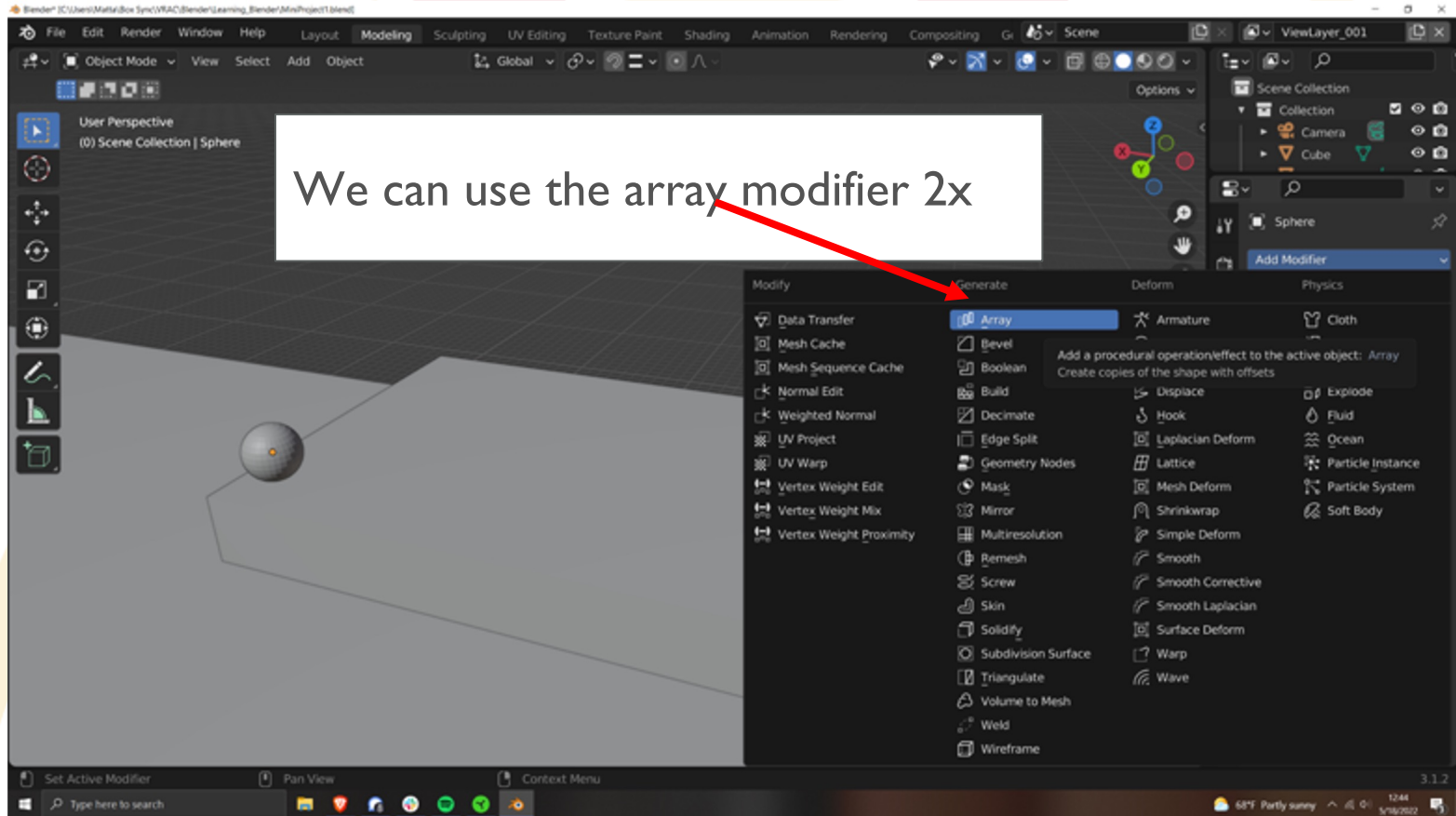


Modifiers: Array

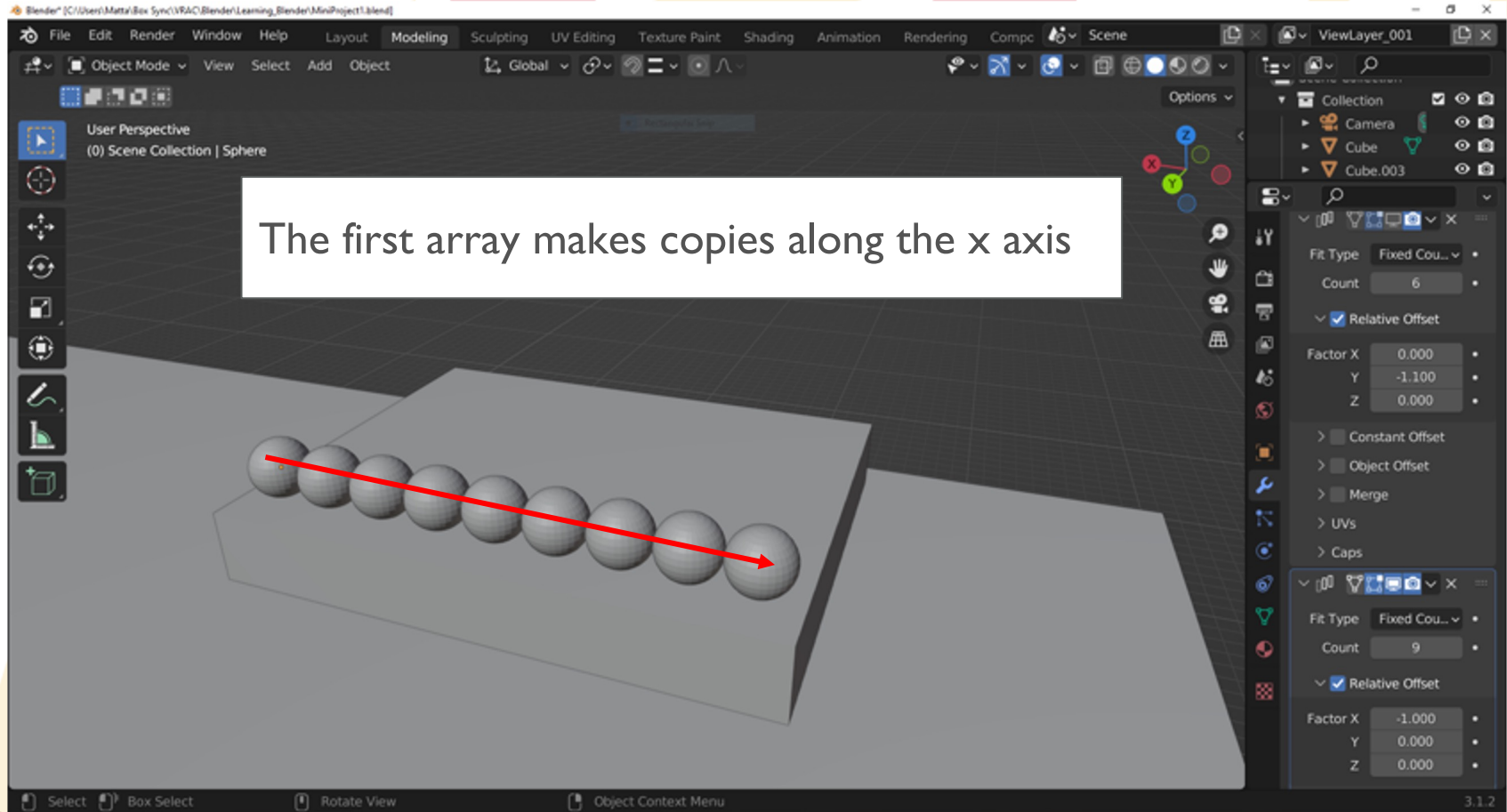


Modifiers: Array

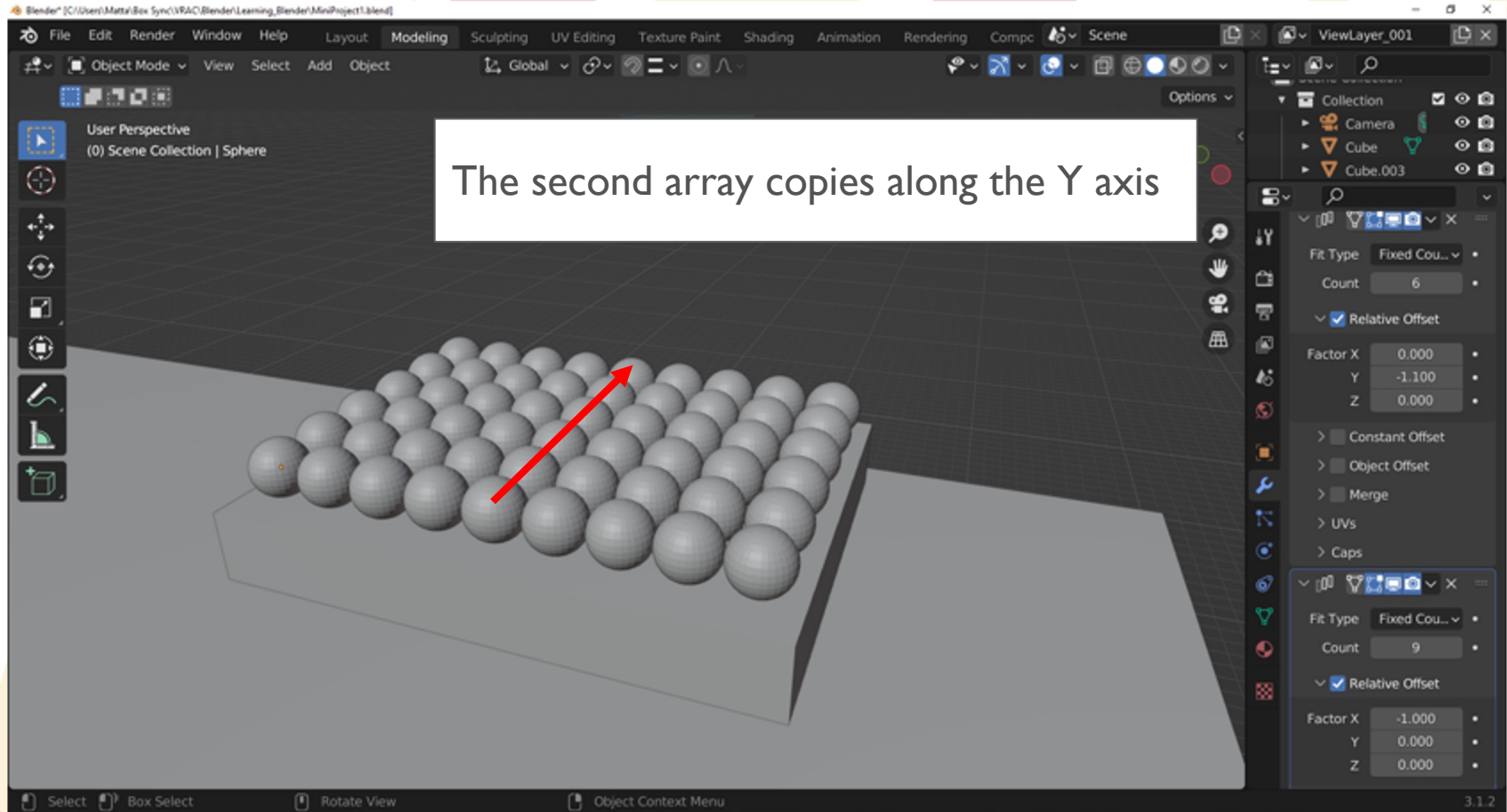
We can use the array modifier 2x



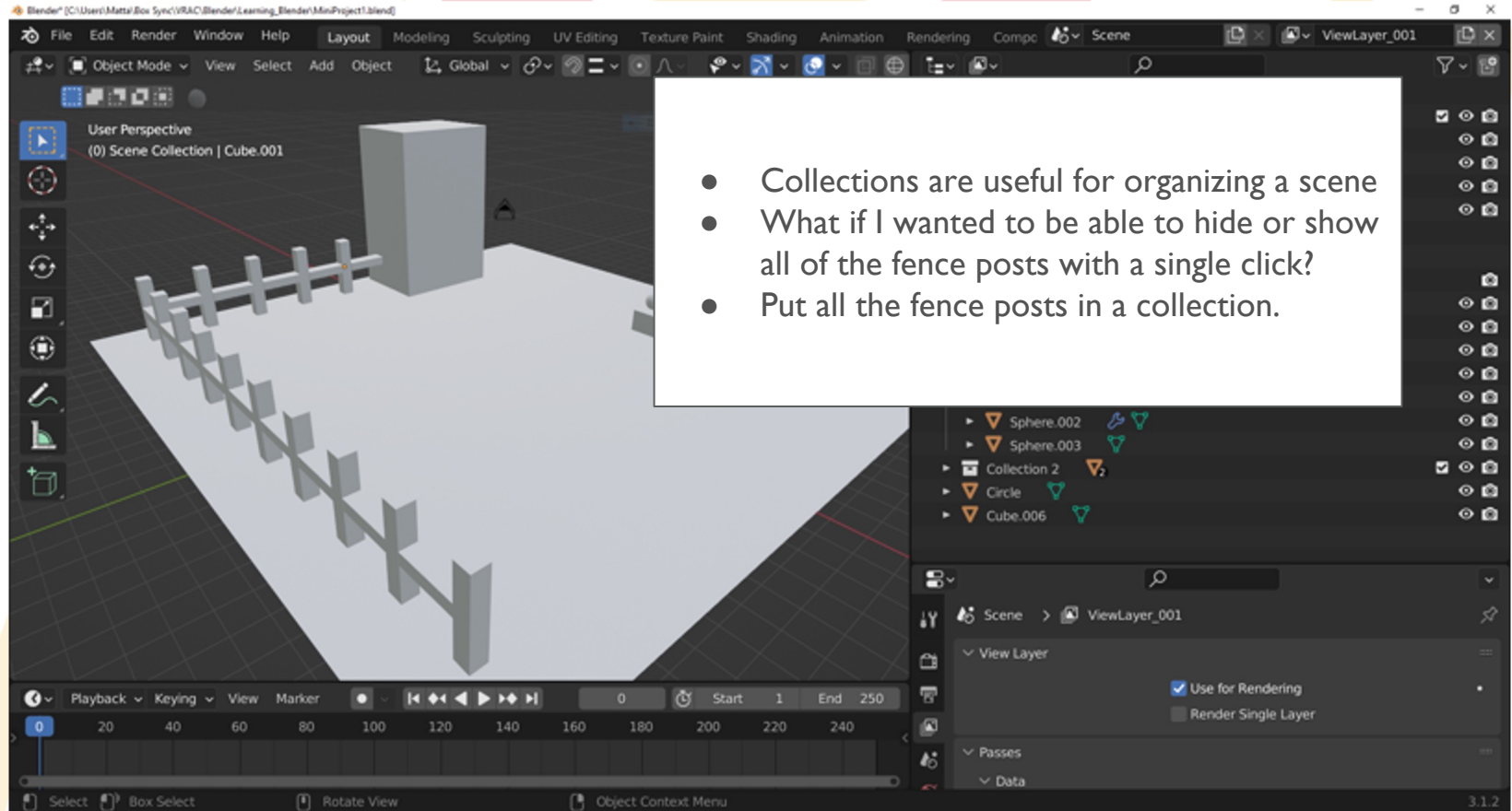
Modifiers: Array



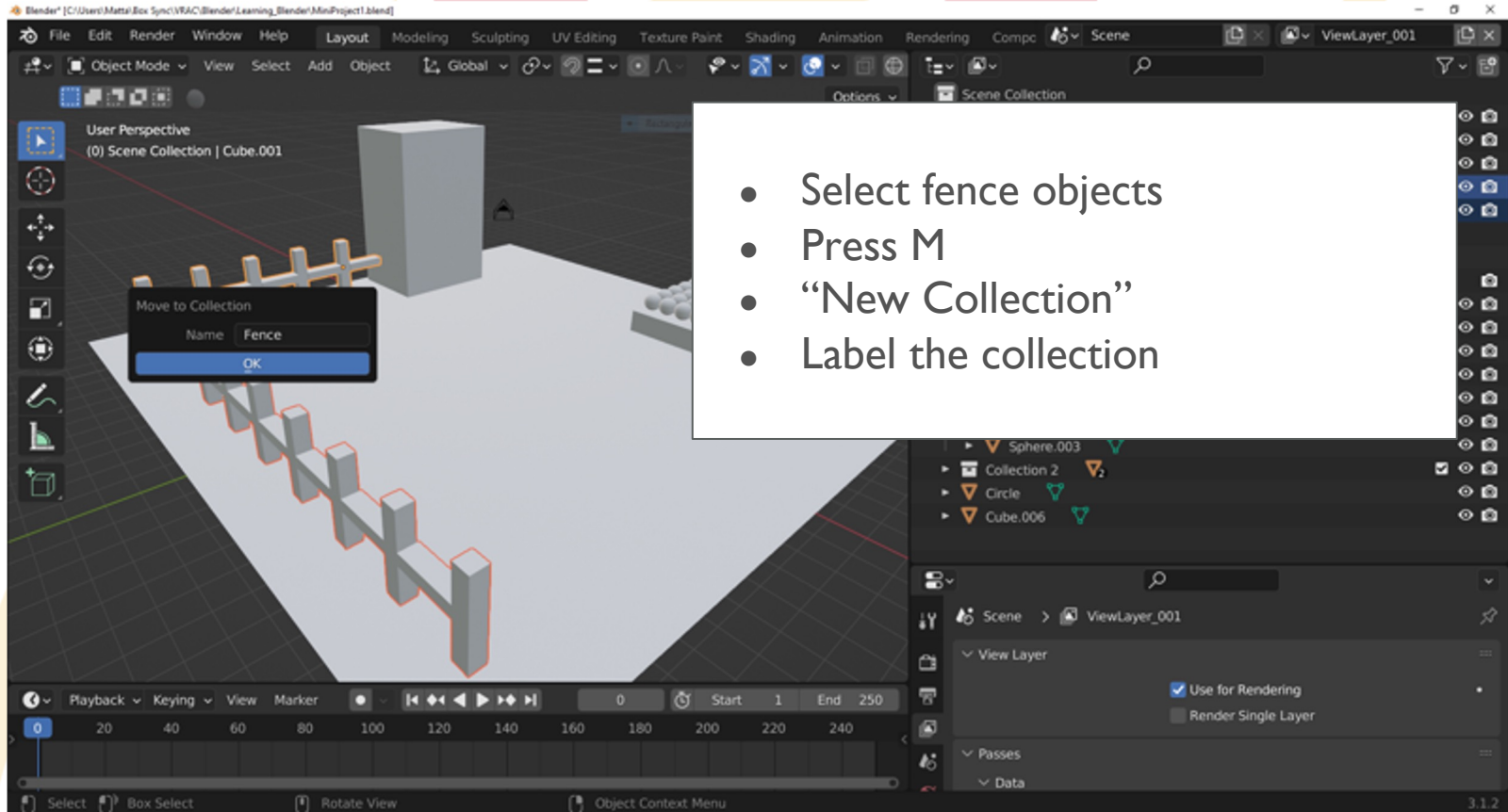
Modifiers: Array



Creating Collections

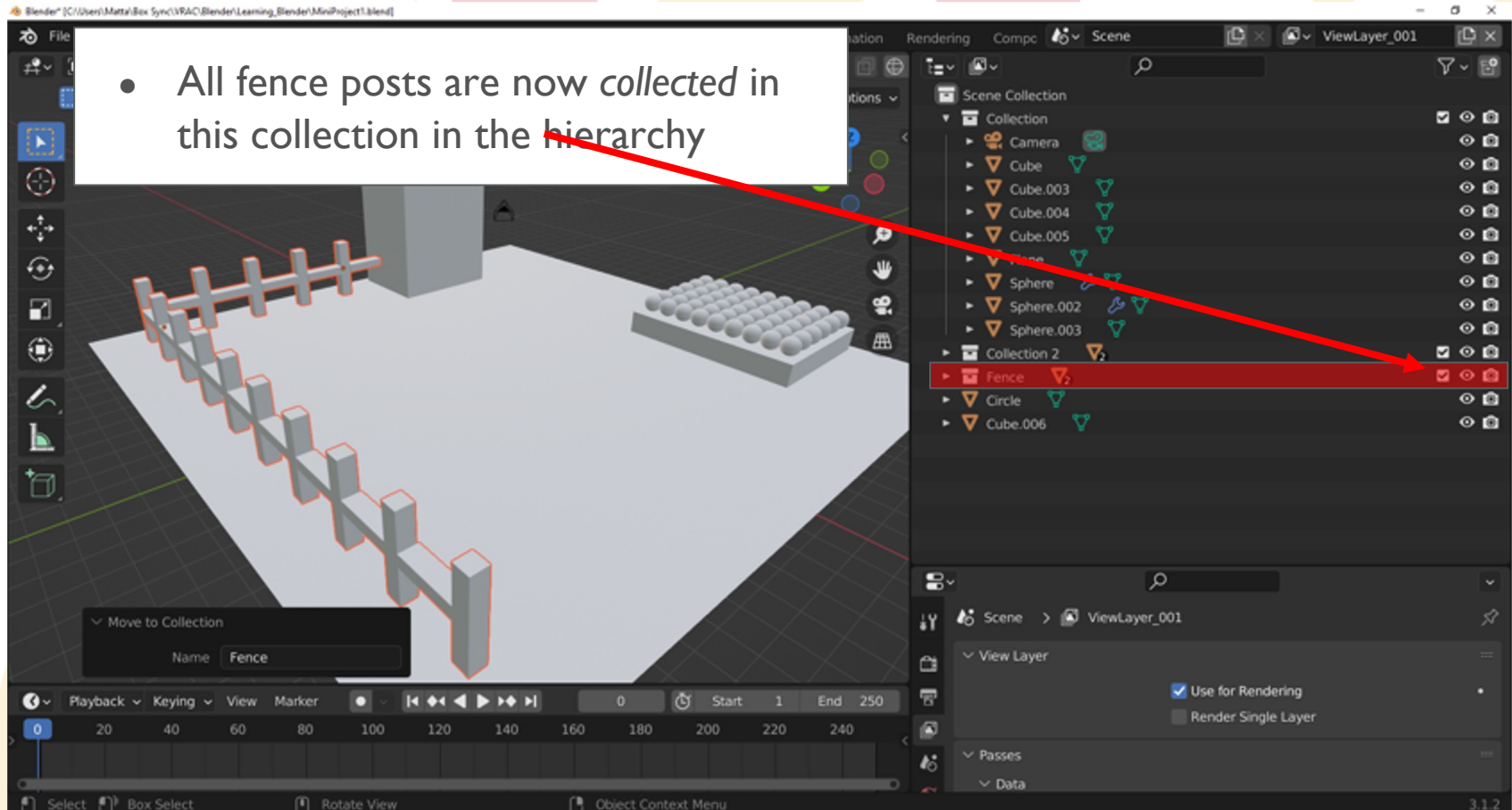


Creating Collections



Creating Collections

- All fence posts are now *collected* in this collection in the hierarchy



Mini Creation

Keep working on your creation from Session I. Add more details, or try new techniques from what we talked about today. Try new modifiers, and play around to see what you can create. Use collections to organize your scene

Stage I: 3 Objects

- Create a building
 - House
 - Shed
- Landscape/ground
- Yard feature
 - Wagon
 - Tree/bush

Stage II: 2 Objects

- Landscaping feature
 - Rocks
 - Walking path
- Details to building:
 - Door
 - Roof

Stage III: 2 Objects

- More details
 - Cow
 - Water well
- Details to building:
 - Windows
 - Chimney

Mini Creation Inspiration



Mini Creation Bonus

- Try animating something in your scene (eg: smoke from chimney, swaying tree)
- Use animation toolset to make the camera fly through your scene
- Try adding colors to the objects in your scene