

Modellazione in Blender 3

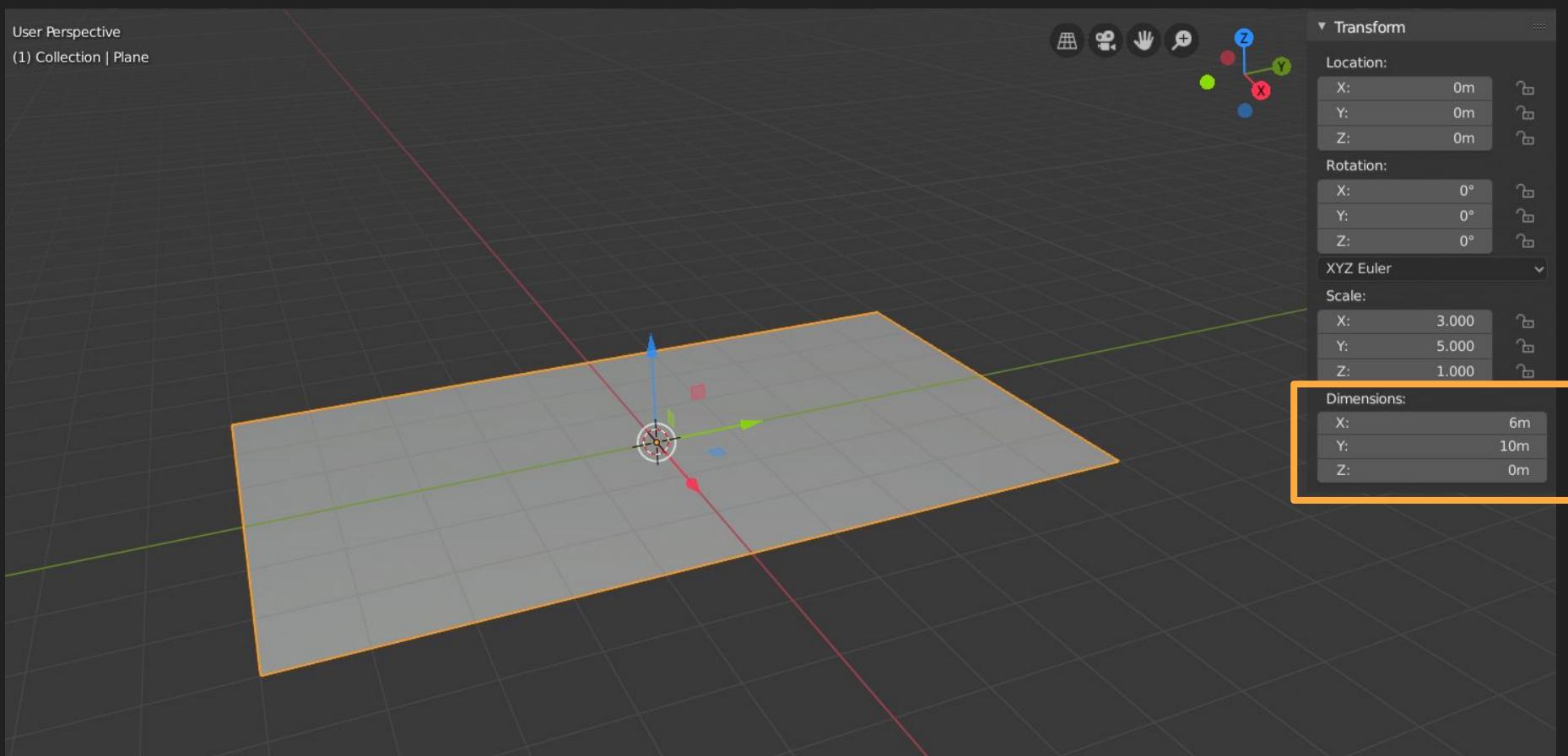
Daniele De Luca



Esercizio

Add → Mesh → Plane

Properties - N

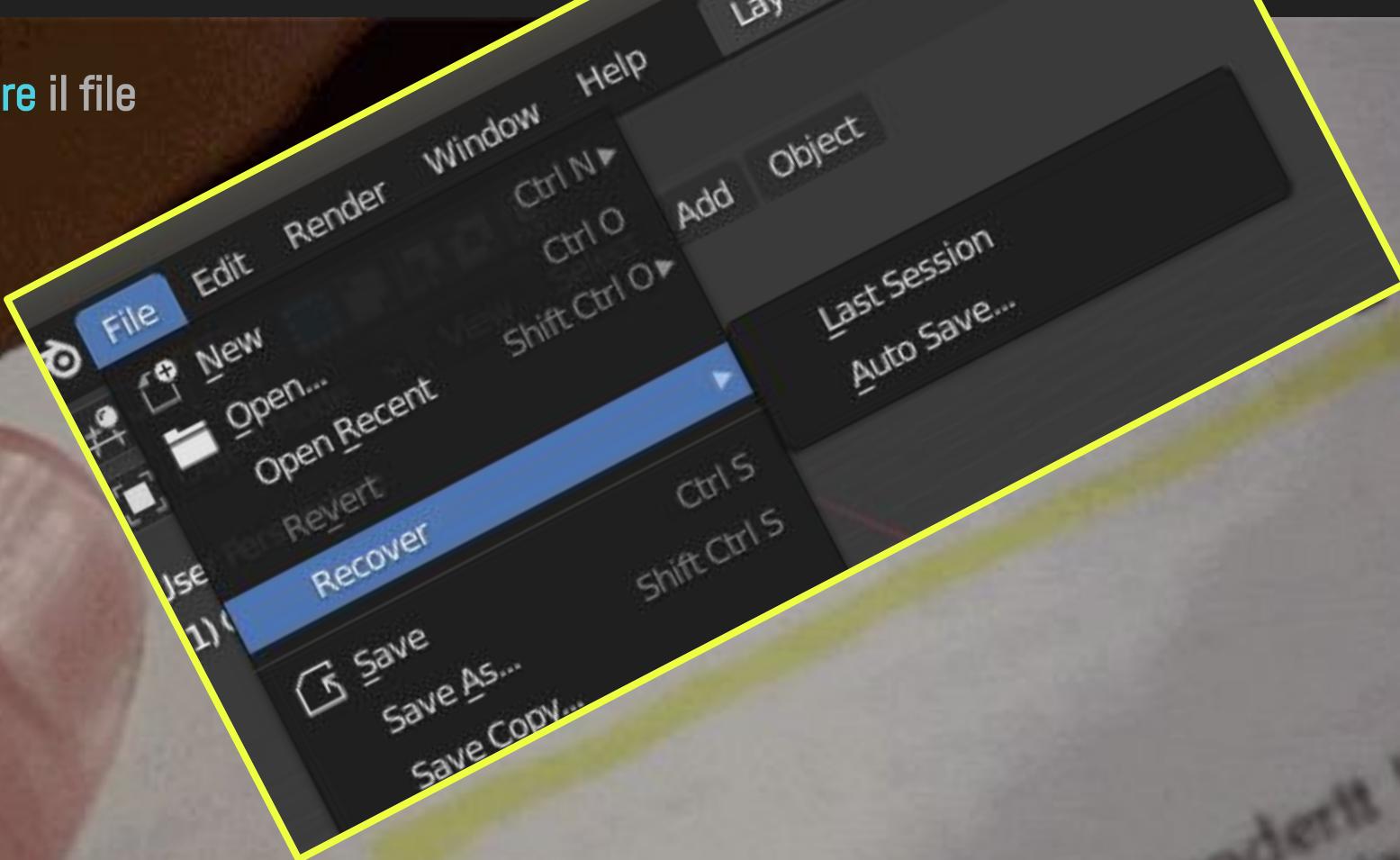


Salvare il file

PARANOIA

comprehension in your
own habitat now.

Salvare il file

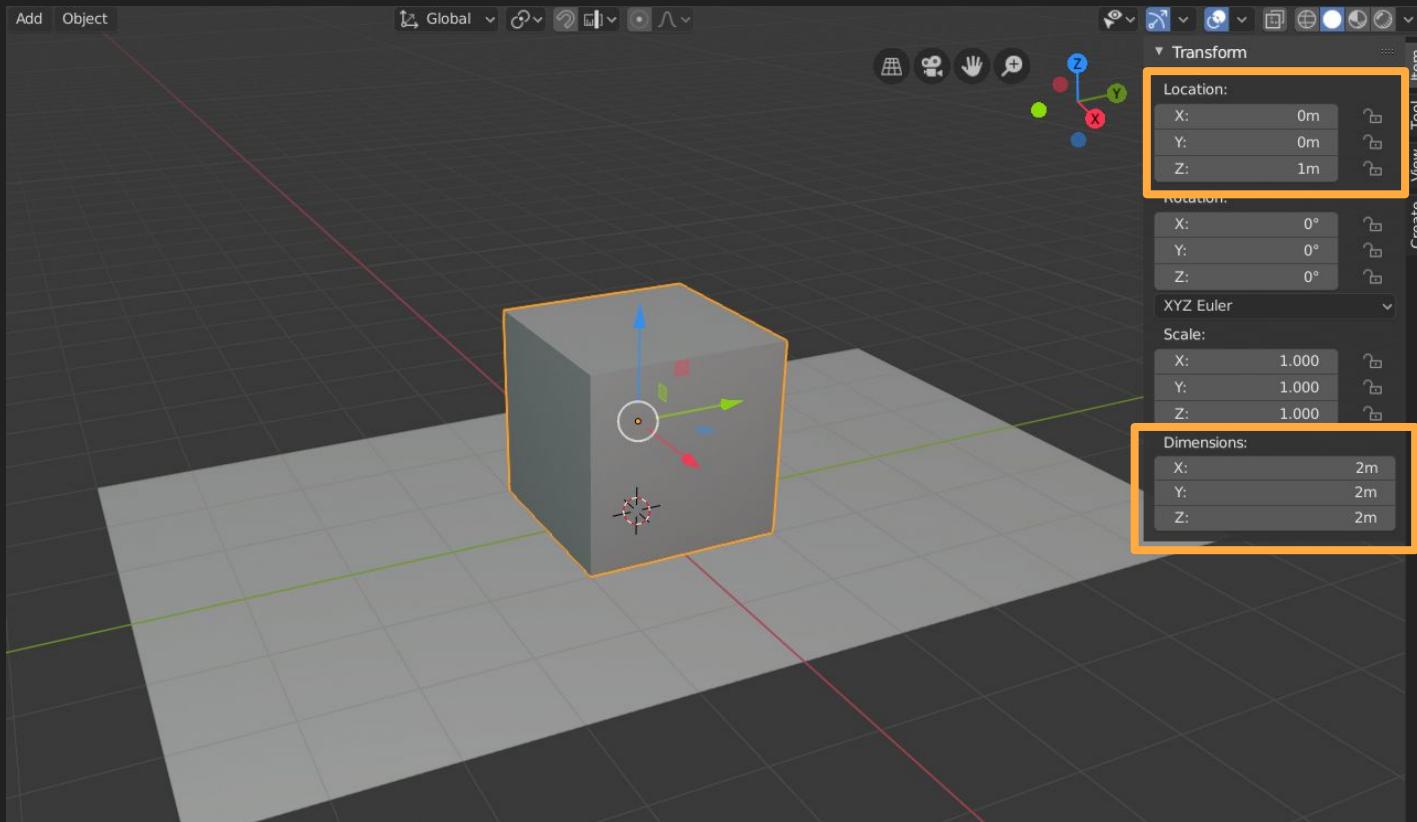


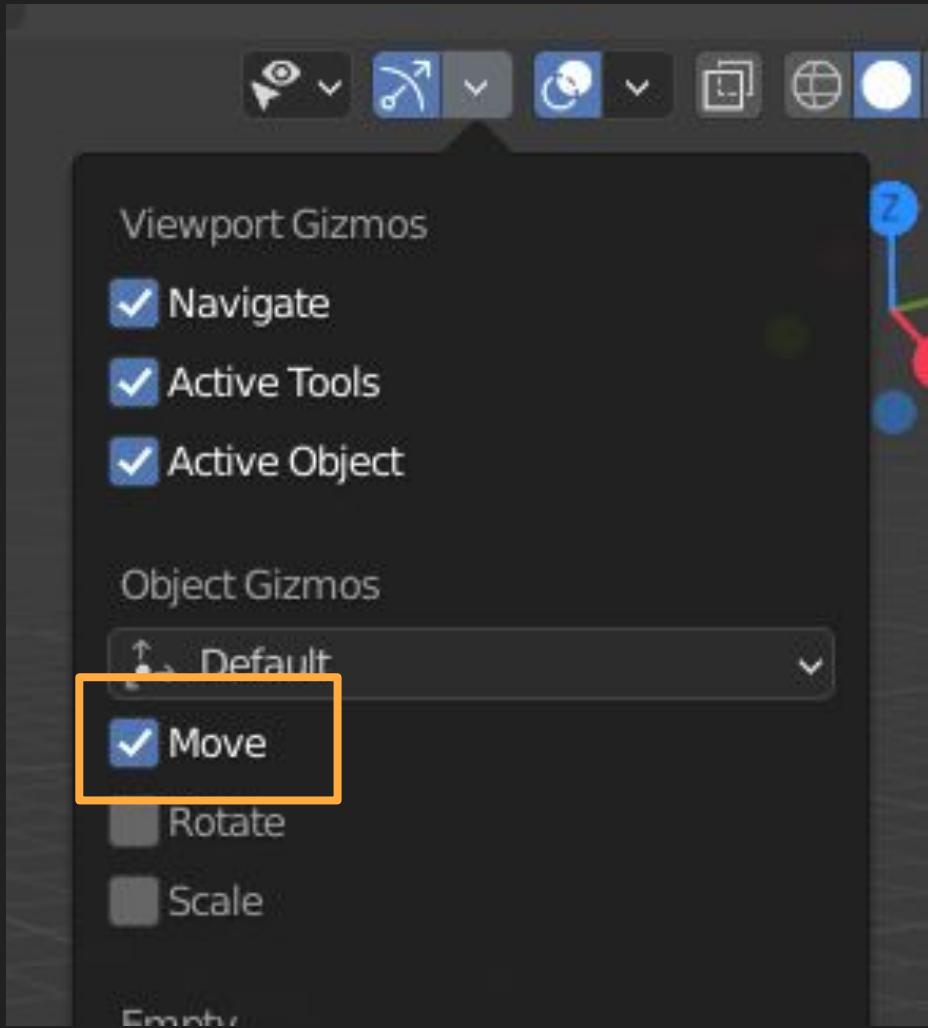


Il banchetto

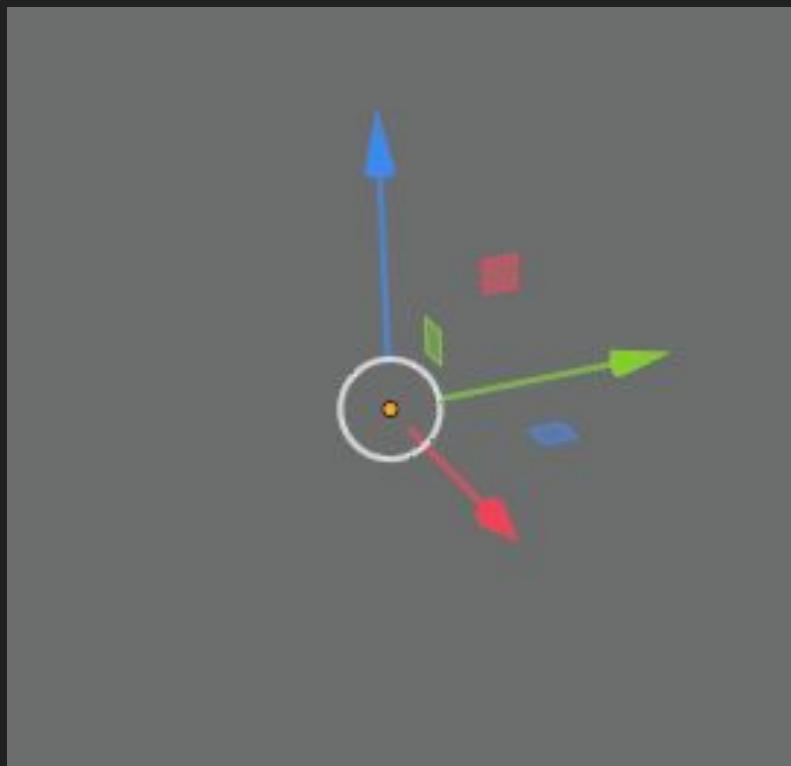
Add → Mesh → Cube

Properties - N

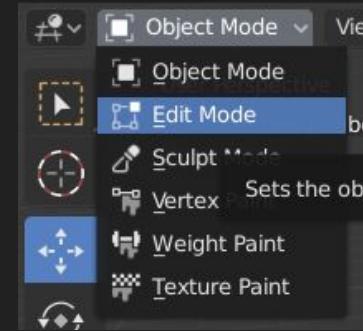




Object Gizmos



Passare in **Edit Mode**

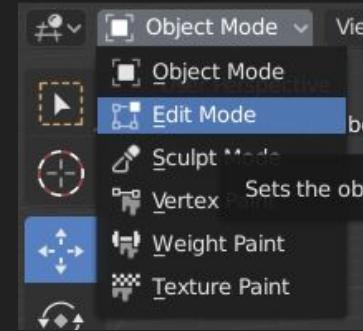


Edit Mode



Abilitare Face select

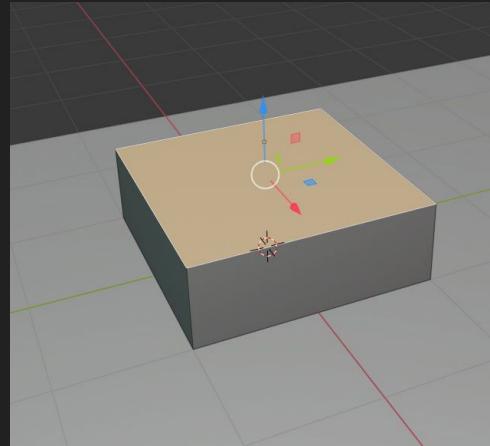
Passare in **Edit Mode**



Abilitare Face select



Selezionare la faccia

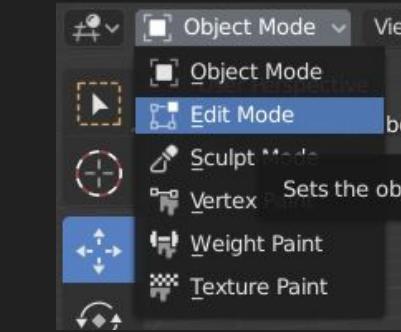


Abbassarla di 1.3 metri

G → Z → - 1.3

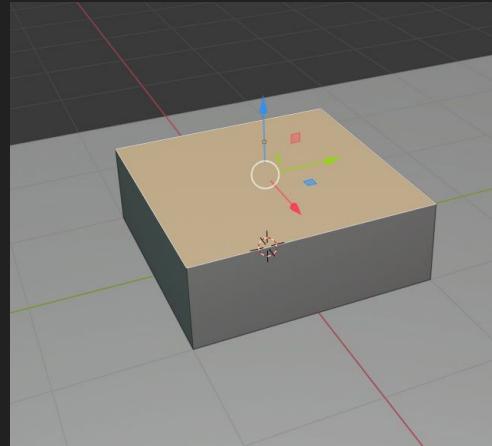


Passare in **Edit Mode**



Abilitare Face select

Selezionare la faccia

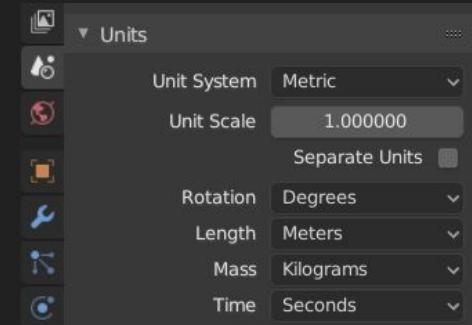


Abbassarla di 1.3 metri

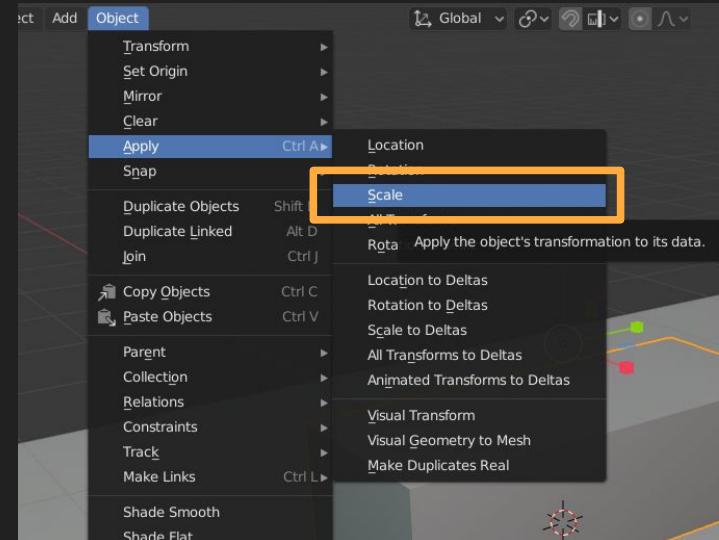
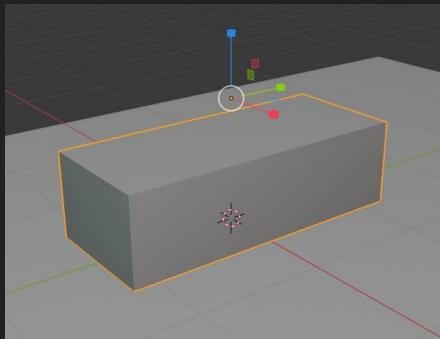
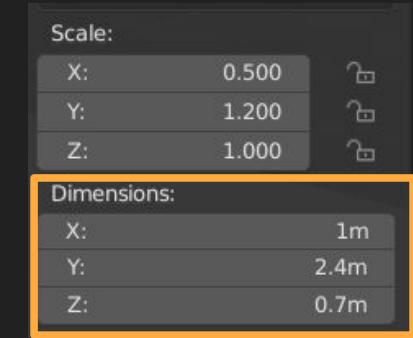
G → Z → - 1.3



Unità metriche



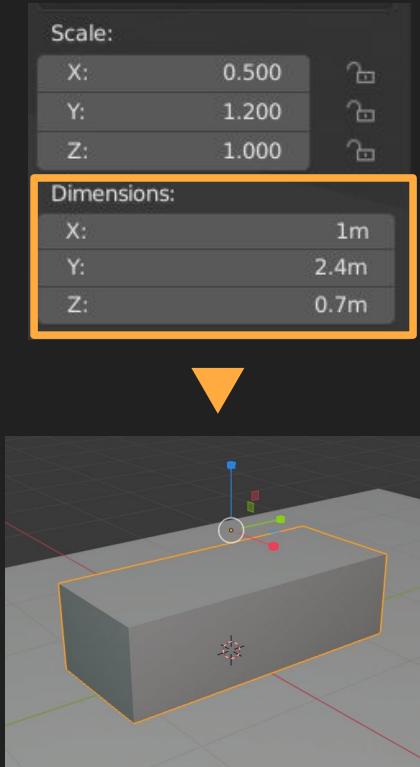
Tornare in Object mode e:



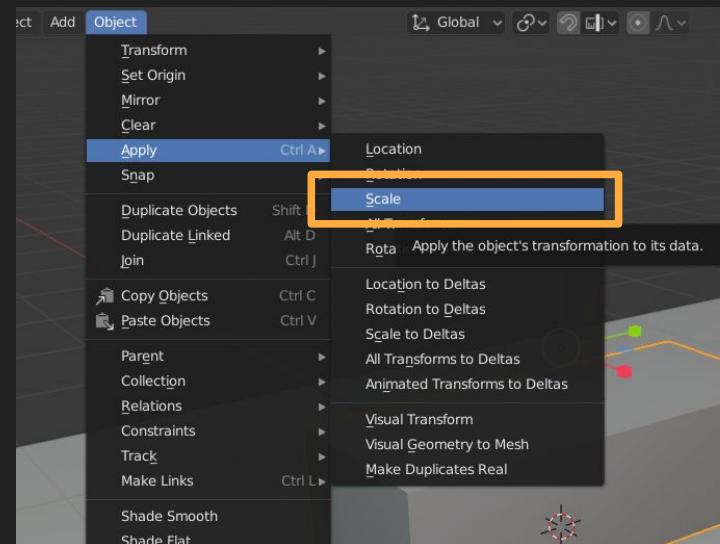
Applicare la scala

Scalare il cubo

Tornare in **Object mode** e:



Scalare il cubo

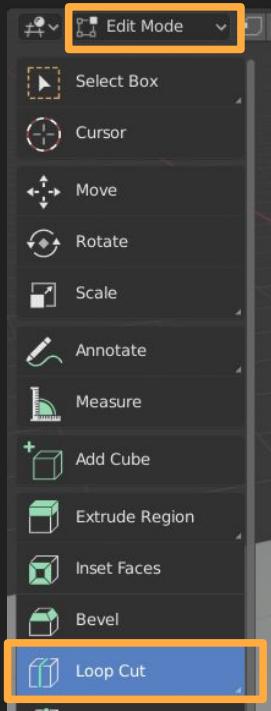


Applicare la scala

???

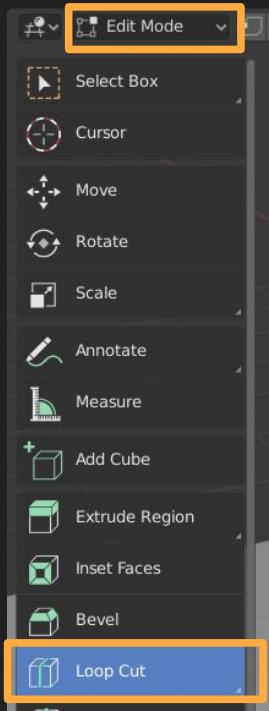


Edit Mode (Tab)

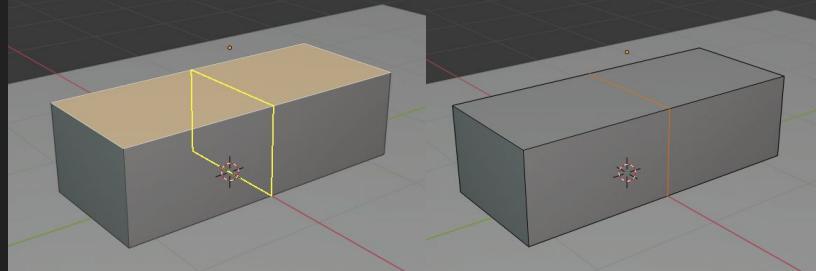


Tools - T
Loop Cut

Edit Mode

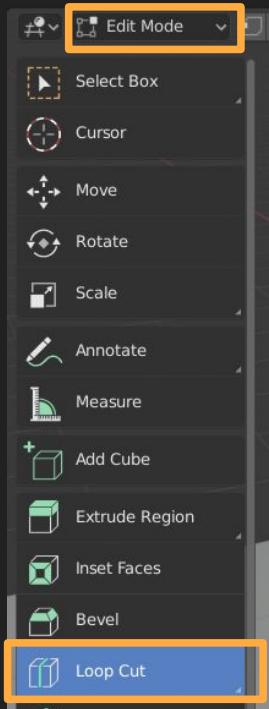


Click

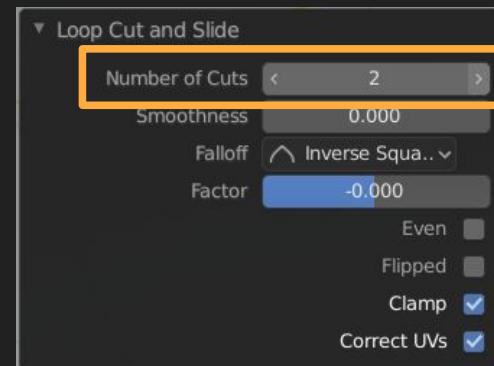
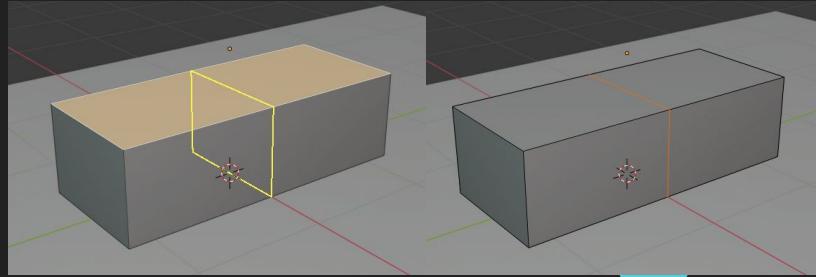


Tools - T
Loop Cut

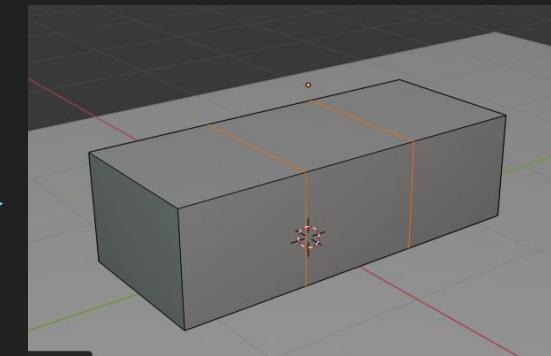
Edit Mode



Click

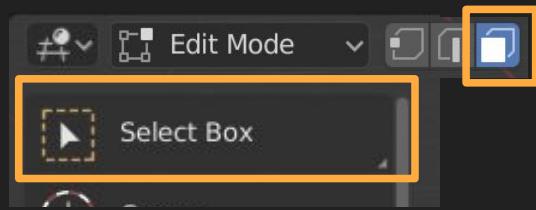


Impostare 2
tagli

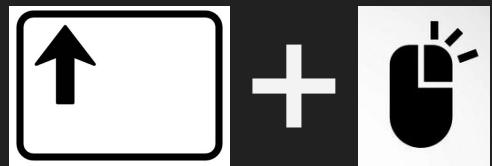
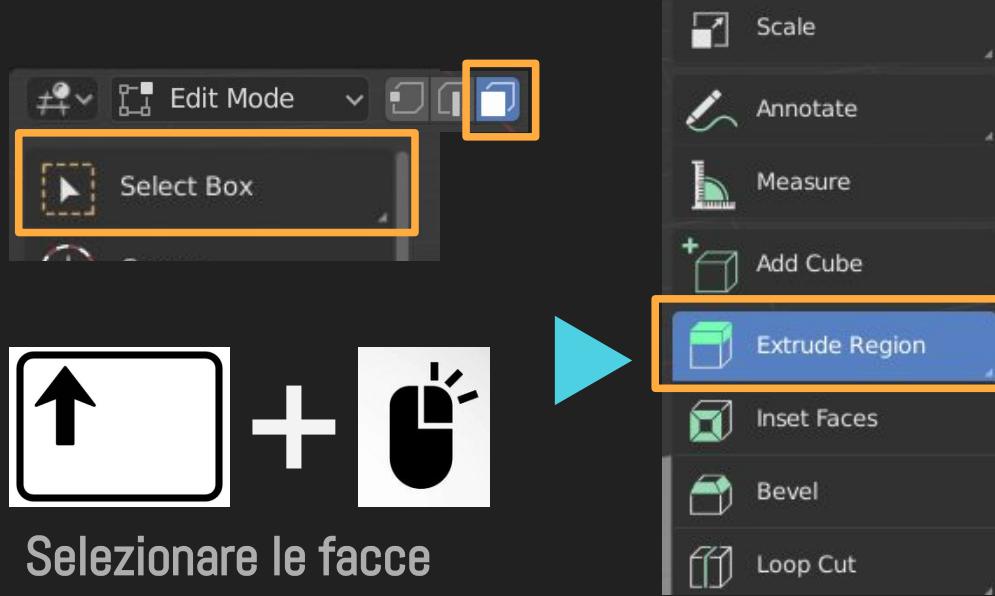


Tools - T

Loop Cut and
Slide

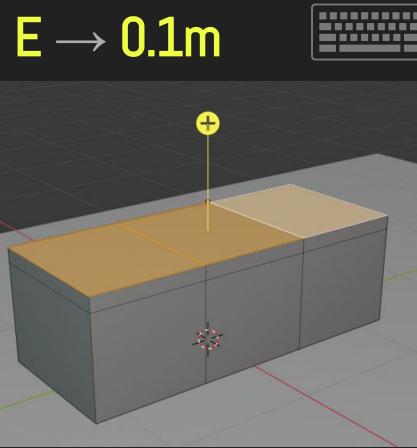
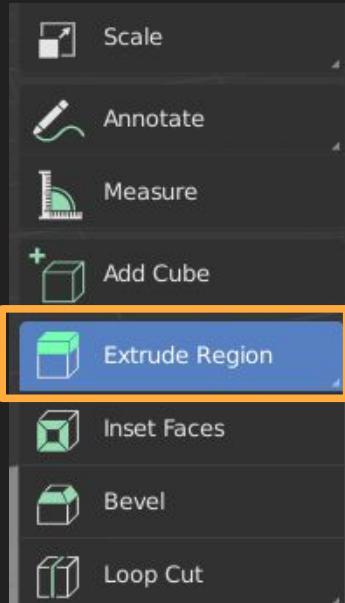
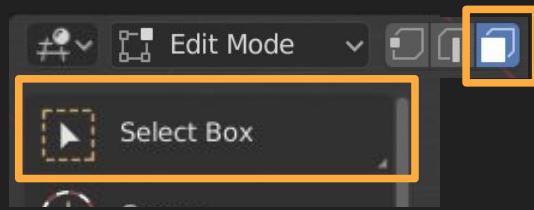


Selezionare le facce
superiori



Selezionare le facce
superiori

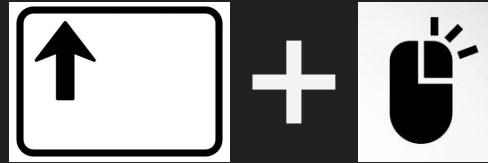
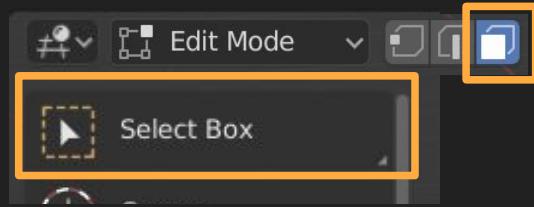
Tools - T
Extrude Region



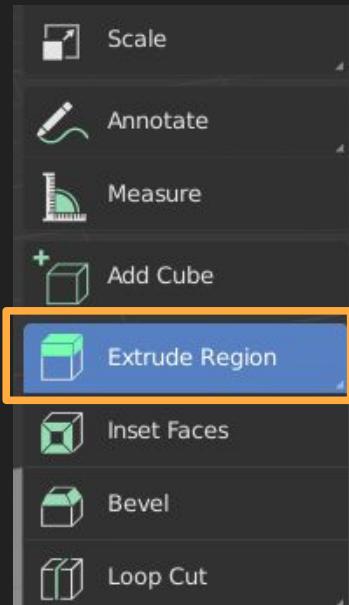
Selezionare le facce
superiori

Tools - T
Extrude Region

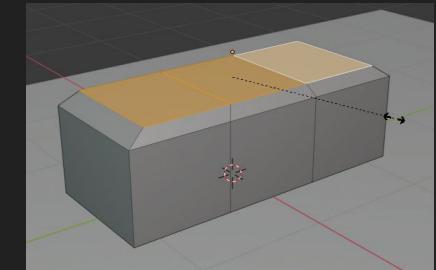
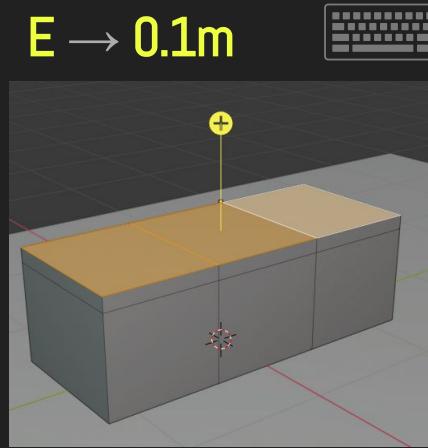
NB: se si usa la shortcut, premendo ESC **si annulla lo spostamento** della regione estrusa, **non l'estruzione**. Per annullare l'estruzione occorre premere ESC ed effettuare un ctrl+z



Selezionare le facce
superiori



Tools - T
Extrude Region

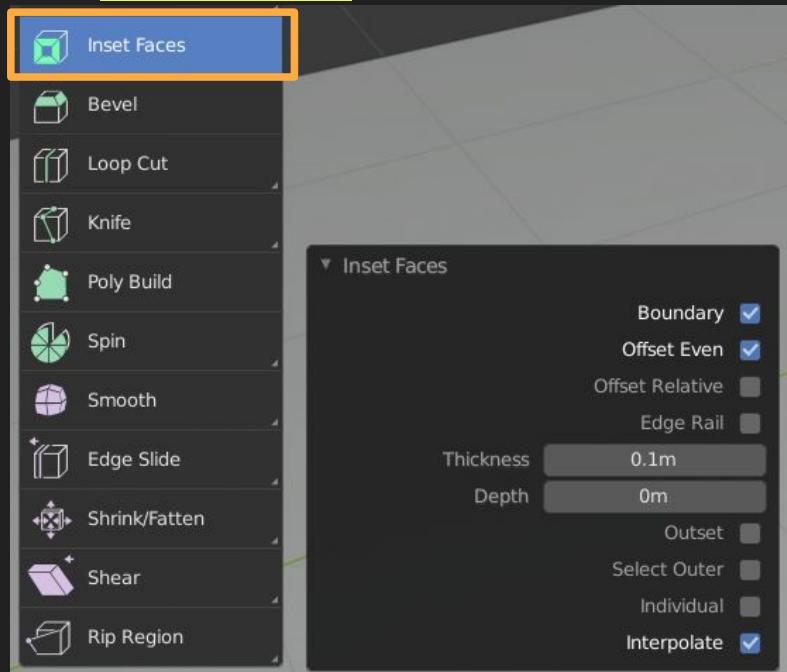


Scalare - S

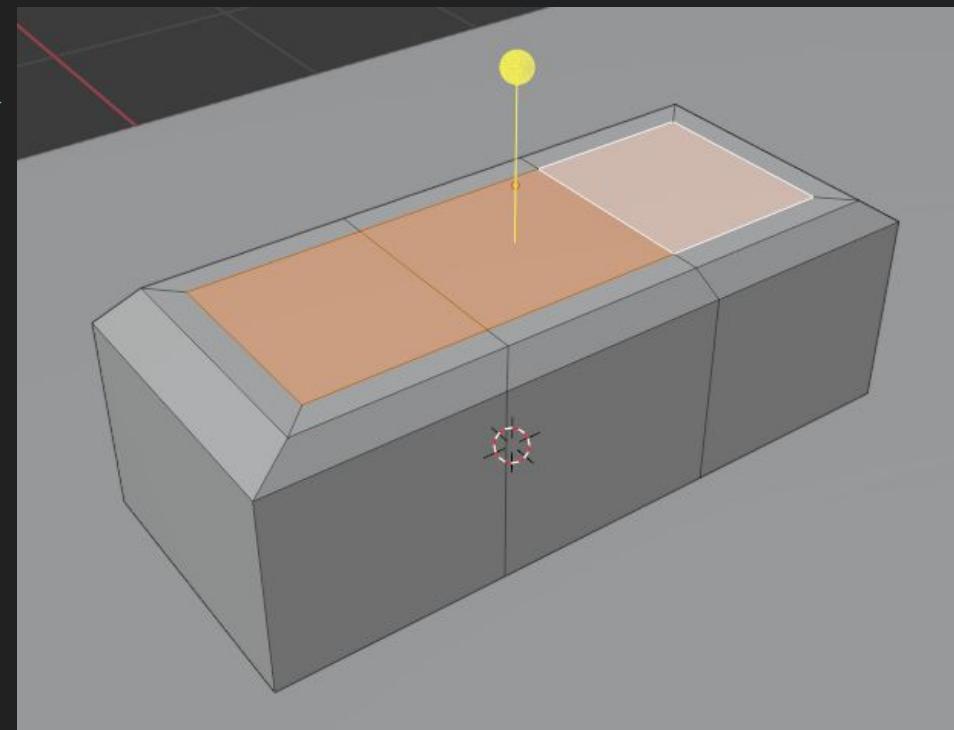
NB: se si usa la shortcut, premendo ESC **si annulla lo spostamento** della regione estrusa, **non l'estruzione**. Per annullare l'estruzione occorre premere ESC ed effettuare un ctrl+z

Tools - T

Inset Faces

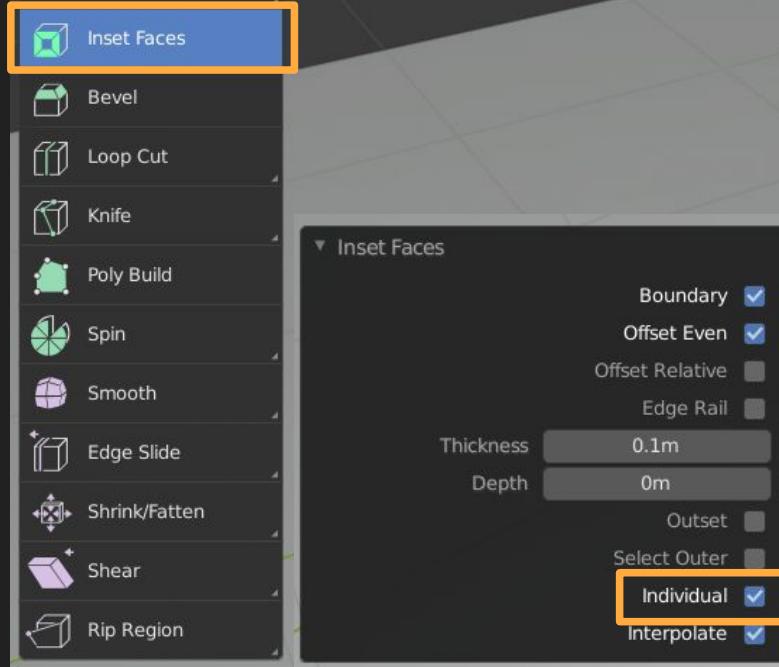


0.1m

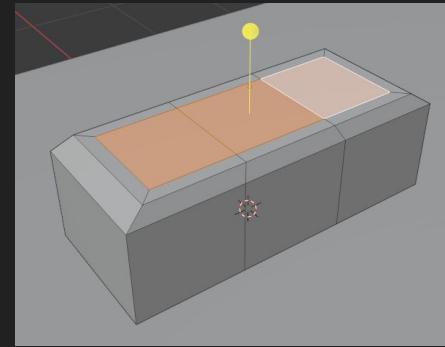


Tools - T

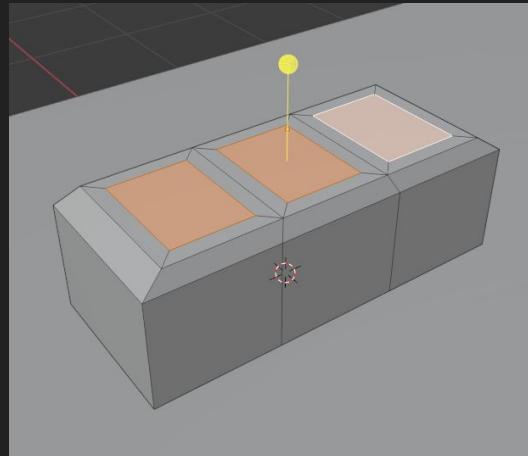
Inset Faces



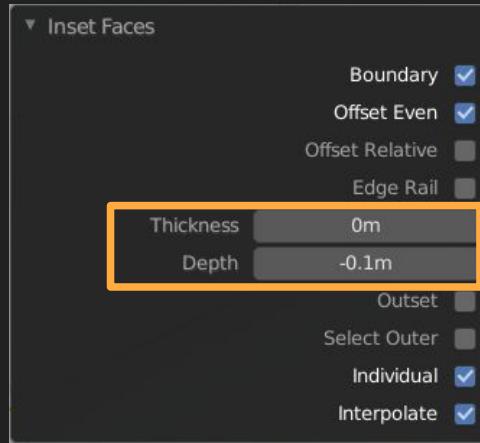
0.1m



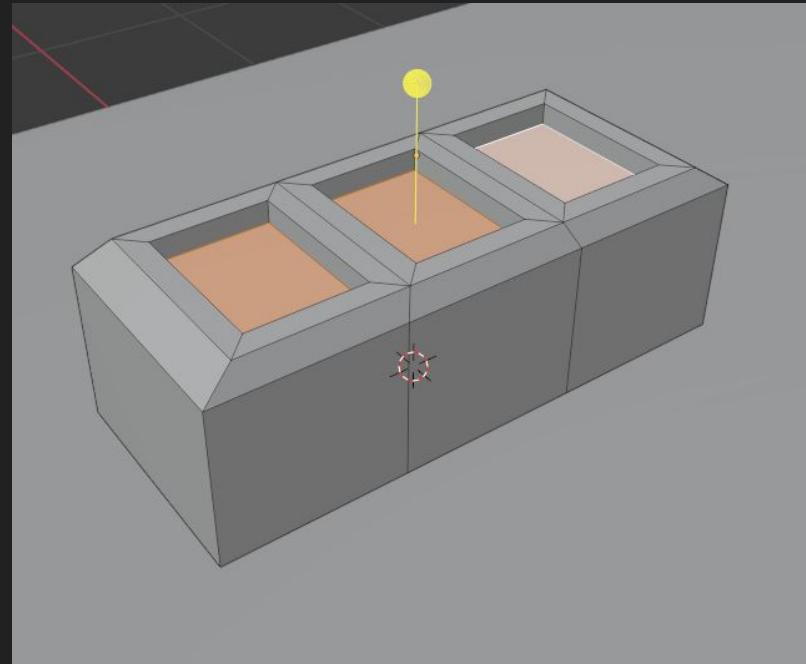
Impostare inset
individual



Effettuare un secondo Inset Faces



Impostato per
estrudere



Rinomina il tuo Cubo
in "Banchetto" - F2

Tips per orientarsi nello spazio 3D

Se mentre modellate avete **perso la bussola** ad esempio

la vostra mesh **si trova lontano** | siete **dentro un oggetto** | **la vista ruota** intorno ad un punto scomodo

esistono **shortcut** che vi permettono di avere di nuovo tutto a portata di mano



Home o inizio
permette di vedere
tutto ciò che è in
scena effettuando
uno **zoom out**

Il **punto** del tastierino
numerico si **avvicina** ad
un singolo oggetto con
uno **zoom in** ed imposta
questo come pivot per
la rotazione

Tips per orientarsi nello spazio 3D

Se mentre modellate avete **perso la bussola** ad esempio

la vostra mesh **si trova lontano** | siete **dentro un oggetto** | **la vista ruota** intorno ad un punto scomodo

esistono **shortcut** che vi permettono di avere di nuovo tutto a portata di mano

Shift + B permette di effettuare una **selezione rettangolare** sull'elemento al quale vogliamo **avvicinarci** e ristabilisce anche il pivot di rotazione



Tips per orientarsi nello spazio 3D

Blender è un software che pone le sue basi sulla velocità data dalle **scorciatoie da tastiera**; è possibile effettuare quasi tutto senza utilizzare l'interfaccia grafica.

Tuttavia ciò ci può portare a **rimanere incastrati** in situazioni di blocco della visuale, sparizione di oggetti, perdita dell'orientamento e molto altro.

Ecco alcune **soluzioni**:

1. **ESC** (a meno che non stiate renderizzando... comunque non fa male premere **ESC** di tanto in tanto)
2. Controllate le collection (tasti **1,2,3...0**)
3. Oggetti (o MESH!) **nascosti** (**ALT + H**)
4. Modellazione **isolata** (/ del tastierino)
5. Qualcosa di **sconosciuto**: ripetere l'operazione appena effettuata (alt+B, / del tastierino ecc)
6. Impossibile capire cosa sia **accaduto** (operazioni effettuate: Edit → Undo History)
7. **Ripetere** l'ultima operazione(Shift +R, F9 per rivedere parametri)



ARGAH!

Grab Rotate Scale

G R S



Grab Rotate Scale

G R S

Extrusion

E

Inset

I



Grab Rotate Scale

G R S

Extrusion

E

Inset

I

Object mode

Object

Edit mode

Mesh

Ordine e disciplina

Collections

Naming

Search

F2 / CTRL+F2

F3



Import / Export

The screenshot shows the Blender interface with the 'File' menu open, specifically the 'Export' submenu. A large blue arrow points from the 'Wavefront (.obj)' option in this submenu towards the right side of the screen, where the Blender File View is displayed.

Blender File View: Shows the directory structure at `/home/ddelucca/`. The 'Pubblici' folder is highlighted. The contents include:

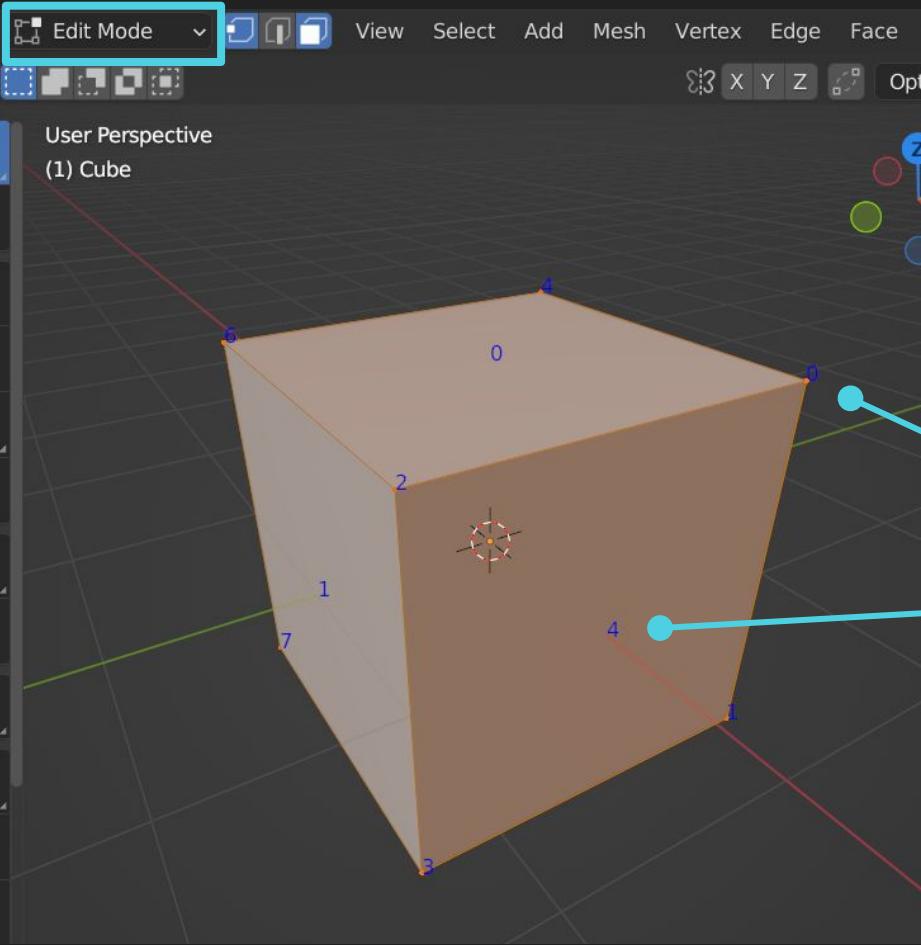
- 3DC2Blender
- applicazioni
- Documenti
- Immagini
- Modelli
- Musica
- Pubblici
- Scaricati
- Scrivania
- TMP
- UfficioTecnico
- Video
- visitlab

Operator Presets: Includes 'Include' and 'Transform' sections. The 'Include' section has a red box around the 'Selection Only' checkbox. The 'Transform' section has a green box around the 'Y Up' button.

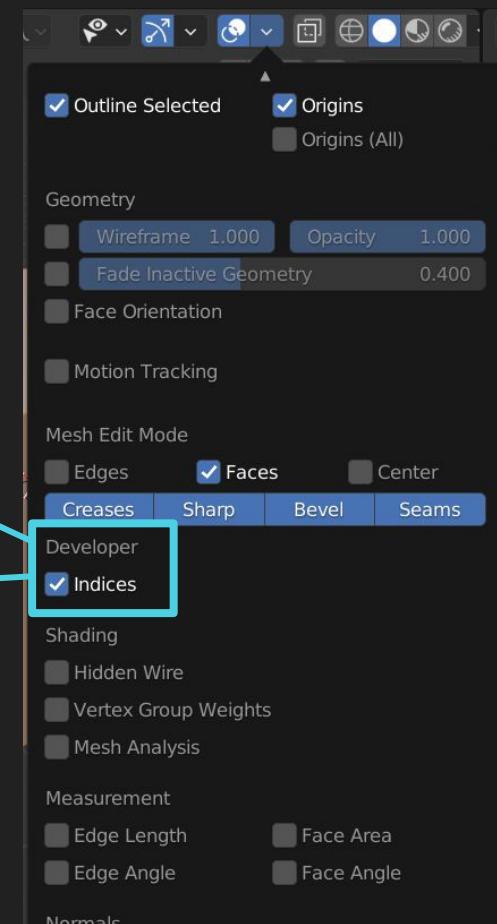
Export Settings: Located at the bottom right. It shows the selected file type as 'Wavefront (.obj)', and includes checkboxes for 'Apply Modifiers', 'Write Normals' (which is checked), 'Include UVs' (which is checked), and 'Write Materials'. There are also checkboxes for 'Smooth Groups', 'Bitflag Smooth Gro...', 'Triangulate Faces', 'Curves as NURBS', 'Polygroups', and 'Keep Vertex Order'.

Bottom Bar: Contains buttons for 'Cancel' and 'Export OBJ'.

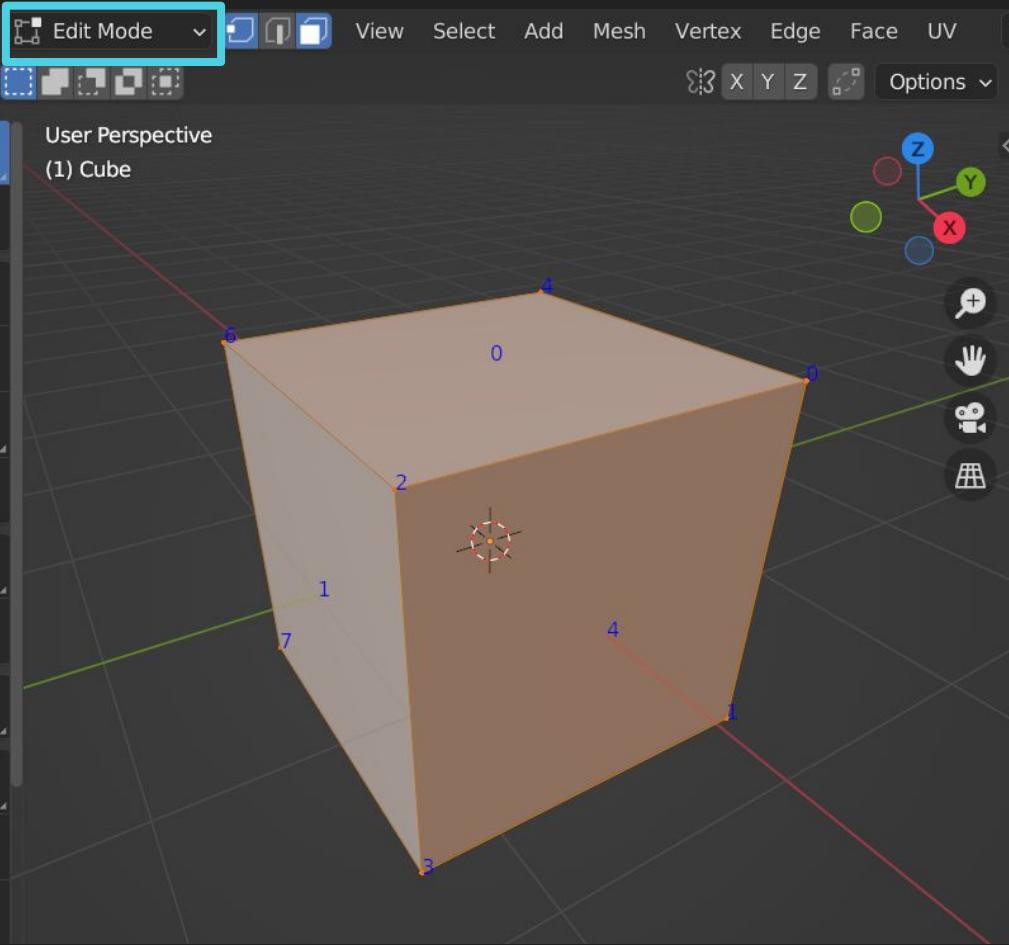
Informazioni sulla Mesh



Mesh Overlays



Informazioni sulla Mesh



Spreadsheet

The image shows the Blender interface in the Spreadsheet tab of the Outliner. The data panel displays information about the selected mesh, specifically the number of vertices (8), edges (12), faces (6), and face corners (24). The main table lists the position coordinates for each vertex. The first column is labeled "position".

position	0	1.000	1.000	1.000
1	1.000	1.000	-1.000	
2	1.000	-1.000	1.000	
3	1.000	-1.000	-1.000	
4	-1.000	1.000	1.000	
5	-1.000	1.000	-1.000	
6	-1.000	-1.000	1.000	
7	-1.000	-1.000	-1.000	

Come procedere?



Slide
35



Slide
39



Slide
53

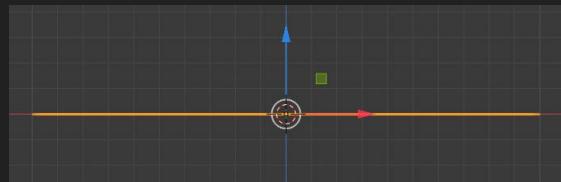


Slide
61

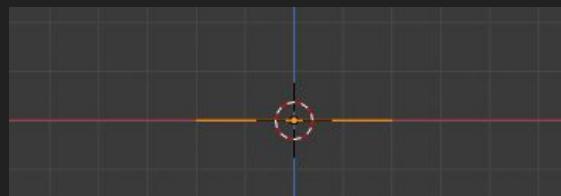


Sacchi

Add Plane - View Front Orto 1

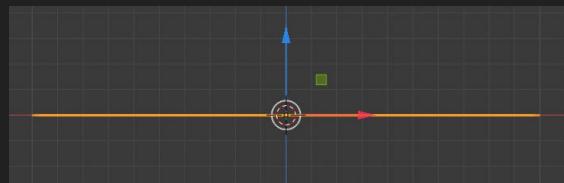


Edit → Scale → 0.2

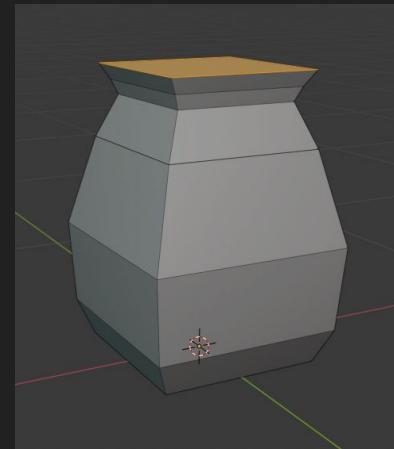


Extrude e Scale

Add Plane - View Front Orto 1

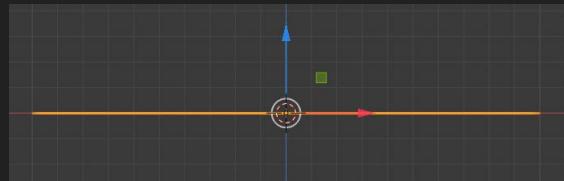


Edit → Scale → 0.2

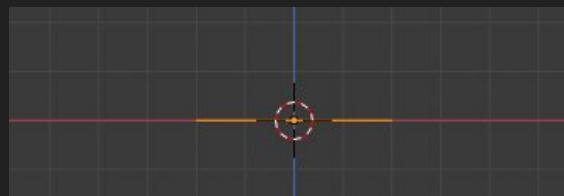


Rimuovi la faccia superiore

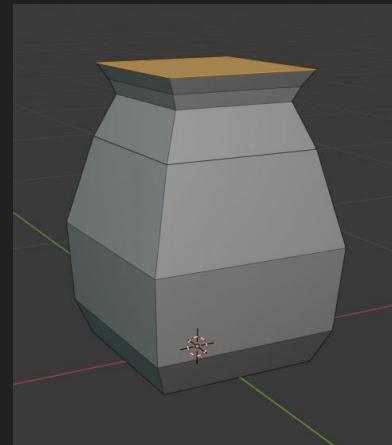
Add Plane - View Front Orto 1



Edit → Scale → 0.2

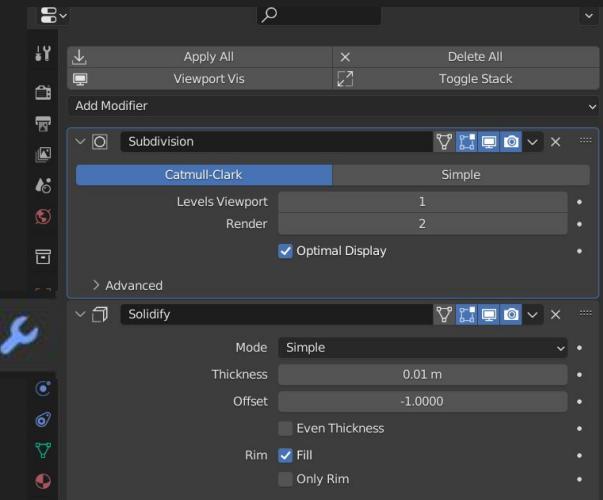


Extrude e Scale

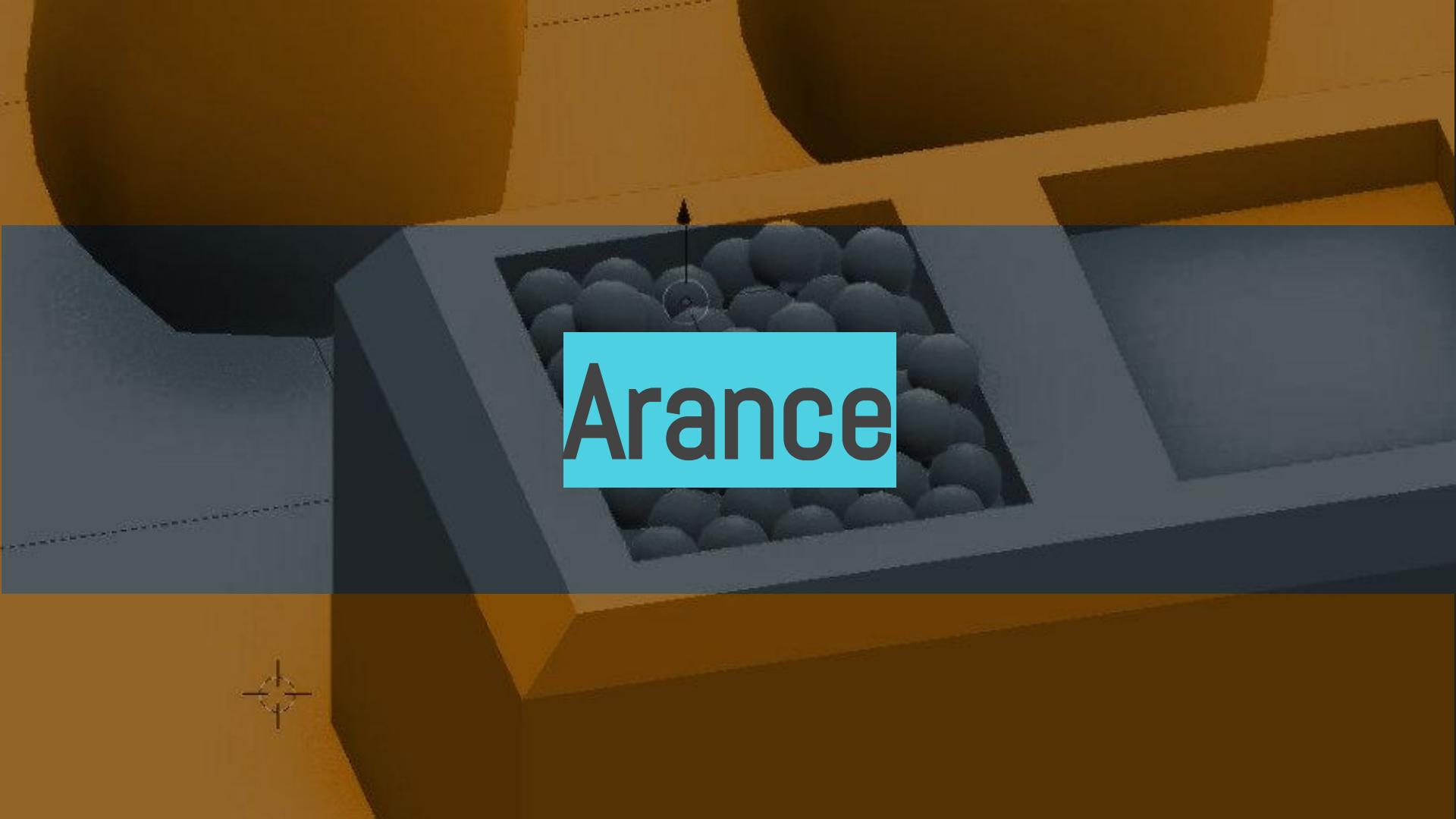


Rimuovere la faccia superiore

Modifiers



Usa modificatori **Subdivision surface** e **Solidify**

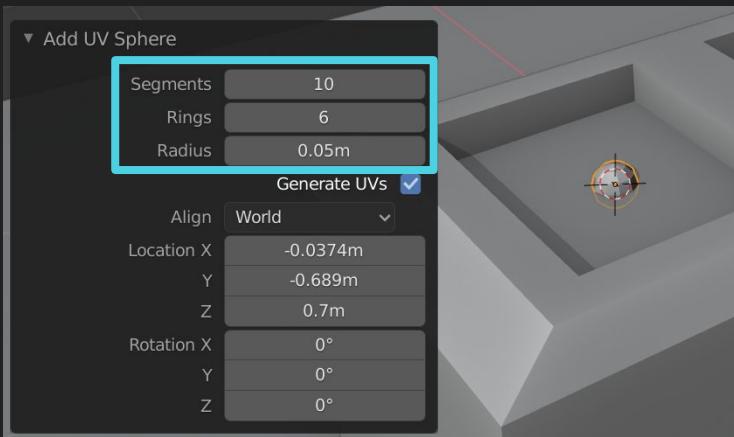


A close-up photograph of a box filled with dark, round fruits, likely oranges, set against a bright, warm background. The box is open, revealing the fruit inside. A small circular logo with a stylized letter 'P' is visible on the top edge of the box. The word "Arance" is overlaid in large, bold, black letters on a light blue rectangular background in the center of the image.

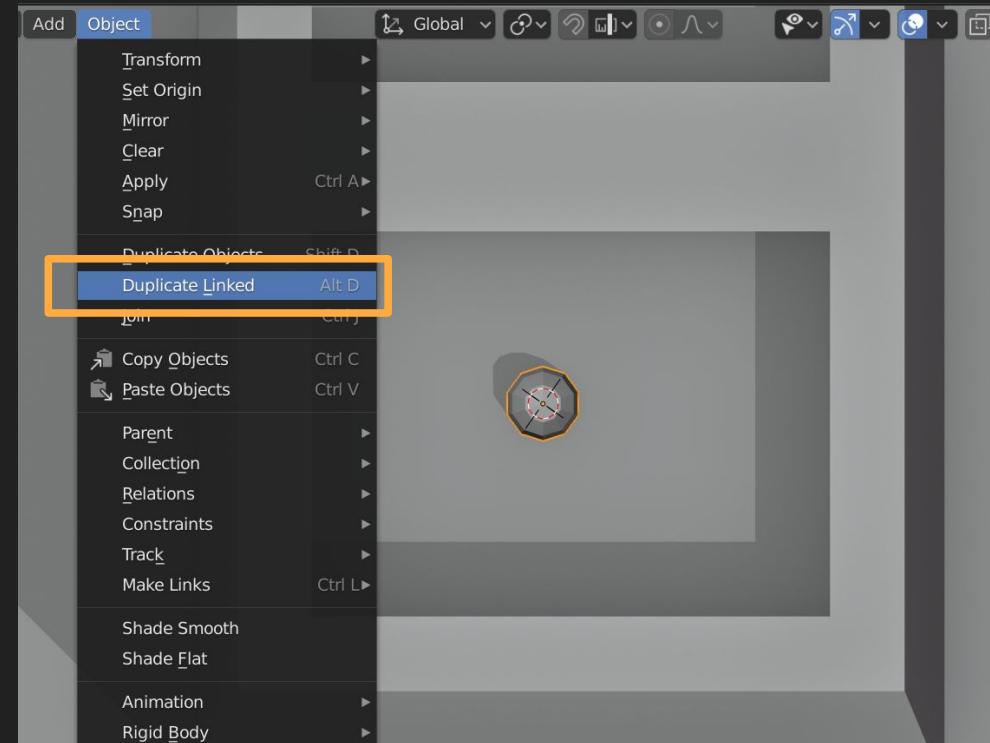
Arance



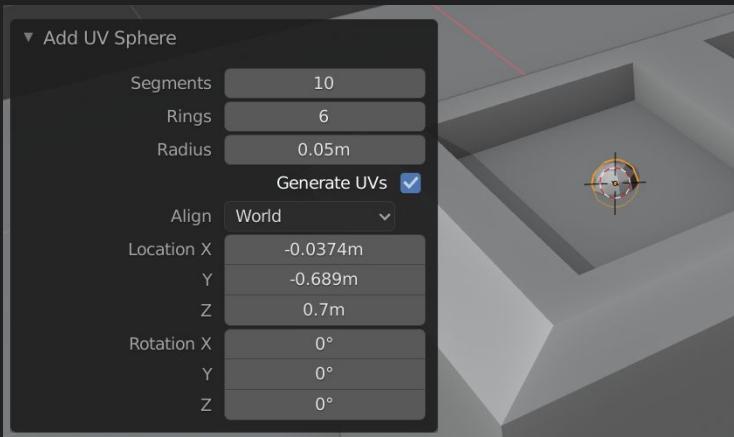
Add Sphere - View Top Ortho 7



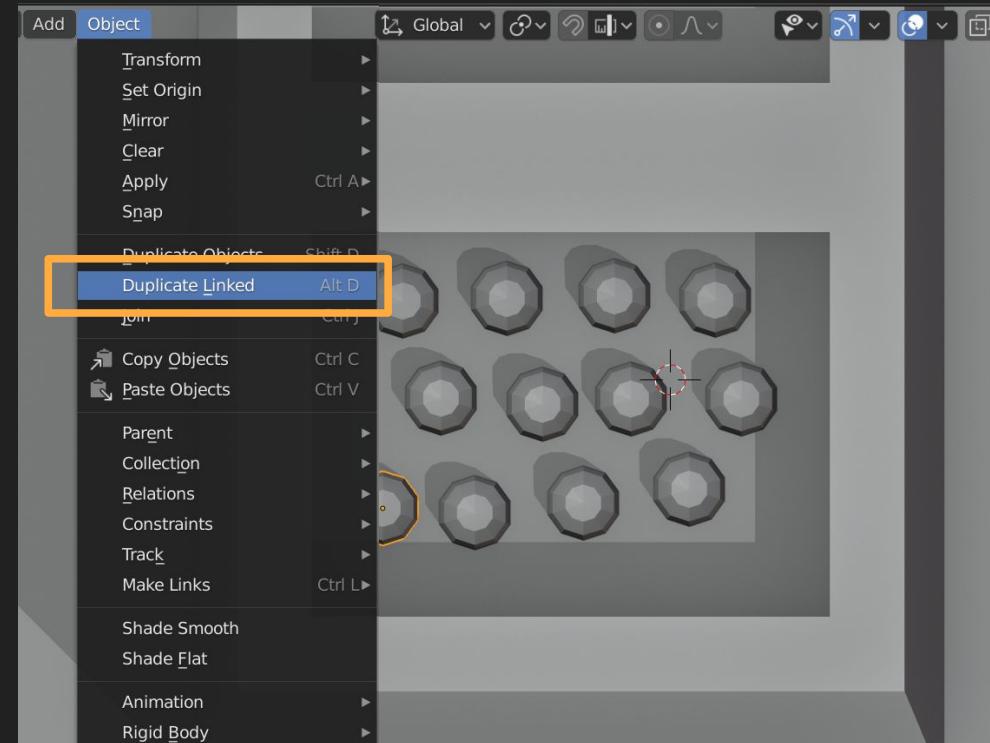
Duplicate Linked Alt+D



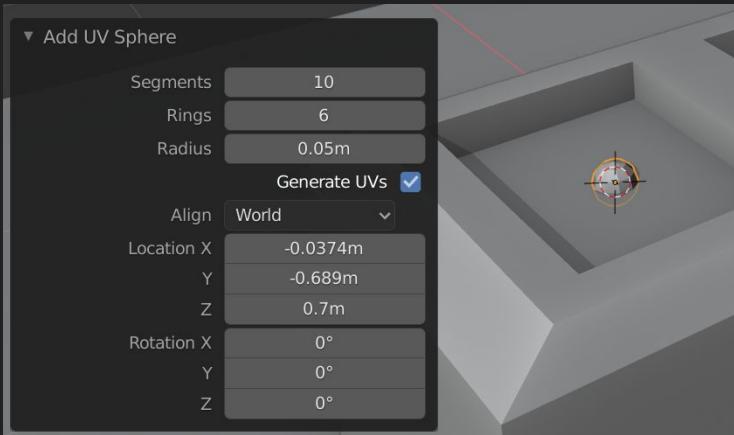
Add Sphere - View Top Ortho 7



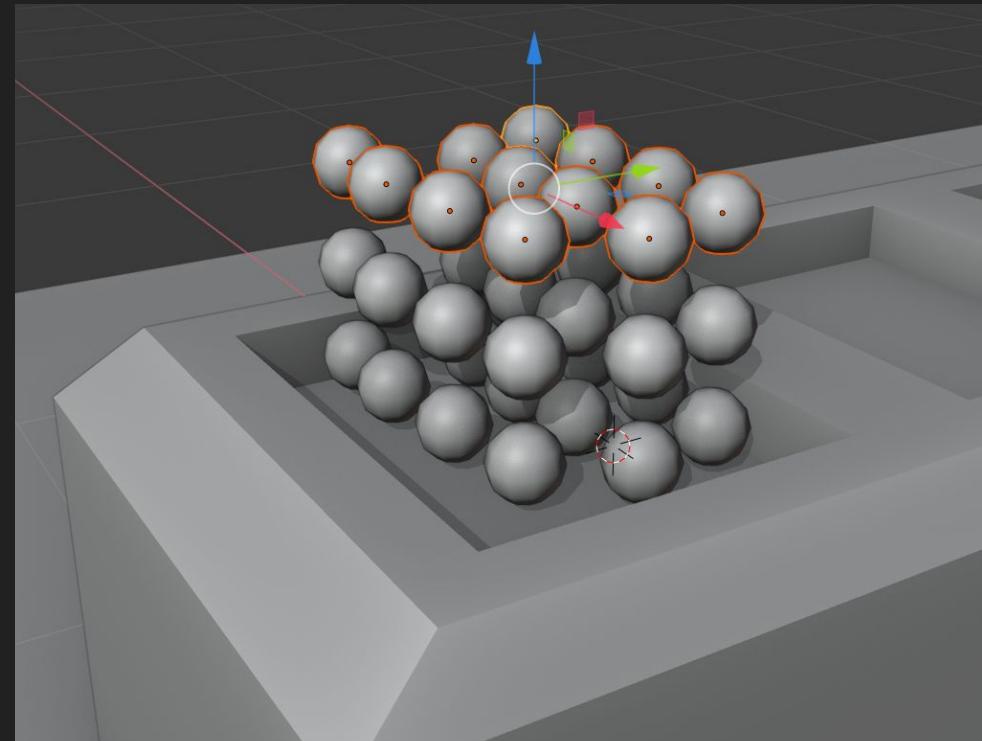
Duplicate Linked Alt+D



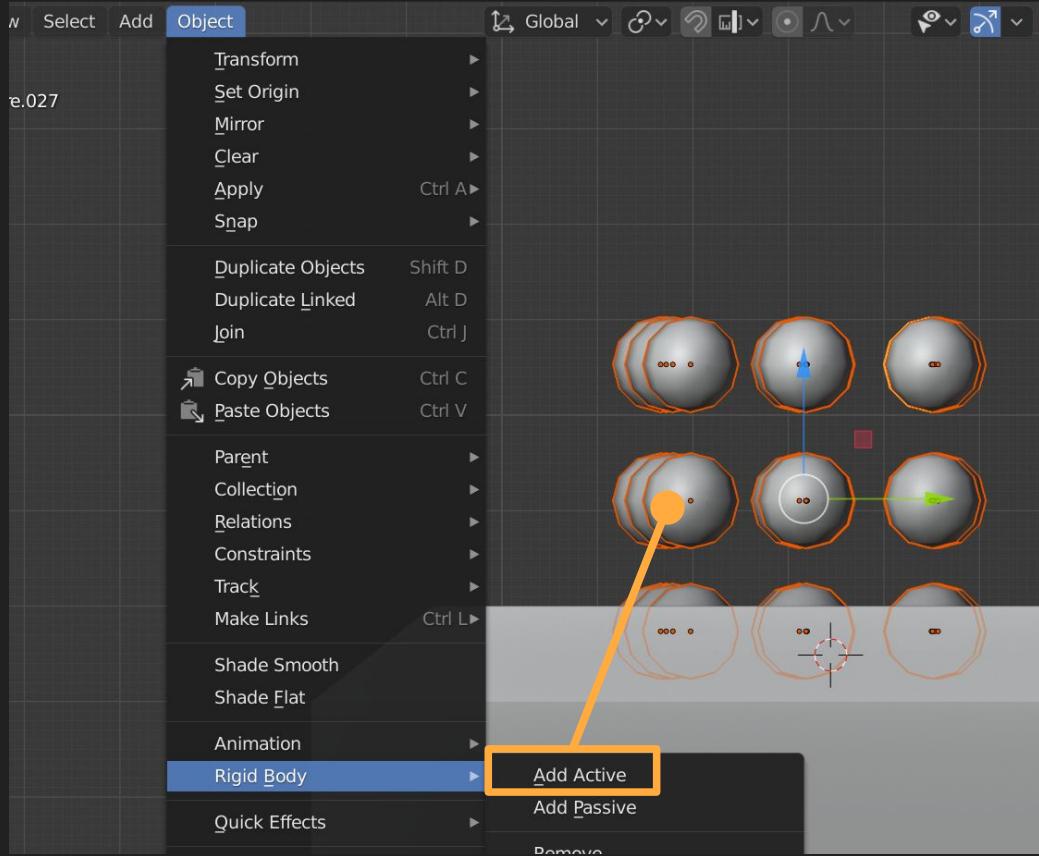
Add Sphere - View Top Ortho 7



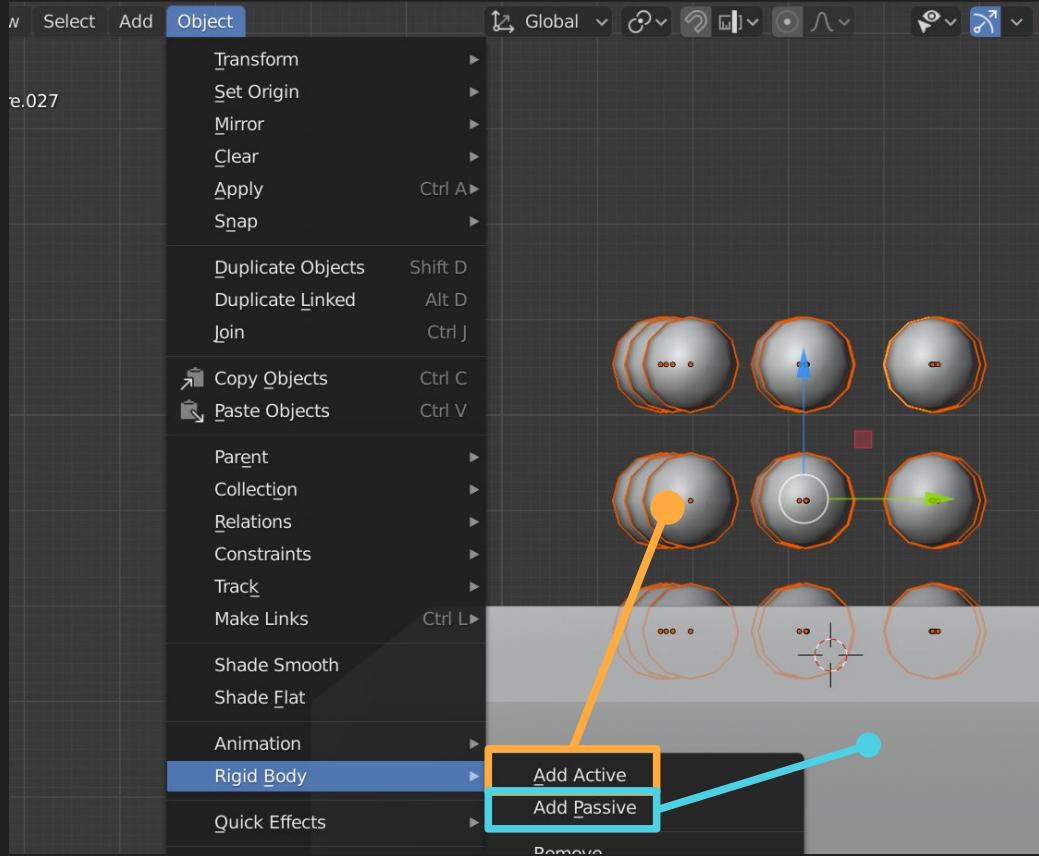
Duplicate Linked Alt+D



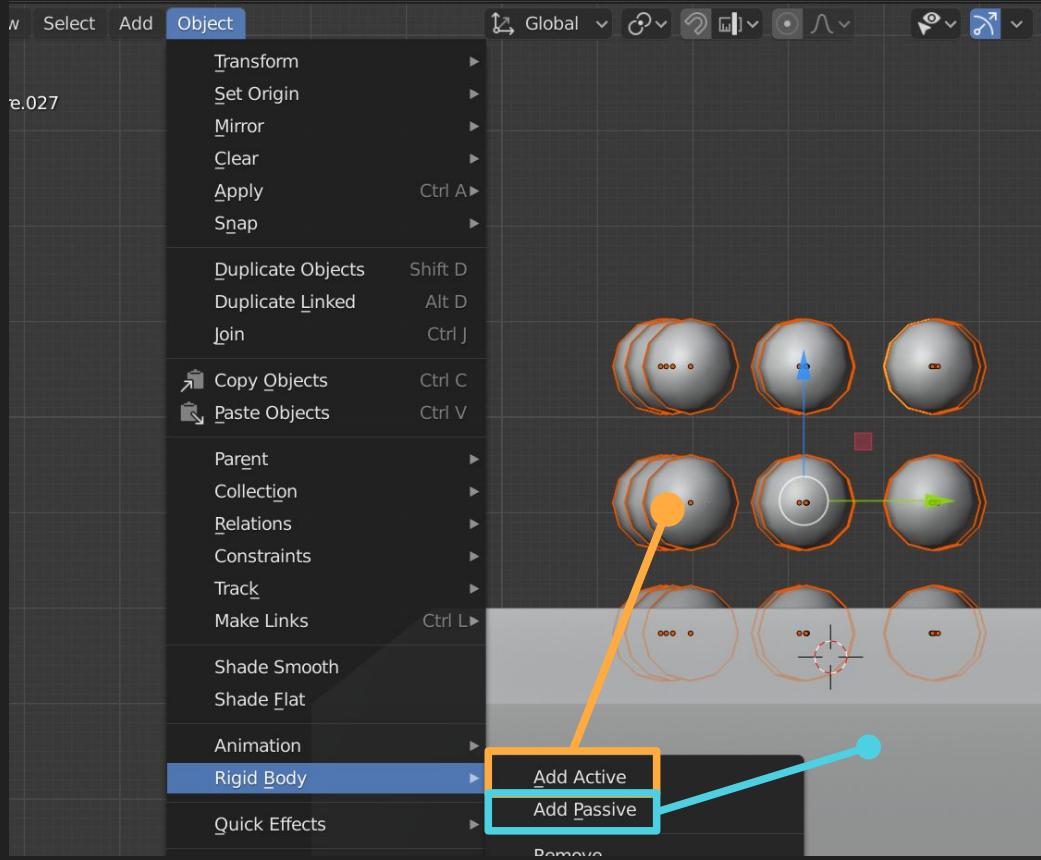
Rigid Body Physics



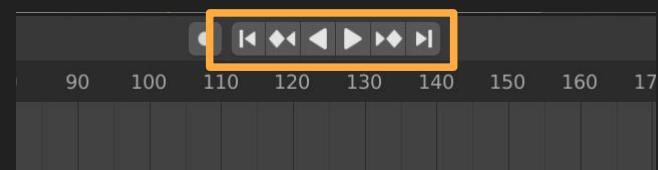
Rigid Body Physics



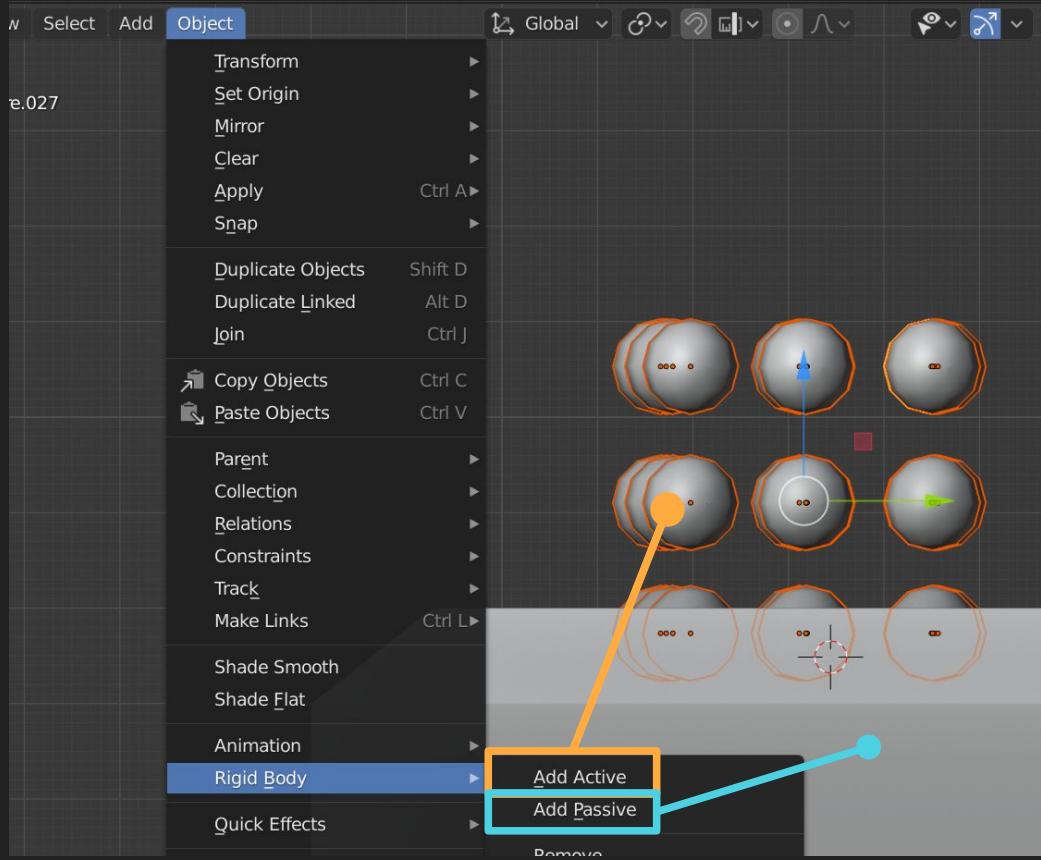
Rigid Body Physics



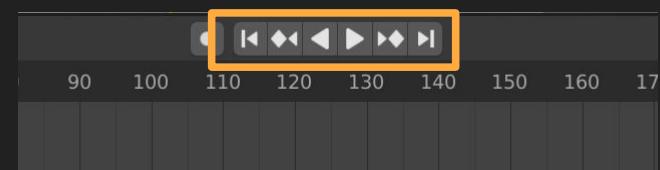
Simulare

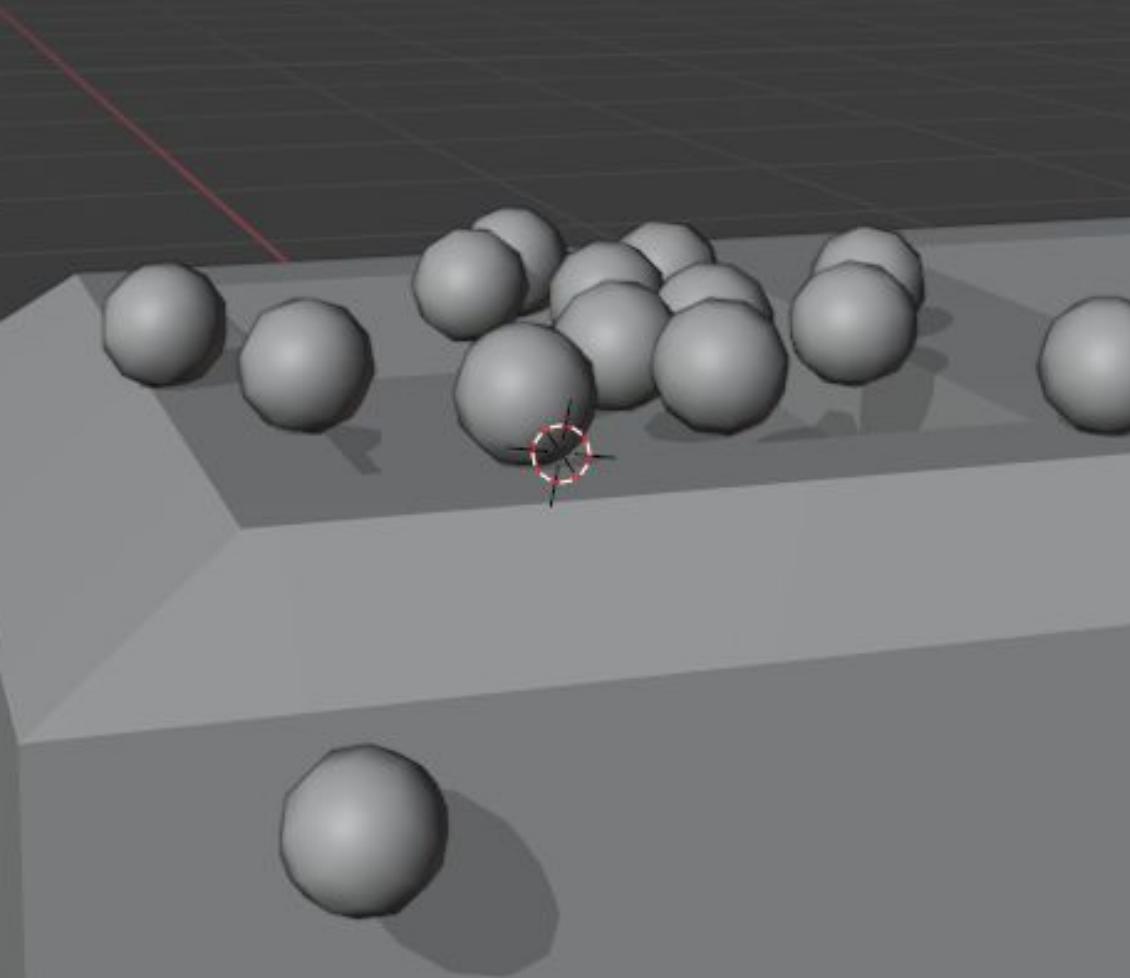


Rigid Body Physics

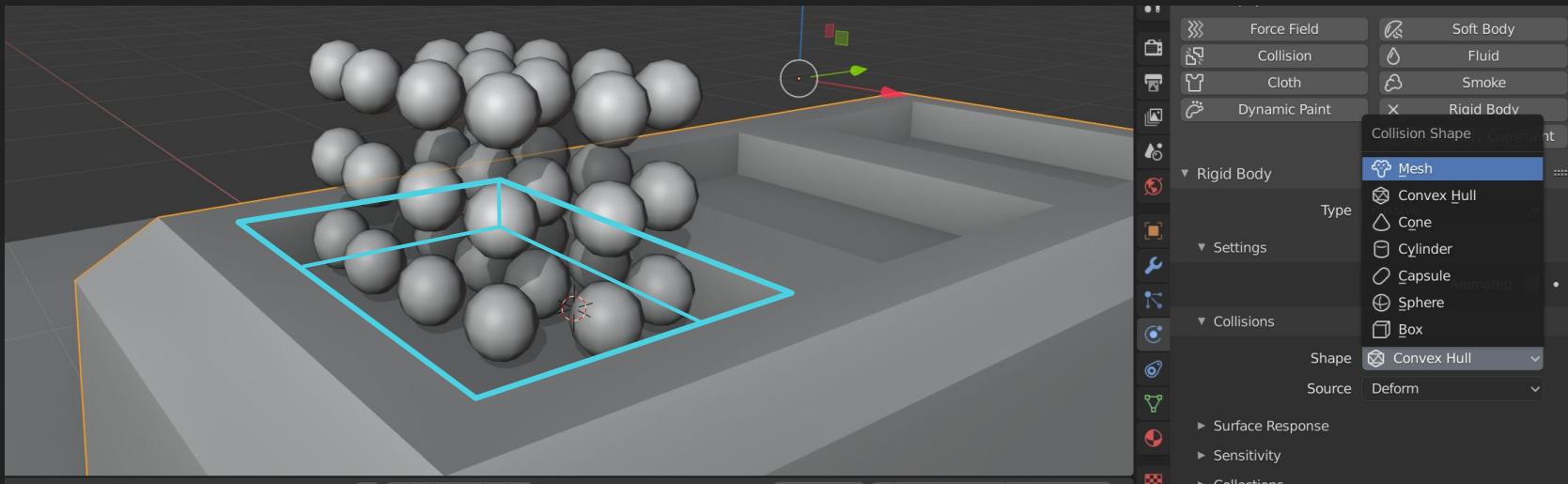


Simulare

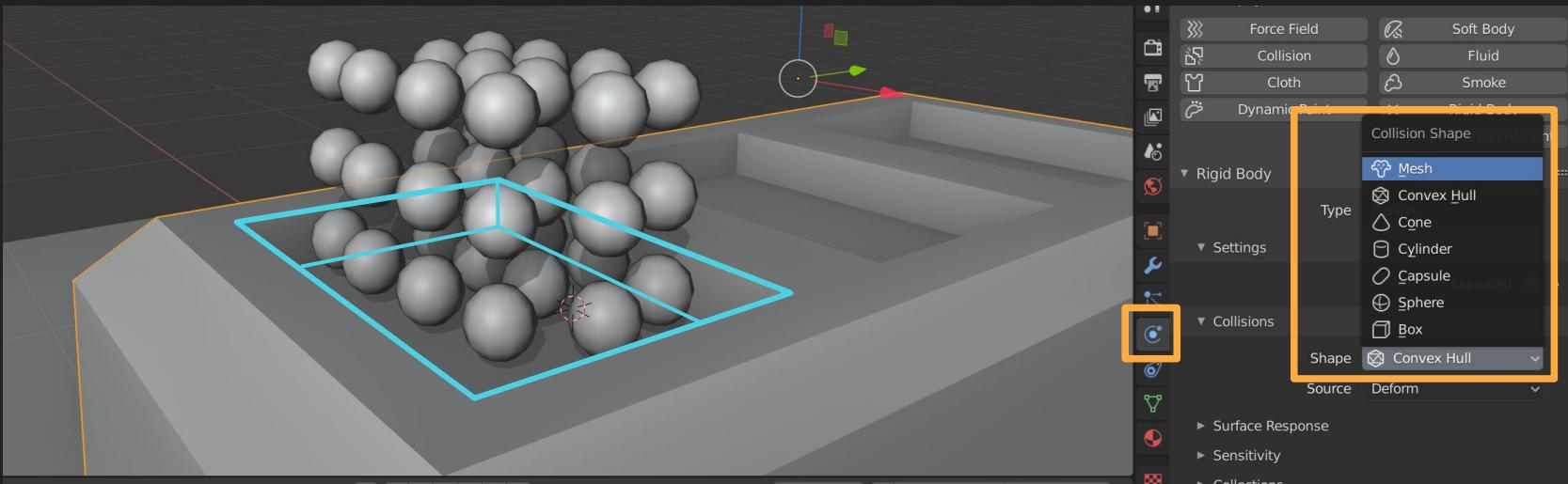




Rigid Body Physics - Set Collision shape

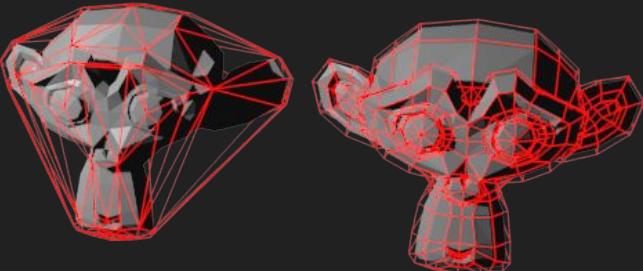


Rigid Body Physics - Set Collision shape

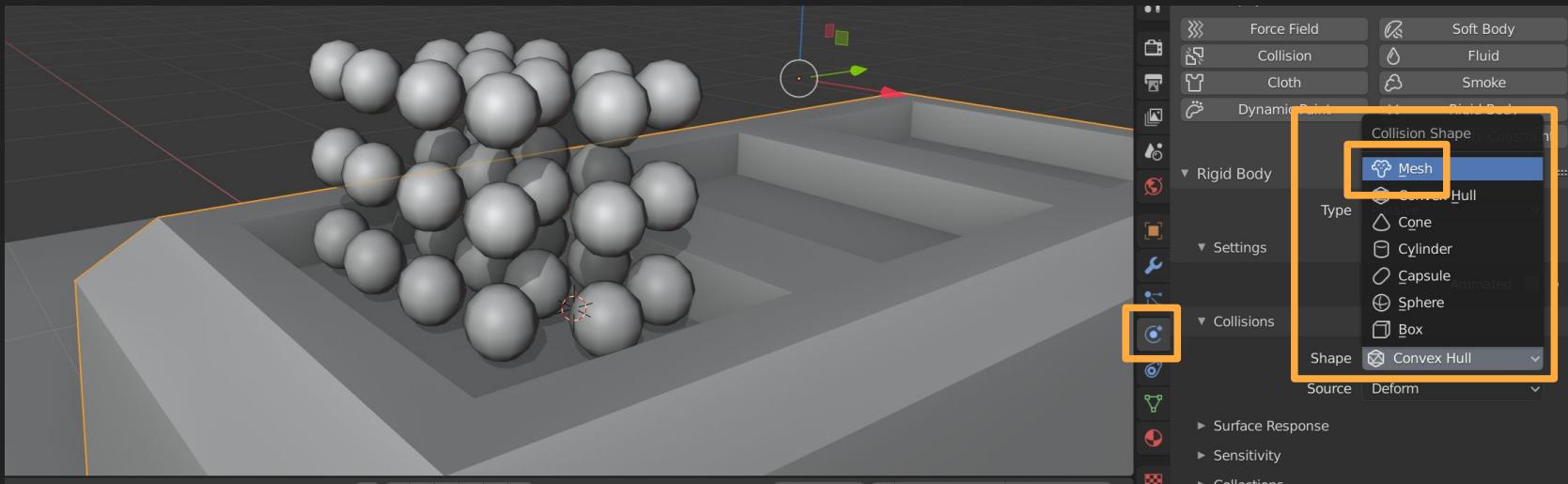


Convex Hull

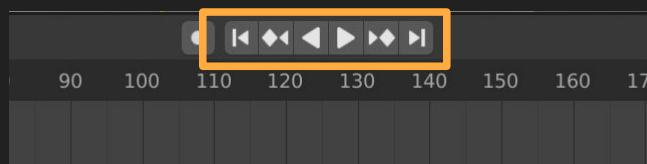
Mesh



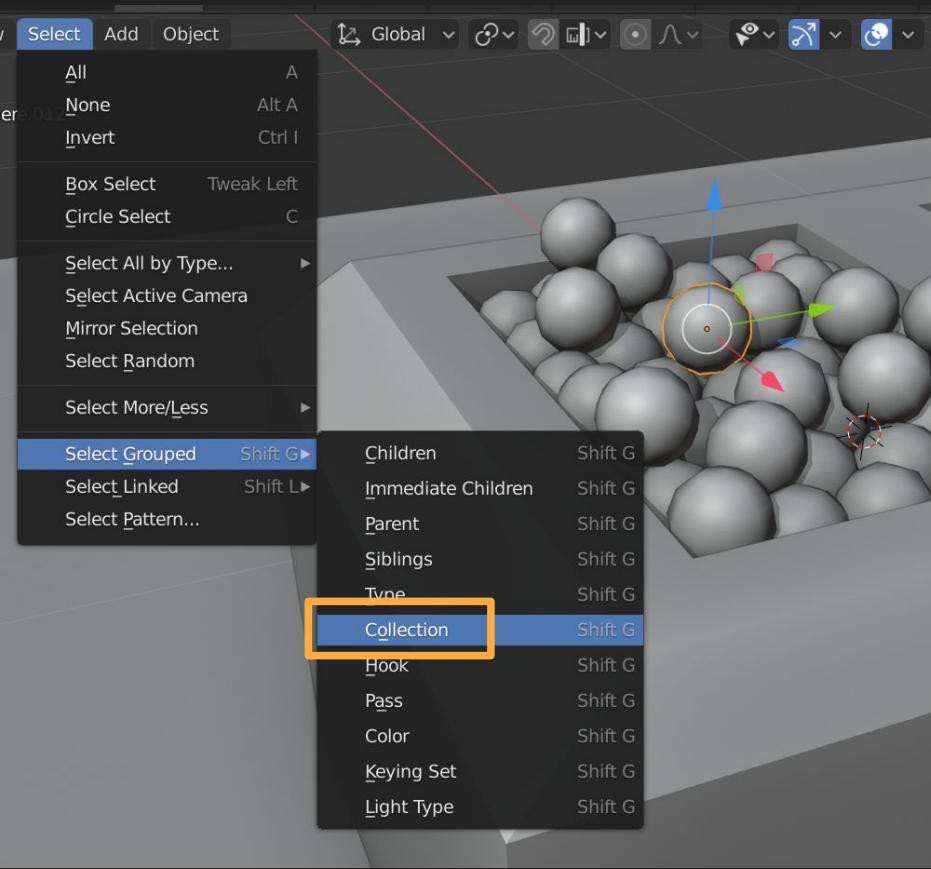
Rigid Body Physics - Set Collision shape → Mesh



Ri Simulare



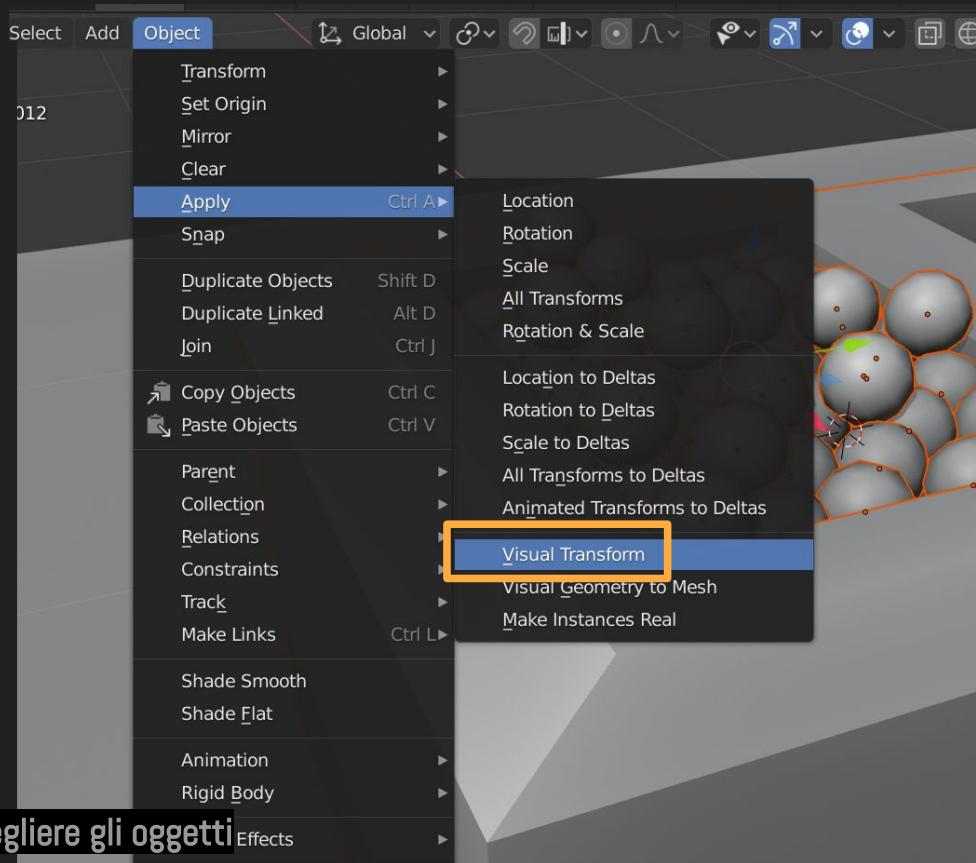
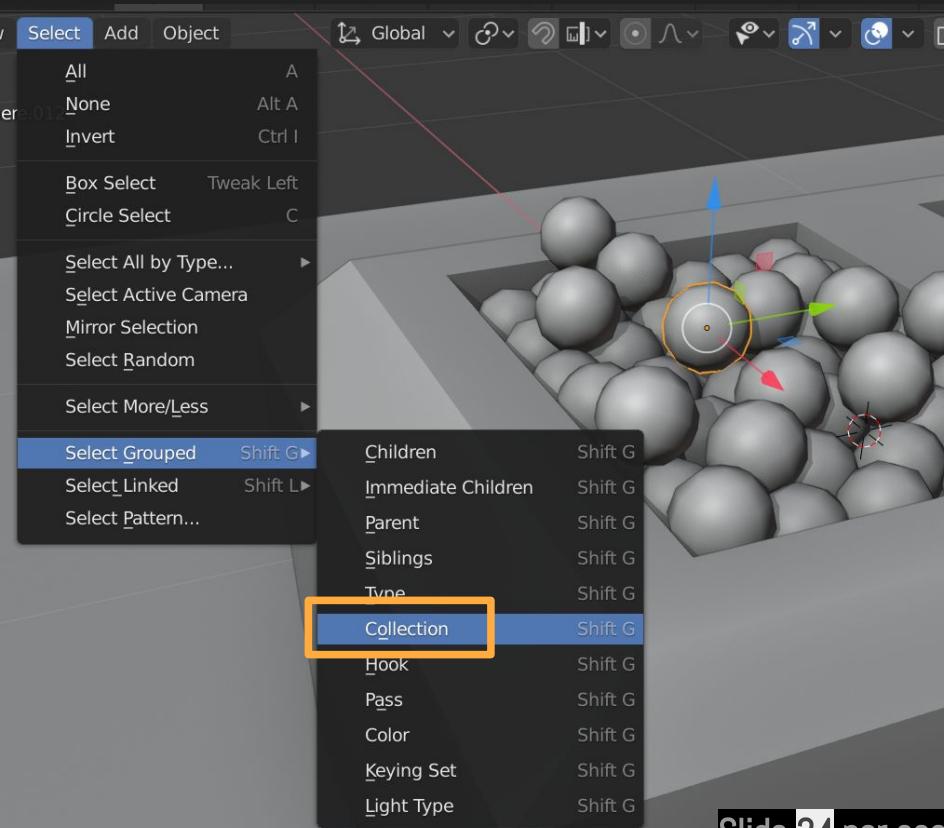
Selezionare oggetti della stessa collection (RigidBodyWorld)



Selezionare oggetti della stessa collection (RigidBodyWorld)



Fissare la simulazione Rigid Body e rimuoverla

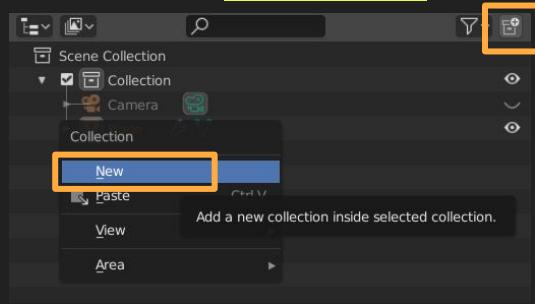




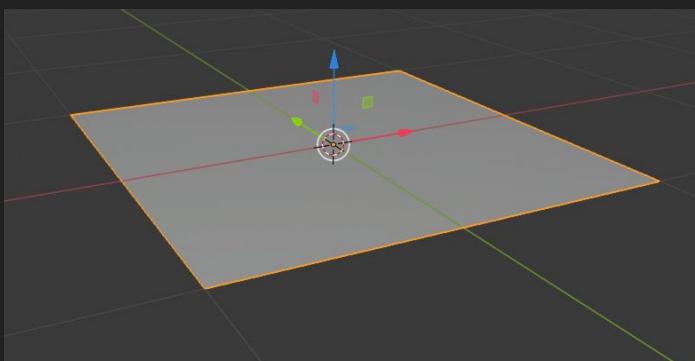
Piatti



Creiamo e selezioniamo
una nuova Collection

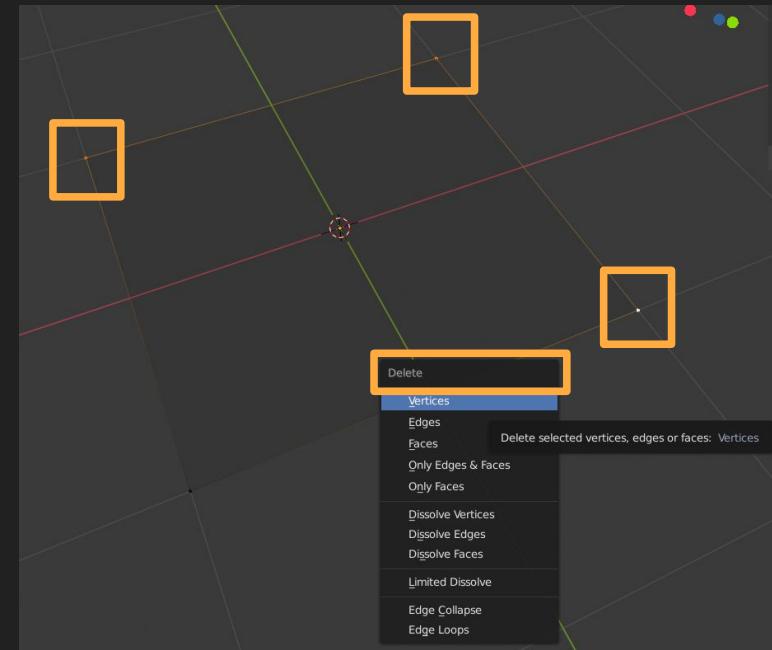


Add Plane

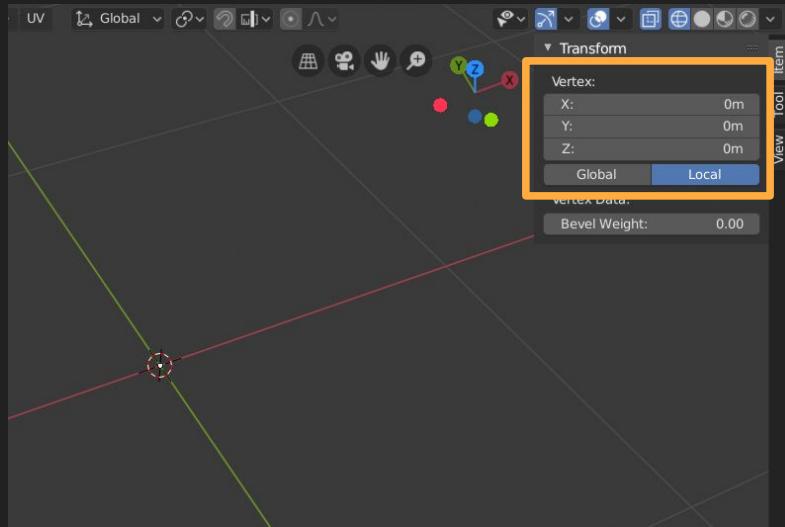


Edit Mode

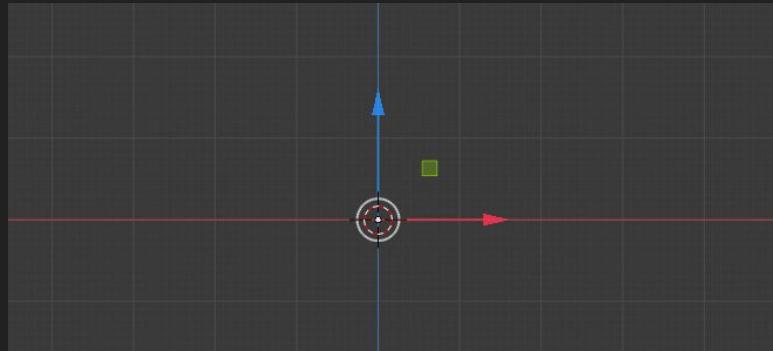
cancelliamo 3 vertici - X



Selezioniamo e spostiamo il vertice
su [0,0,0]

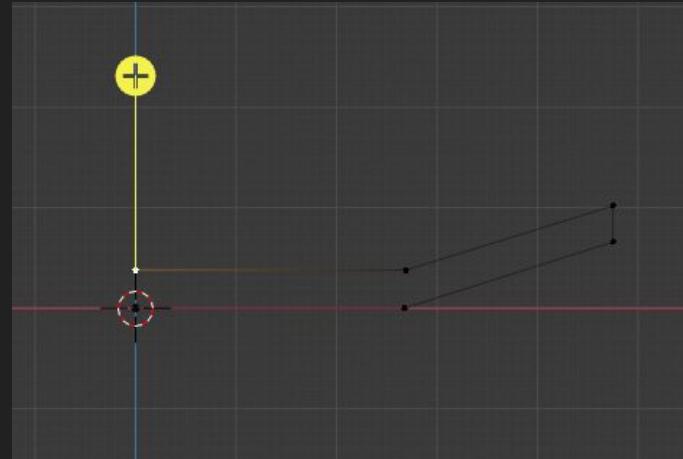
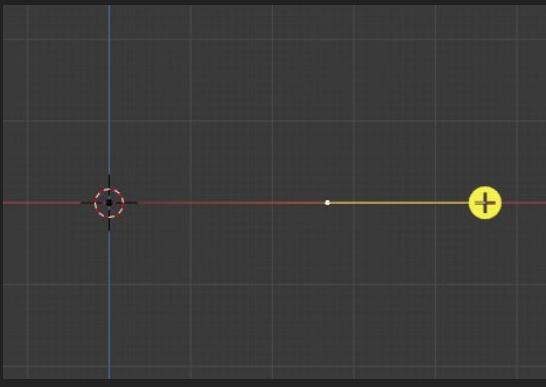
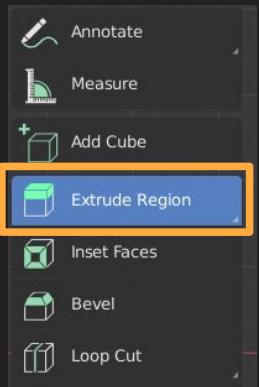


F3 → Cursor to world origin
View Front Orto 1

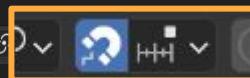


Extrude E → X → 0.1m

continuiamo ad estrarre per formare $\frac{1}{2}$ profilo di un piatto



Autiamoci nella precisione abilitando lo **snap alla griglia**



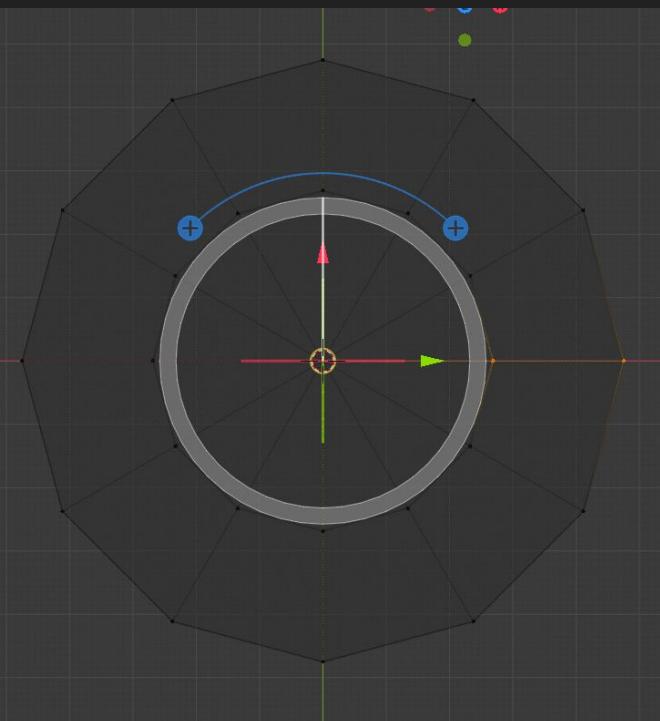
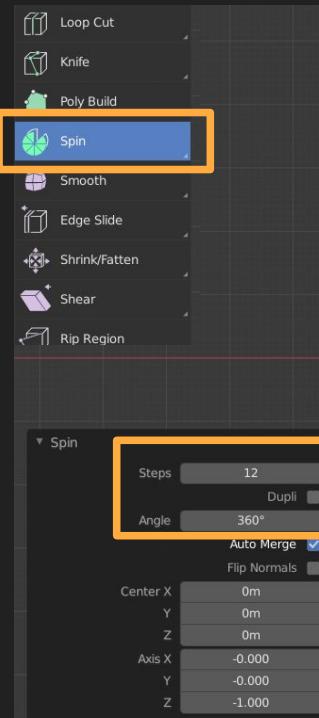
e disabilitandolo alla fine

Spin con parametri Steps e Angle come in figura

Cursor to world origin

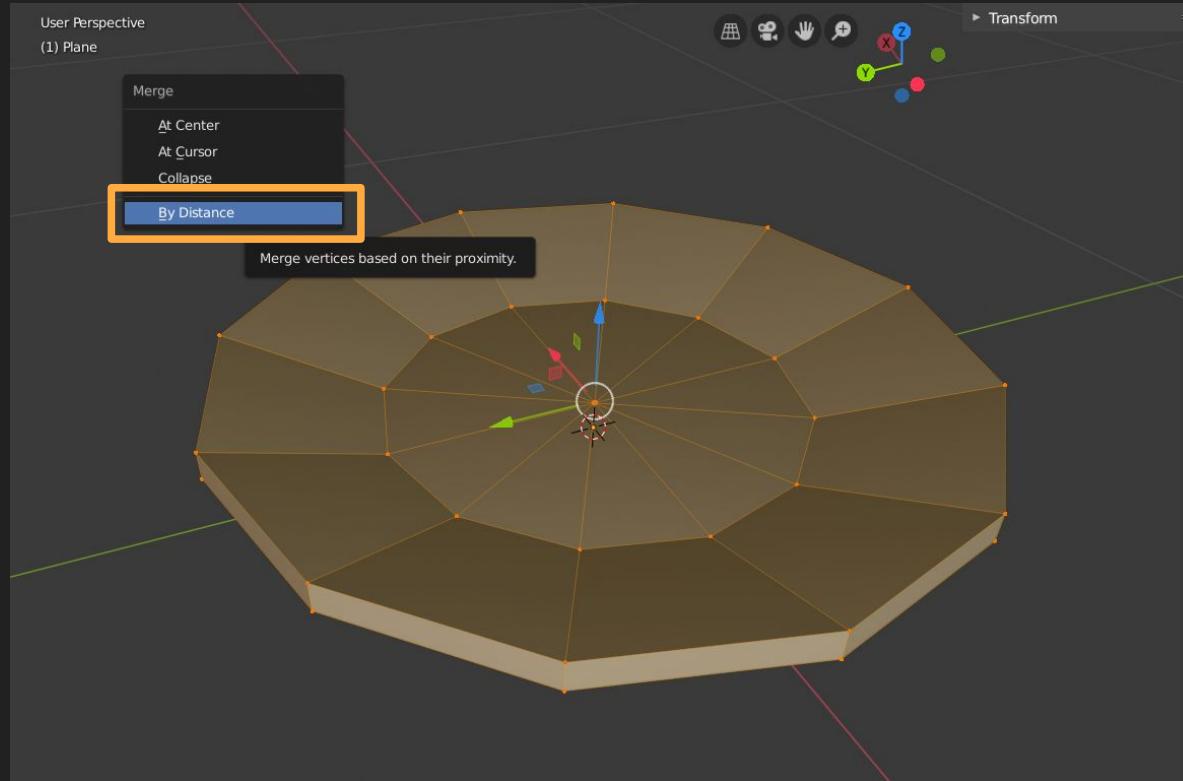
View Top Orto 7

Select all A



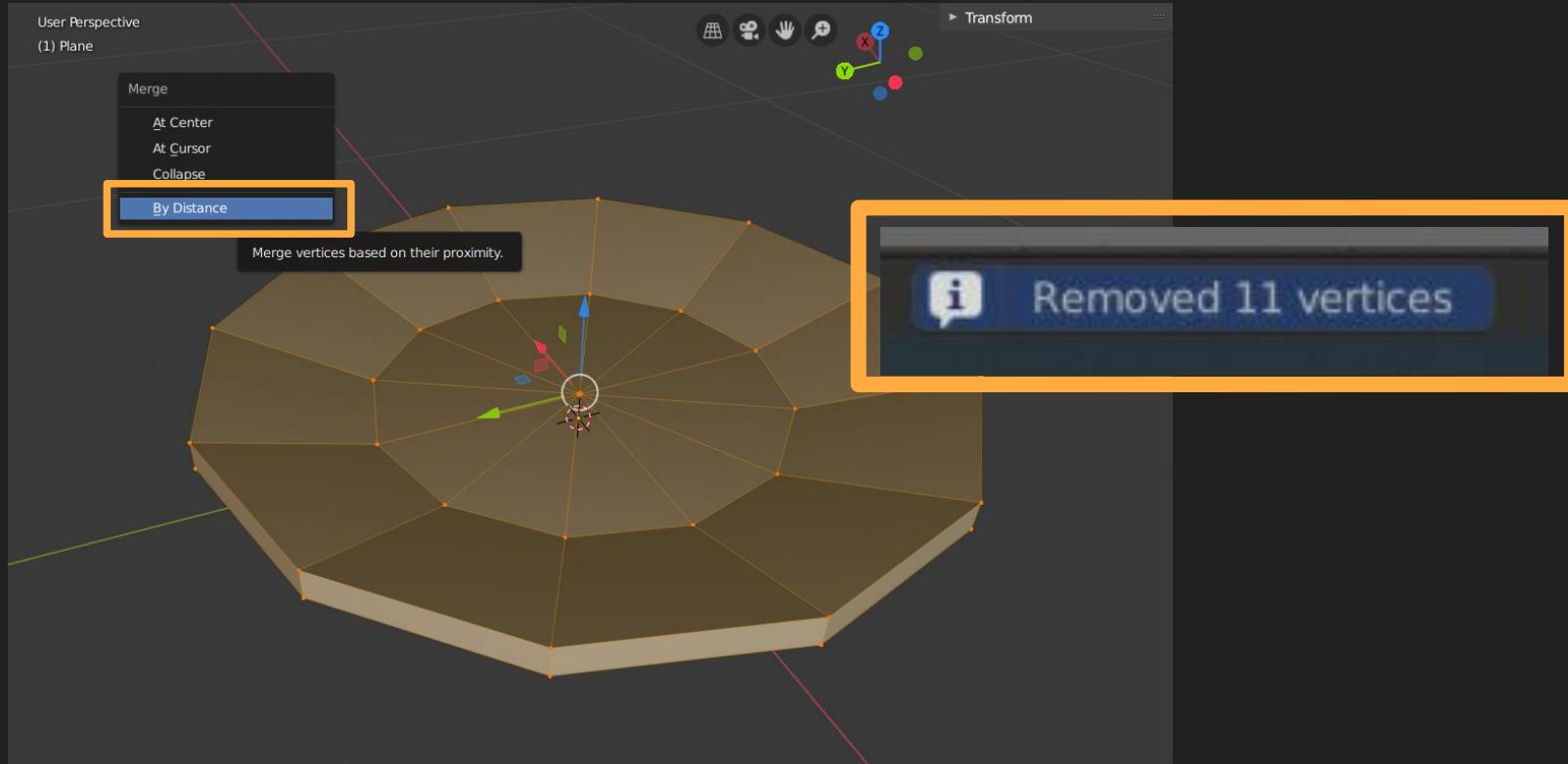
Problema: vertici doppi

Soluzione: Selezionare tutto A e M: Merge by Distance



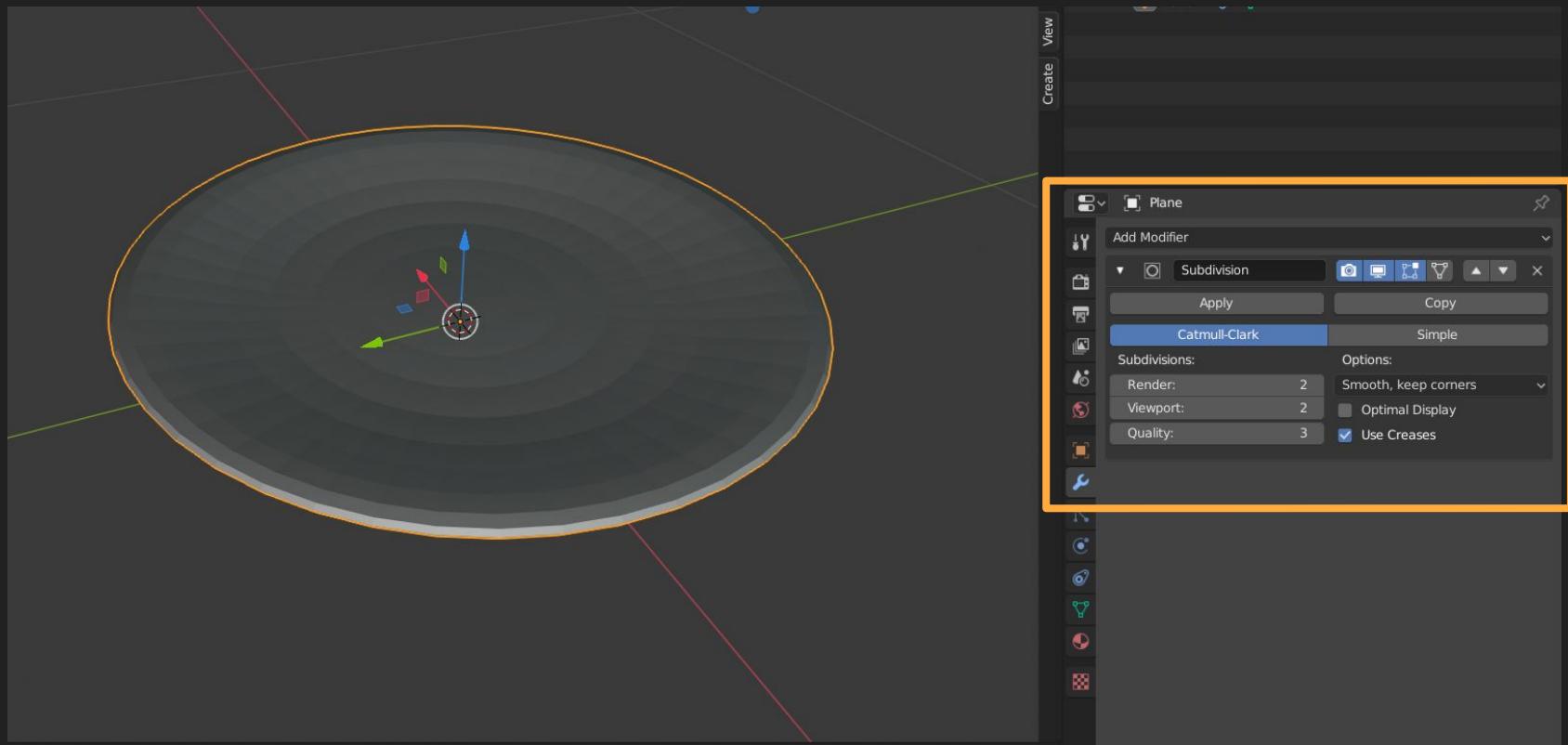
Problema: vertici doppi

Soluzione: Selezionare tutto A e M: Merge by Distance



Modifiers

Subdivision Surface

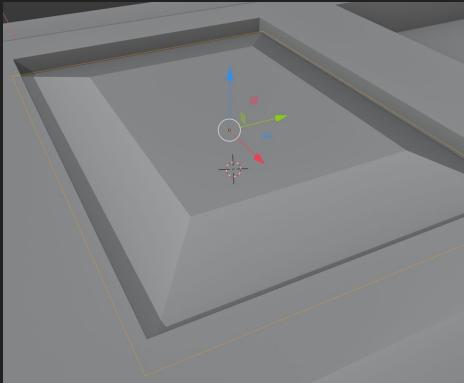


The background features a complex arrangement of overlapping triangles in shades of grey and black against a yellow-orange gradient. In the bottom left corner, there are clusters of spheres in yellow and blue.

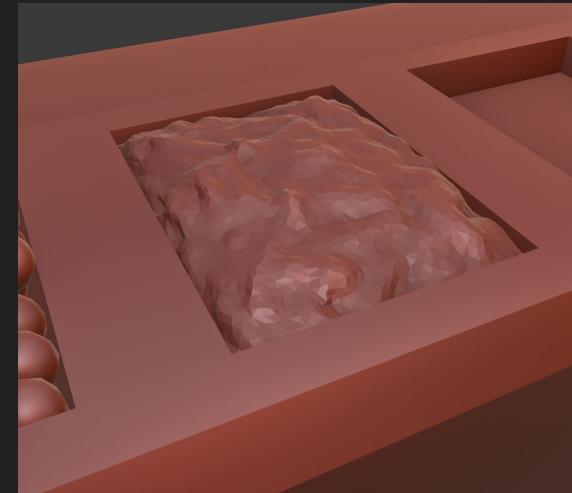
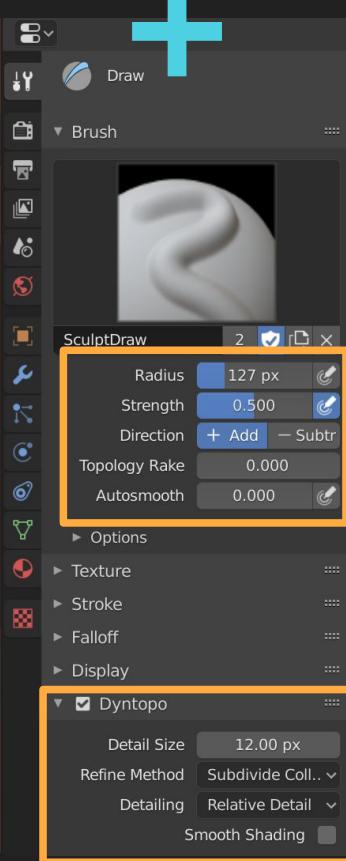
Spezie

Add Plane

Sculpt Mode



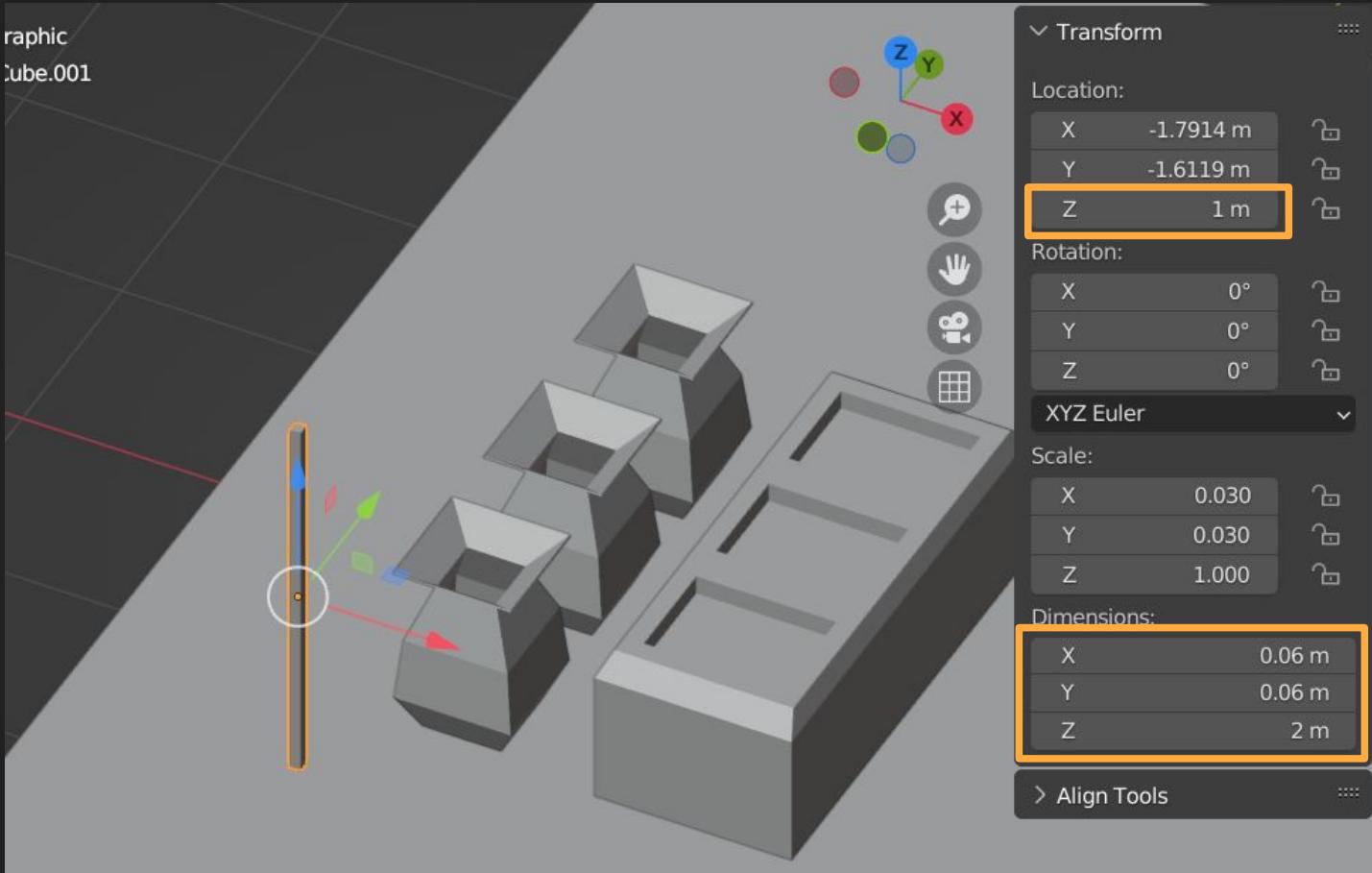
Layout Modeling Sculpting UV Editing Texture Pai



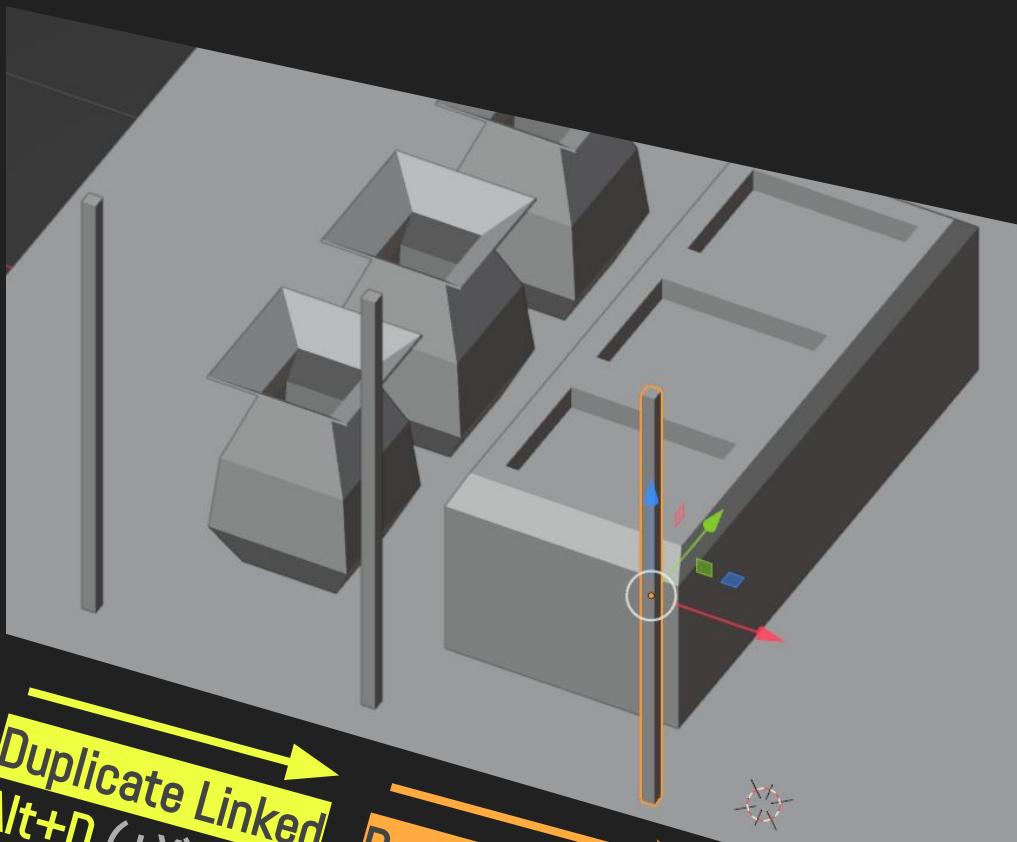


Bonus Track
Gazebo

raphic
Cube.001

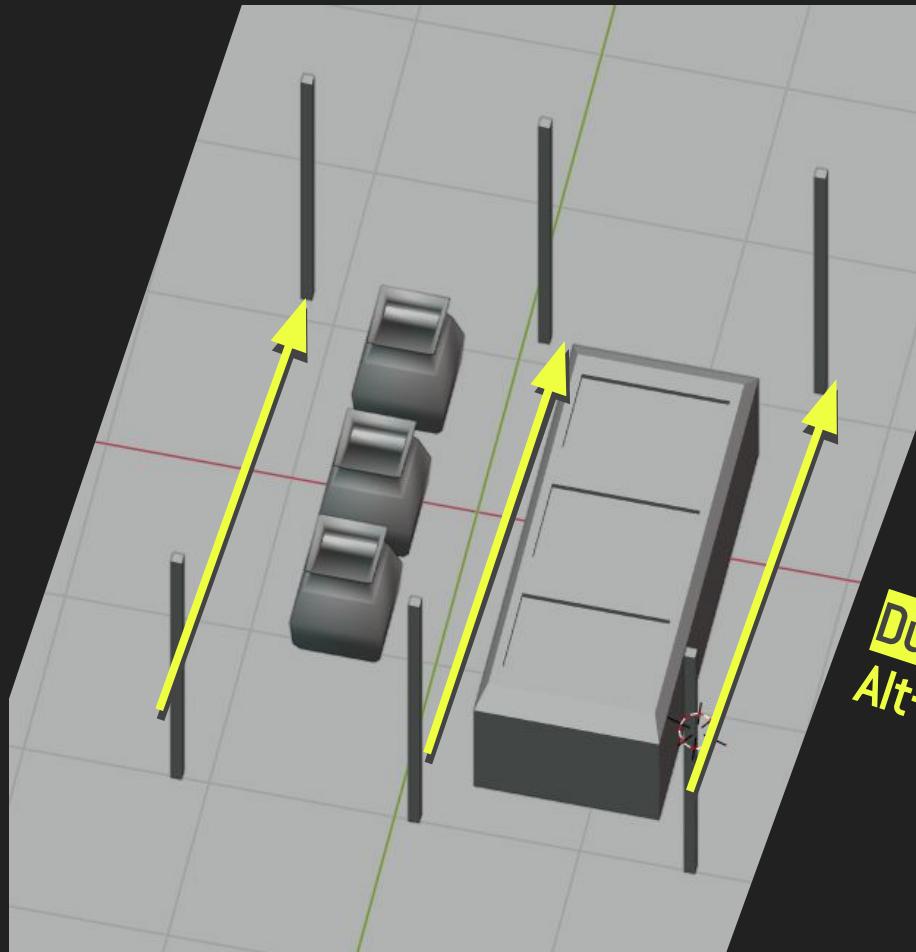


Add Cube - Dimensionare e posizionare come da immagine



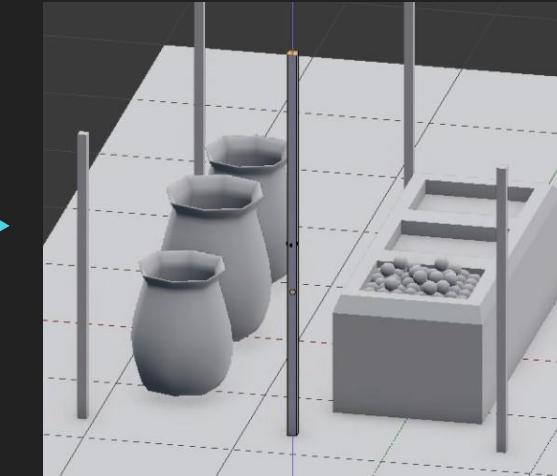
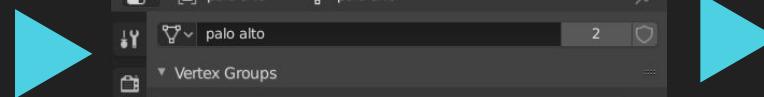
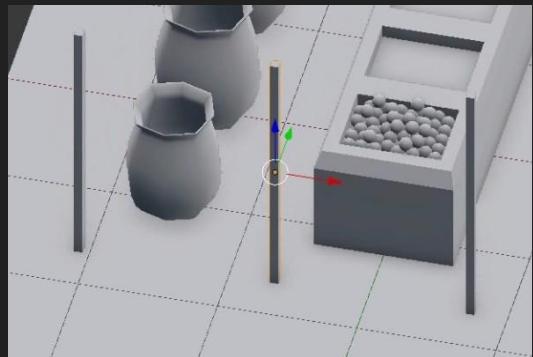
Duplicate Linked
Alt+D (+X)

Repeat Last
Shift+R

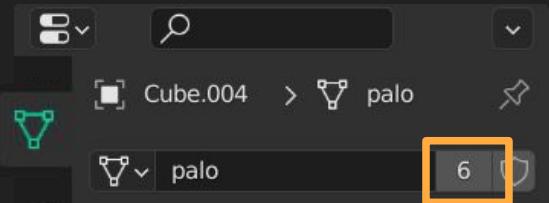


Duplicate Linked
Alt+D (+Y)

Duplicate Linked



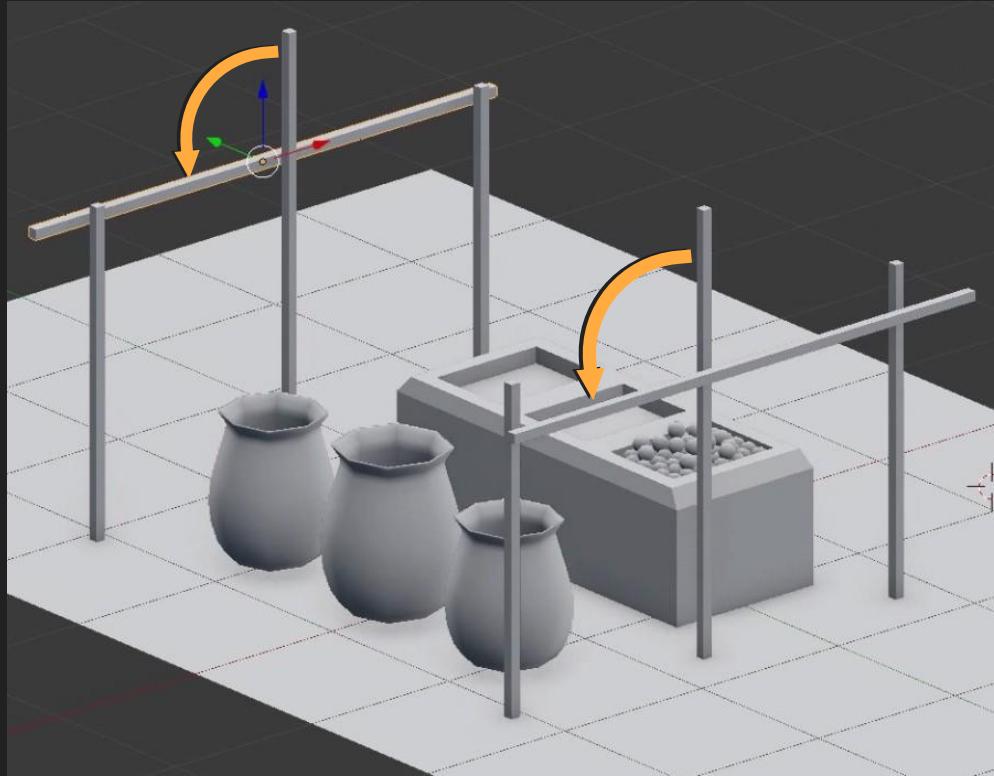
Rinomina ed imposta la
mesh “palo alto” ai due
pali centrali



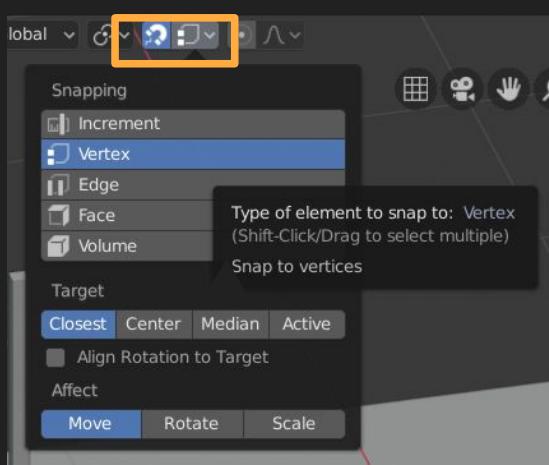
Il numero (6) indica il
numero di oggetti che
usano la stessa mesh

Edit Mode
Allunga il palo alto

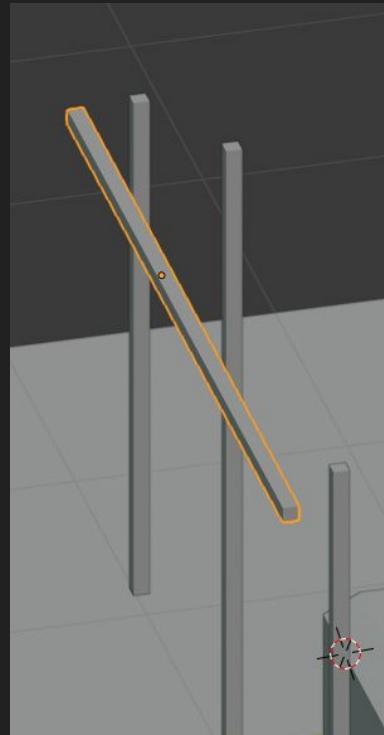
Duplicare i palo_alto Shift + D (+ ESC)
ruotare i nuovi pali di 90° R + Y + 90
aggiustarne la lunghezza in **Edit Mode**



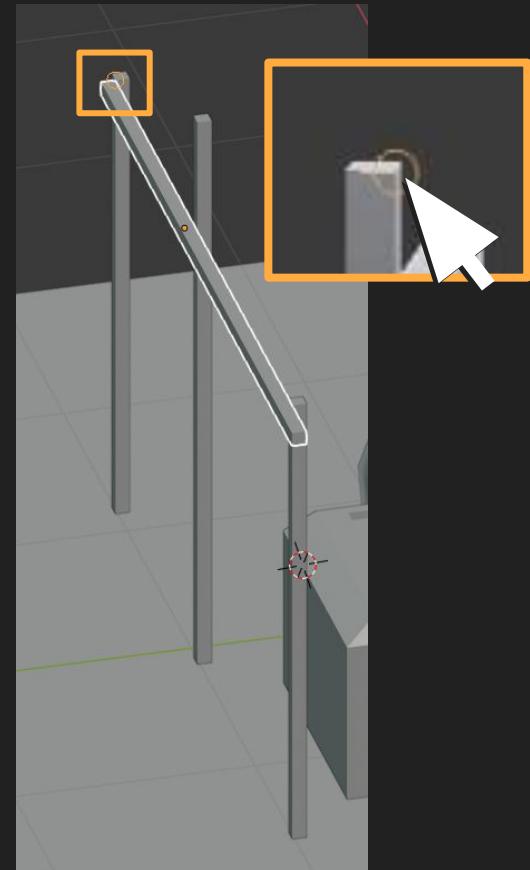
Selezionare la
calamita per
abilitare lo Snap



Snap



Spostare il palo...
G + Y



Impostare la
modalità di snap
"ai vertici"

...muovendo il
mouse su un vertice

Il vostro turno

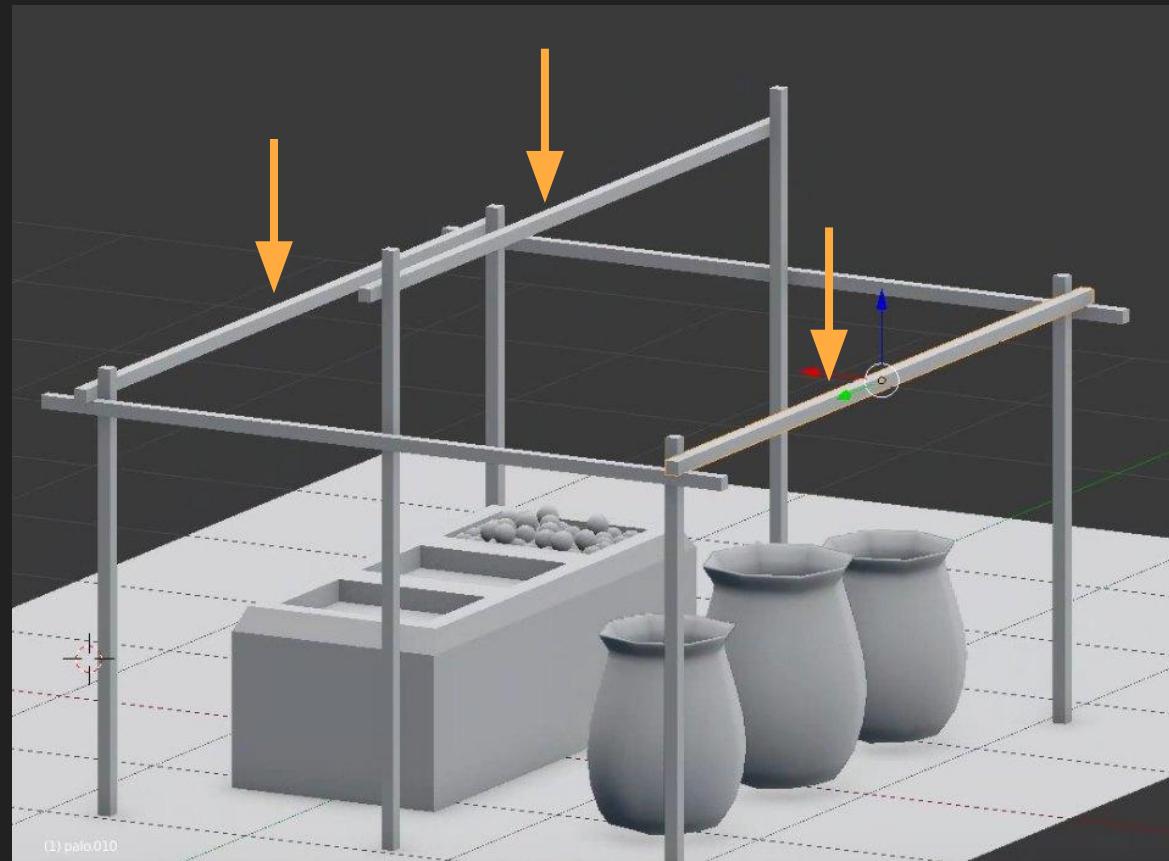
Posizionare **G + X/Y/Z**

Ruotare **R + X/Y/Z + 90**

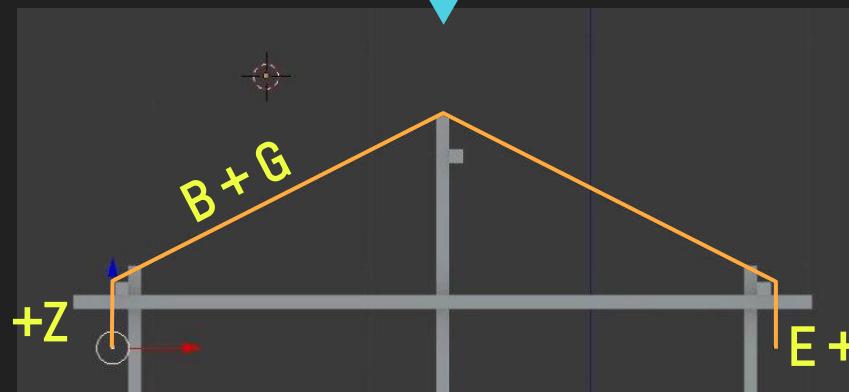
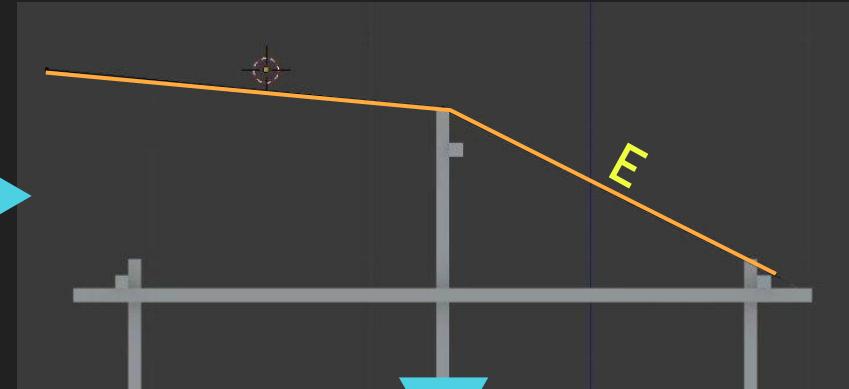
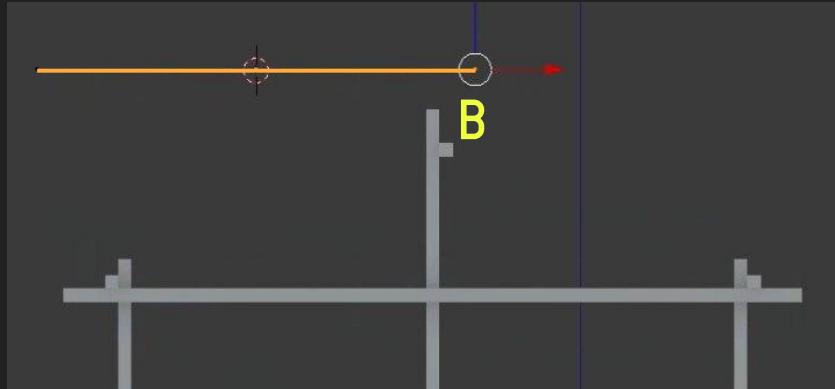
Duplicare **Shift + D**

Snap **G + Ctrl**

Modificare **Edit Mode**



Aggiungere un piano per coprire il gazebo



Posizionare **G + X/Y/Z**

Ruotare **R + X/Y/Z + 90**

Duplicare **Shift + D**

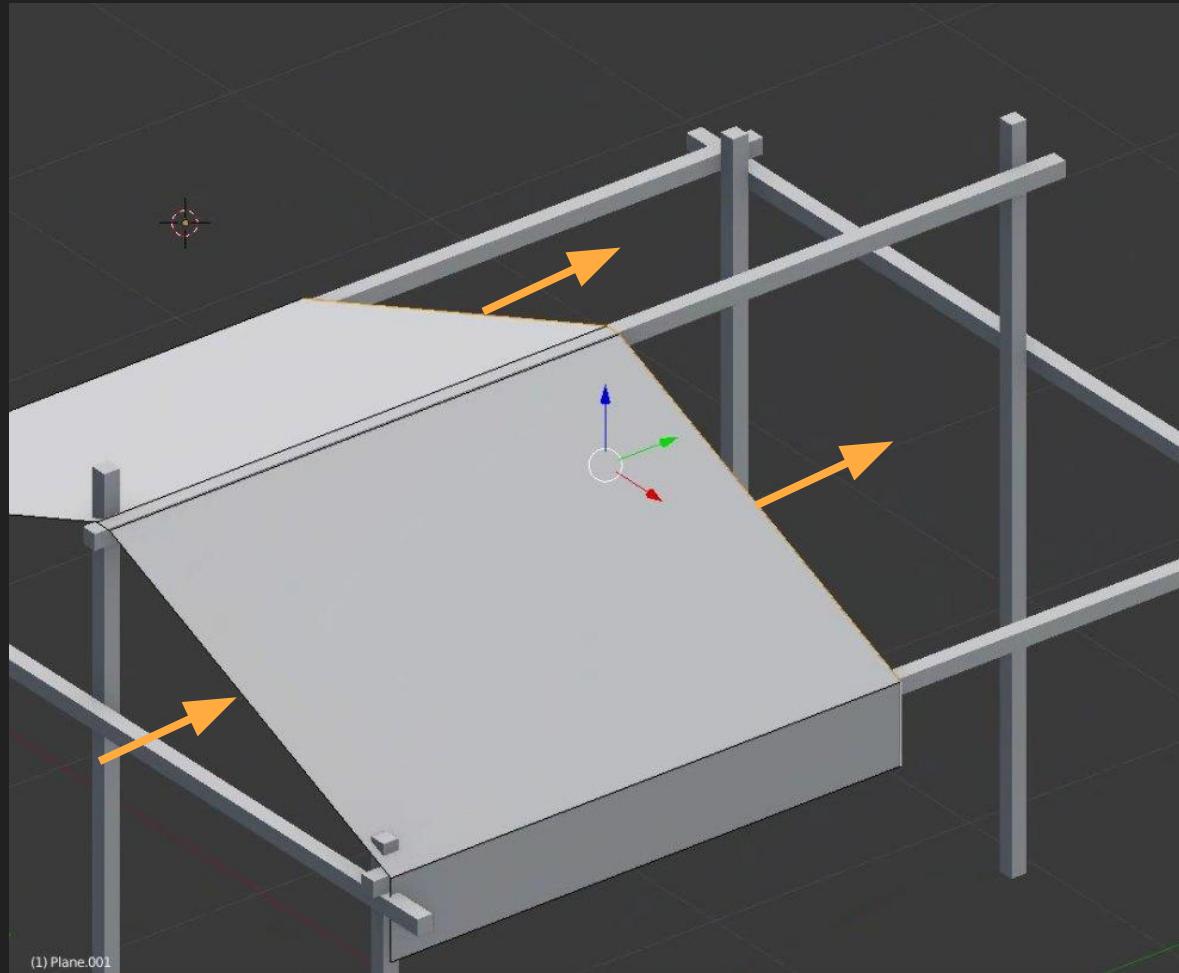
Snap **G + Ctrl**

Modificare **Edit Mode**

Selezionare **B**

Estrudere **E (+ X/Y/Z)**

Posizionare	G + X/Y/Z
Ruotare	R + X/Y/Z + 90
Duplicare	Shift + D
Snap	G + Ctrl
Modificare	Edit Mode
Selezionare	B
Estrudere	E (+ X/Y/Z)



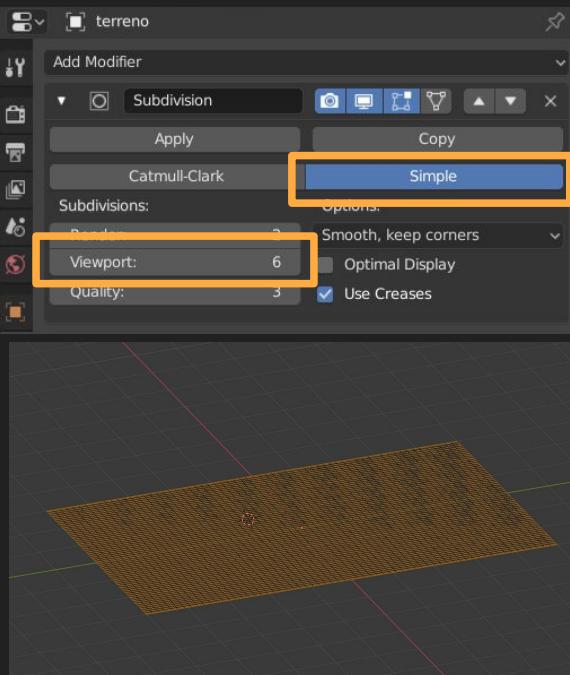


Bonus Bonus Track

Terreno

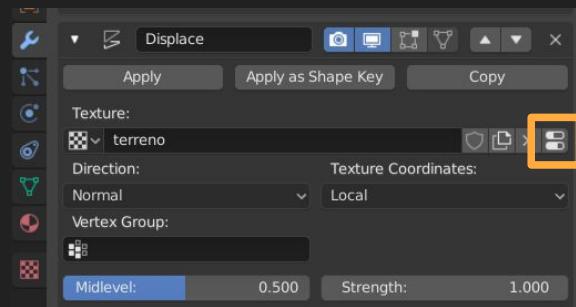
THE END IS NEVER THE END IS NEVER THE END IS NEVER

Suddividere il terreno

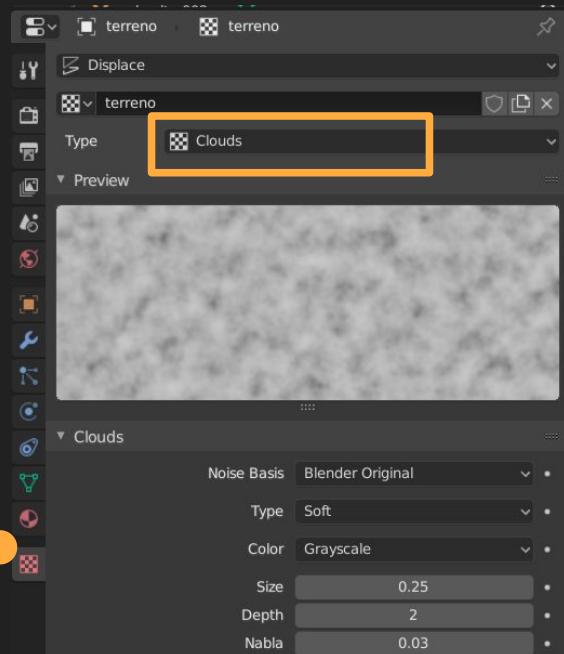


Displace

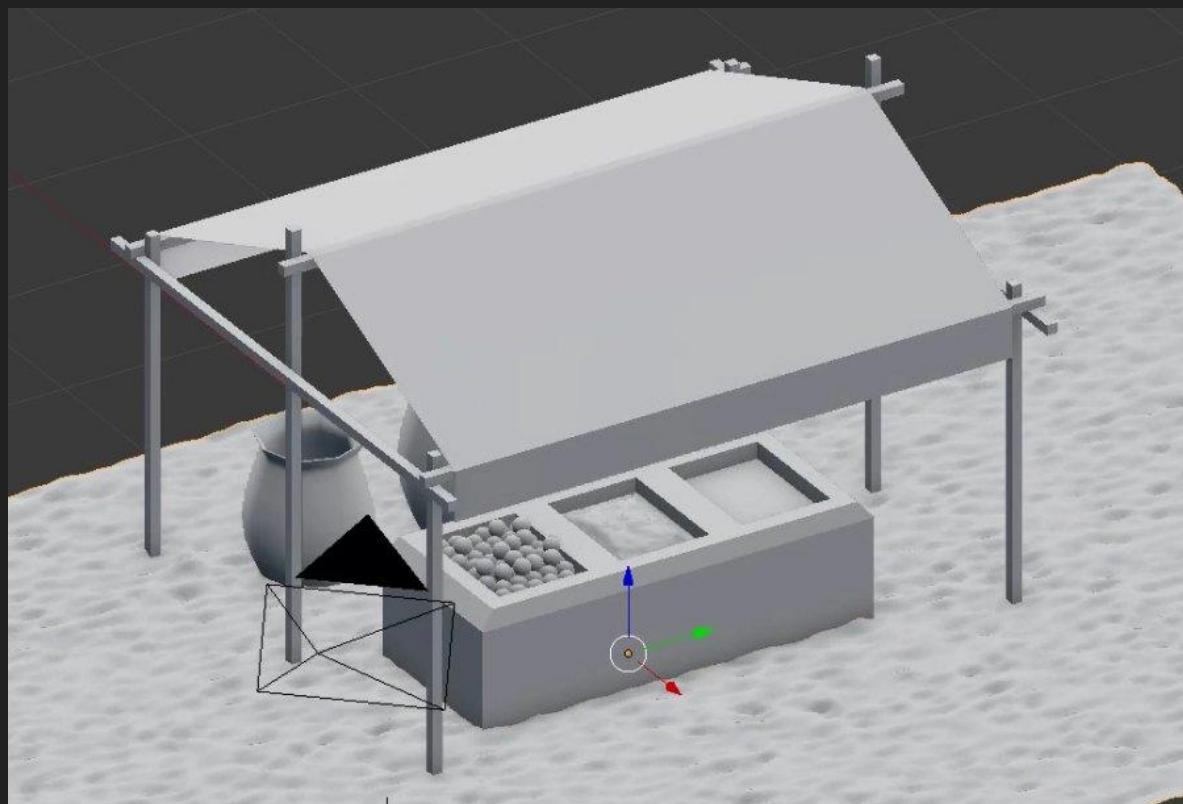
Displace + nuova texture



Impostazioni texture



Displace



The screenshot shows the Blender modifier stack for the 'terreno' object. The stack is as follows:

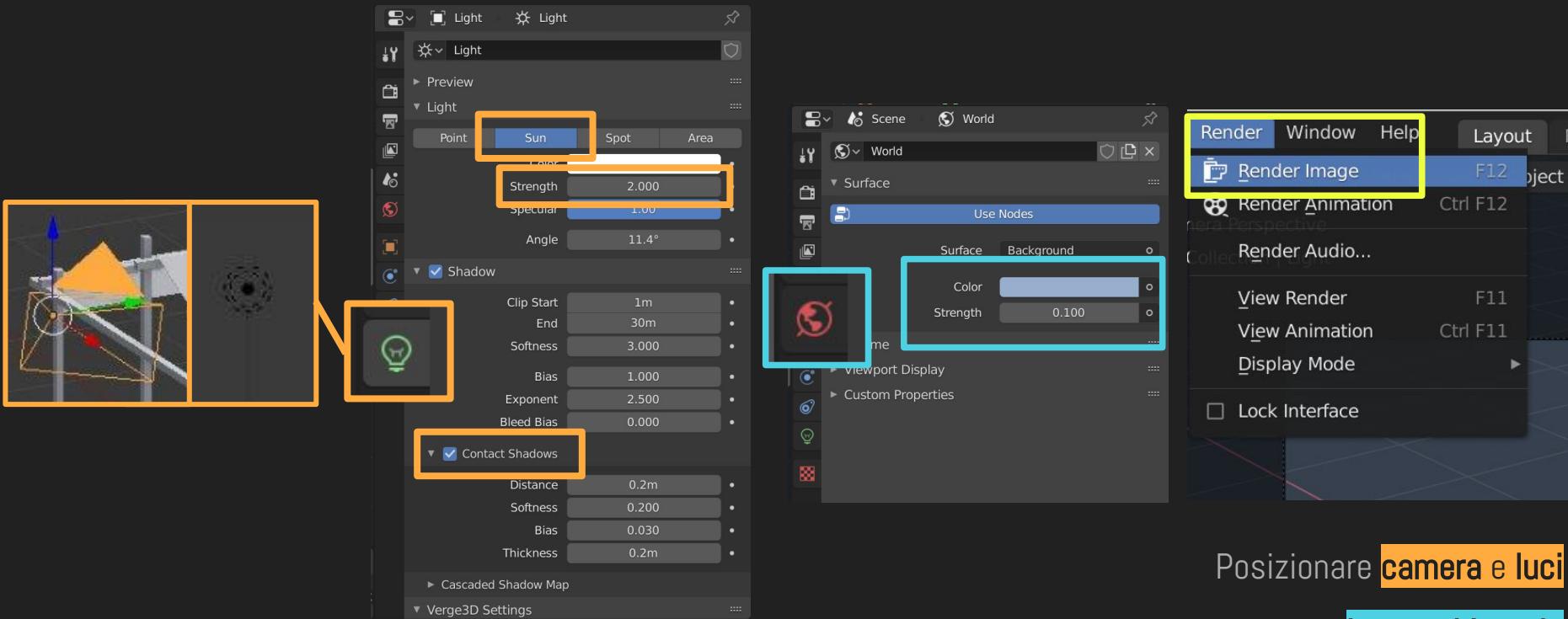
- Subdivision (highlighted with an orange box)
- Displace (highlighted with an orange box)
- Smooth (highlighted with an orange box)

Below the stack, there are several settings:

- Subdivision:**
 - Render: 2
 - Viewport: 6
 - Quality: 3
 - Options: Smooth, keep corners, Optimal Display, Use Creases
- Displace:**
 - Texture: terreno
 - Direction: Normal
 - Vertex Group: (empty)
 - Texture Coordinates: Local
 - Midlevel: 0.500
 - Strength: 0.200
- Smooth:**
 - Axis: X, Y, Z (all checked)
 - Factor: 1.000
 - Repeat: 1
 - Vertex Group: (empty)

Cambiando l'ordine dei modificatori cambia l'effetto

Rendering



Posizionare **camera e luci**

impostare la **luce ambientale**

e **renderizzare**



Grazie per la
vostra attenzione



Grazie per la
vostra attenzione

Domande?



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CINECA