

# COMP2007 - Game Development

## Setting up Probuilder

Probuilder is a 3D modelling tool built into the Unity editor, used for prototyping and level design.

Probuilder is designed to create prototype models and textures that can be exported to other 3D tools such as Blender, Maya, 3Ds Max etc.

The workflow for probuilder is similar to the other programs, but with only a small subset of the functionality, including:

- Basic 3D modelling tools
- UV setup
- Texture mapping
- Vertex colouring
- Import & export to other tools

Probuilder is great for:

- Quickly testing level designs/ideas
- Adding collision/triggers to your level
- Editing meshes from other tools
- Creating prototype assets to export to other tools

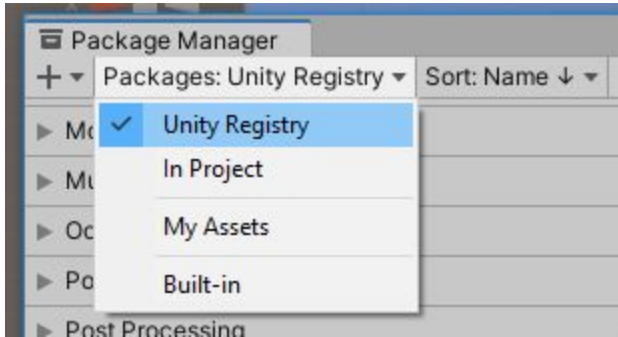
Probuilder manual

<https://docs.unity3d.com/Packages/com.unity.probuilder@4.0/manual/index.html>

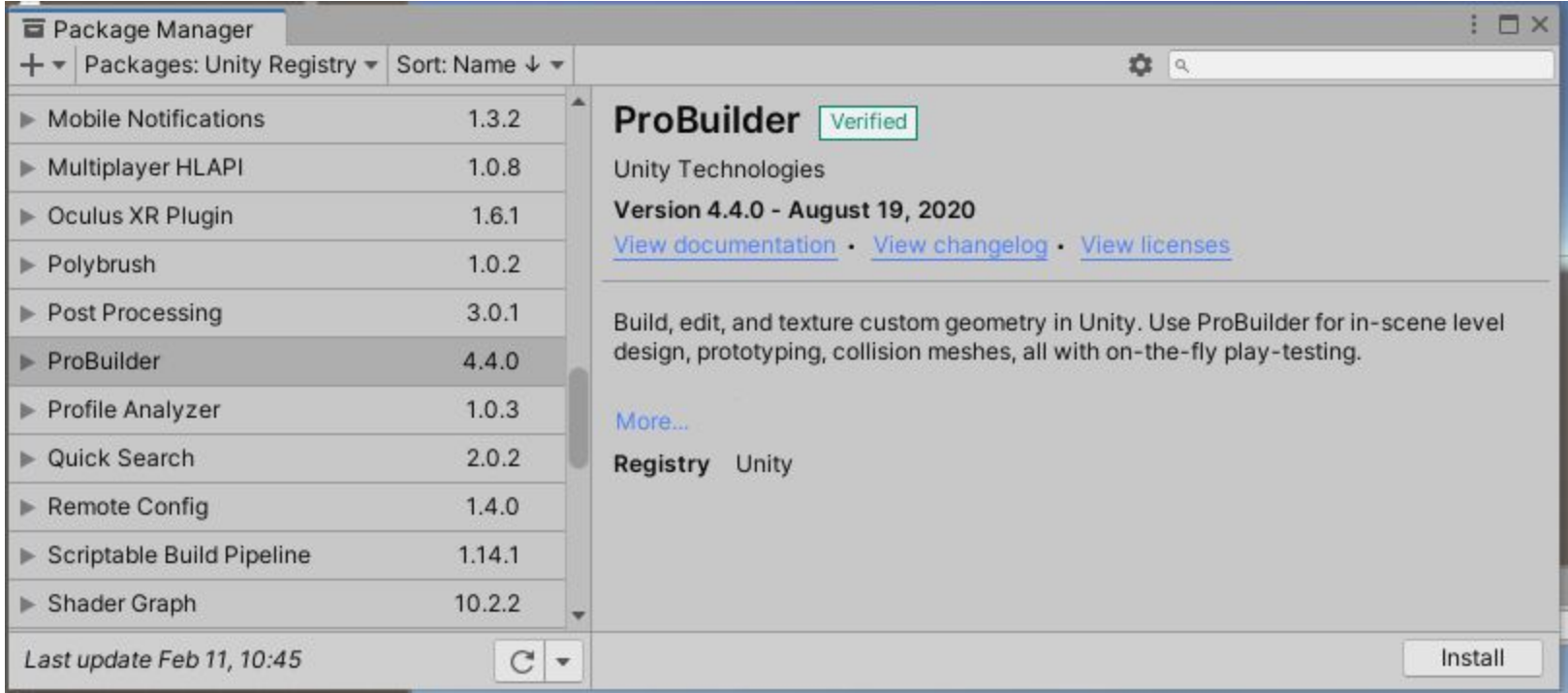
## Installing Probuilder

Open the Package Manager window, Window -> Package Manager

On the Package Manager tab, select the Unity Registry from the dropdown



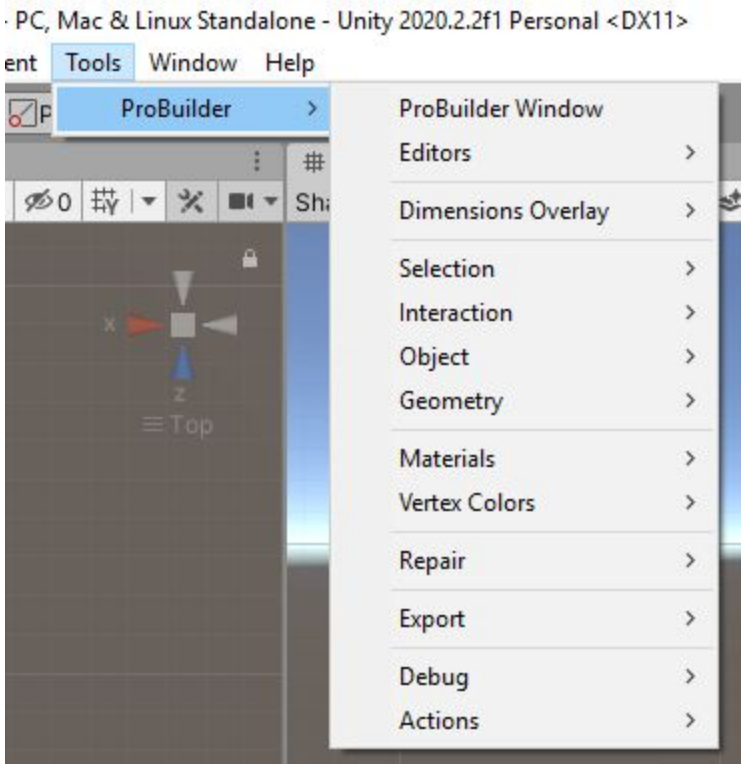
Select the Probuilder package on the left side.  
When you see the details for Probuilder on the right, click the install button



## Check your install

After installing, close the Package Manage window and check the top menu.

You should see a “Tools” option appear on the top menu  
Click Tools and check the options you have are the same as the image below

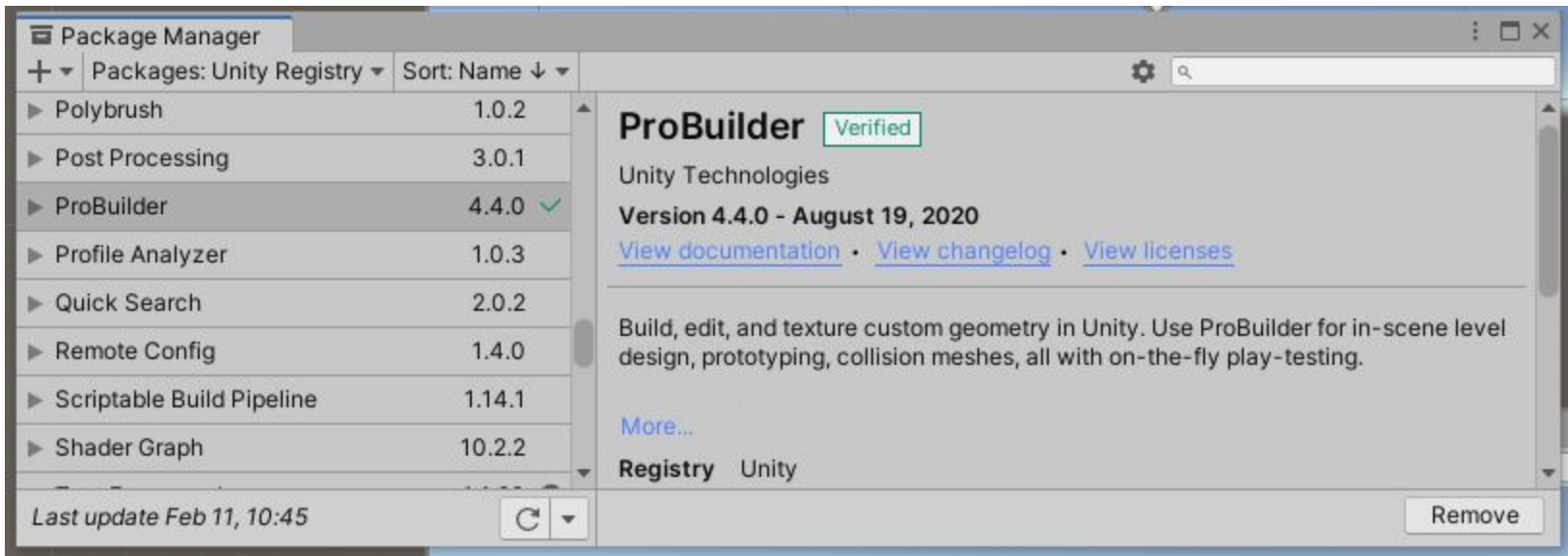


## Uninstalling Probuilder

If you need to remove the Probuilder package, open the Package Manager window again

Select the Unity Registry from the dropdown (or “In Project”)

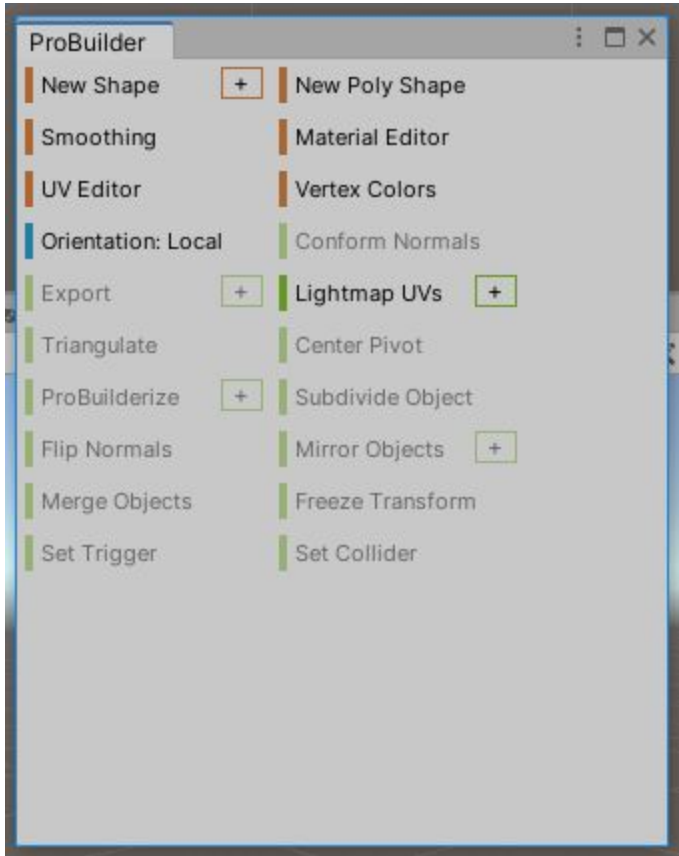
Select the Probuilder package, there will be a button to remove, where the install button was at the bottom right



# Probuilder window

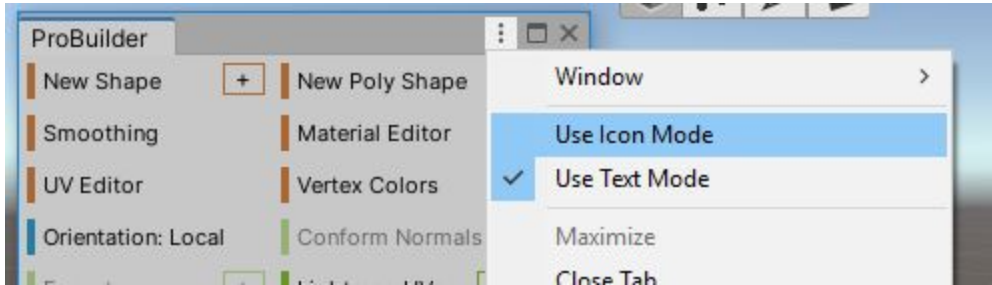
This is the main editing window where you can access modelling, texturing and import/export tools  
Access from the top menu Tools ->ProBuilder -> ProBuilder Window

The documentation for all of the tools displayed:  
<https://docs.unity3d.com/Packages/com.unity.probuilder@4.0/manual/toolbar.html>

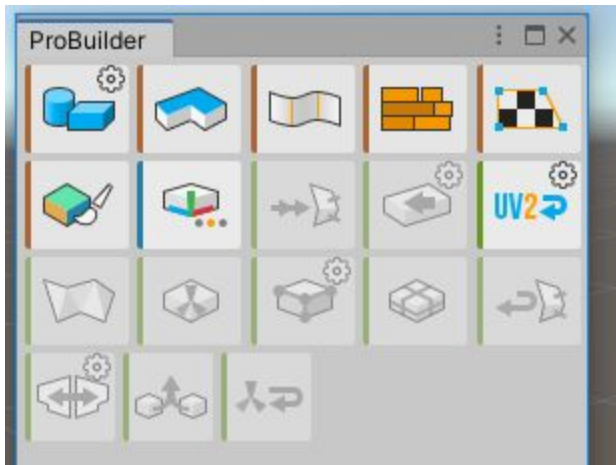


## Accessing Icons Mode (Advanced)

If you prefer to see icons in the window, click the 3-dot icon to the top right of the window, select “Use Icon Mode”  
NOTE: “Use Text Mode” is the default mode



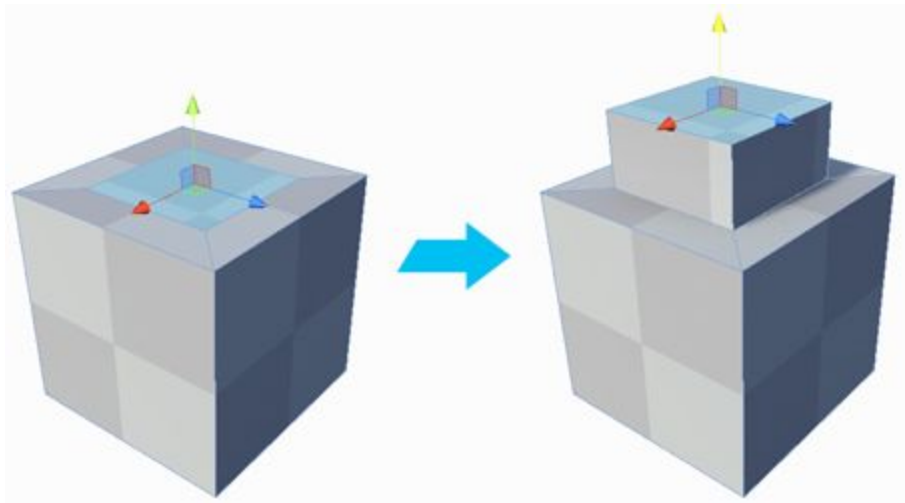
## Icons mode



## Common tools

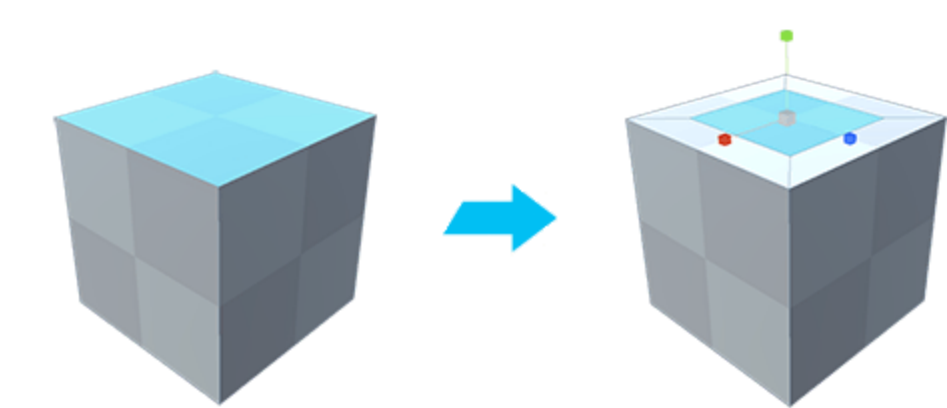
### Extrude

Pull or push a face to add connecting geometry  
Hotkey - hold shift while moving a face



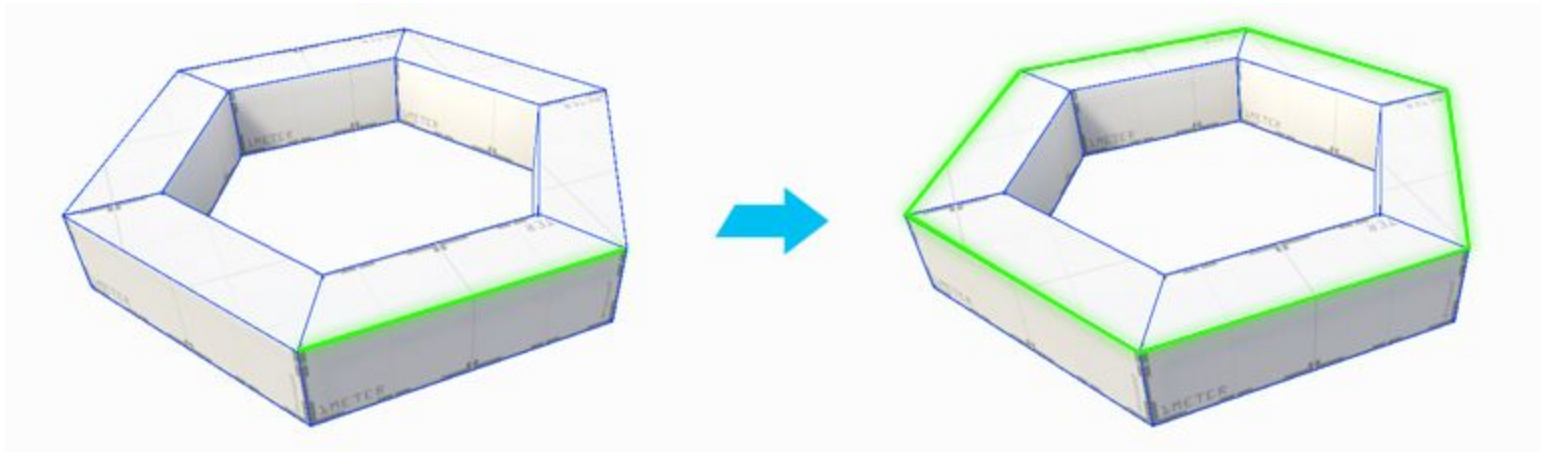
### Inset

Shrink a face and add connecting geometry  
Hotkey - hold shift while scaling a face



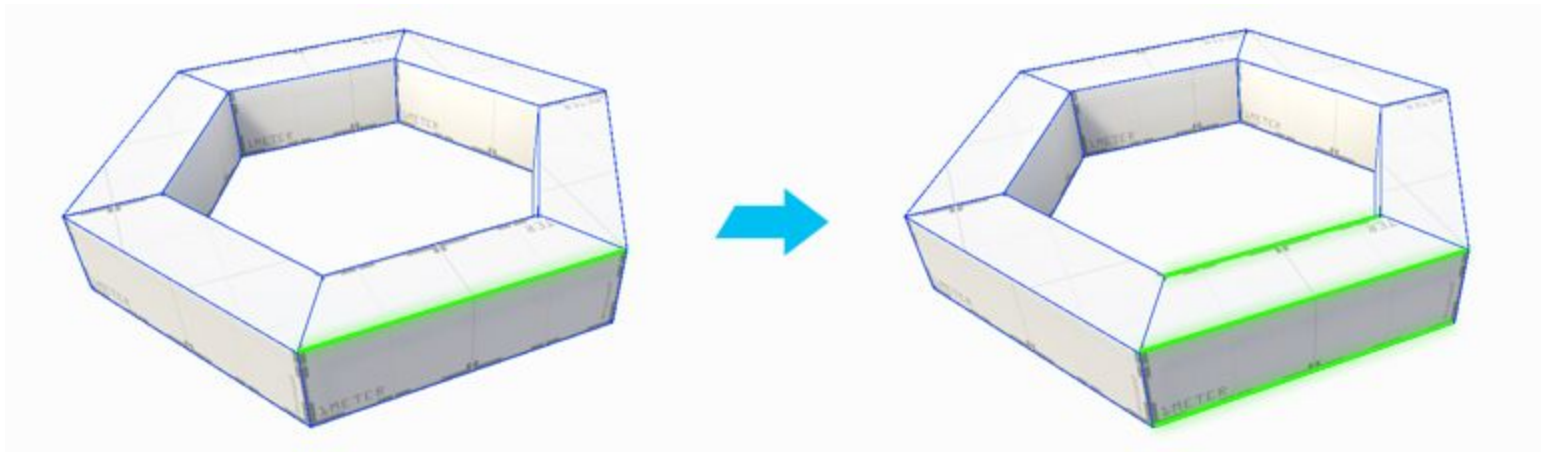
### Loop select

Select edges or faces connected in a loop



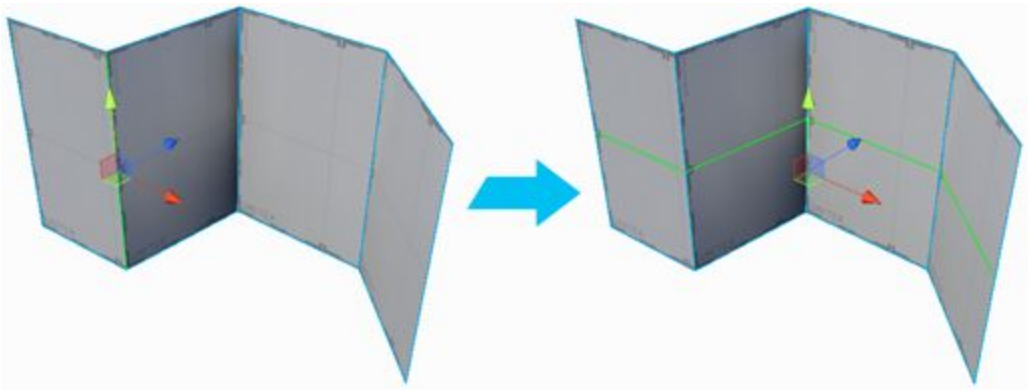
### Ring select

Select connect edges or faces opposite each other



### Insert edge loop

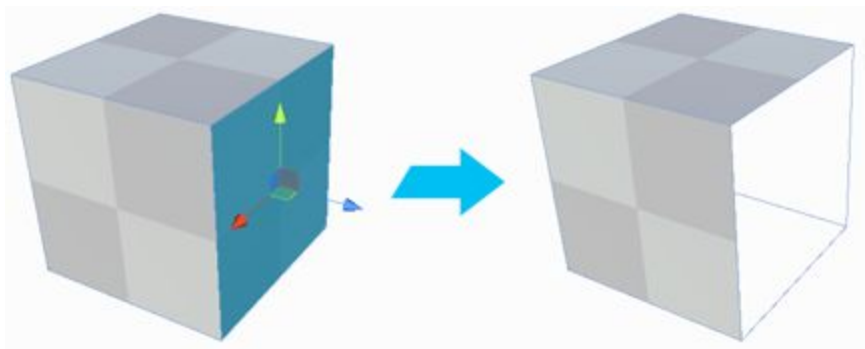
Hotkey Alt-U  
Slice a set of faces for extra geometry





Delete faces

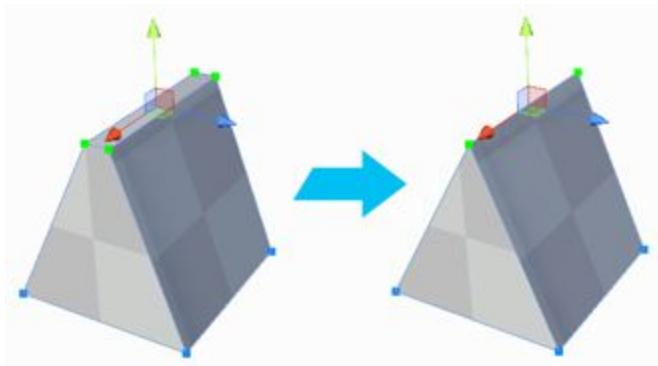
Deletes one or more faces from the geometry



Weld Vertices

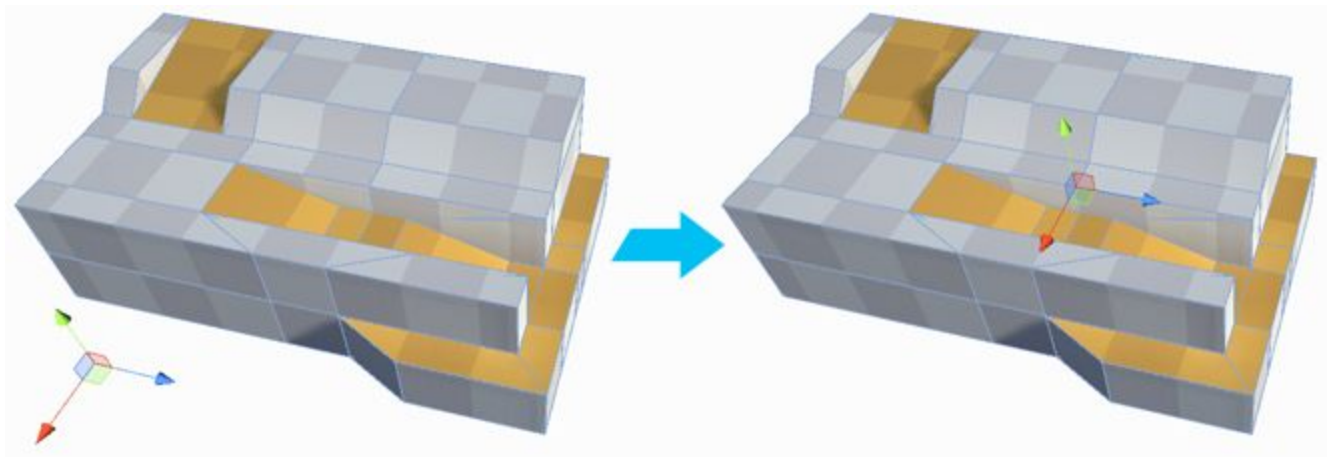
Combine two or more vertices into one

- Removes any lines or faces between
- Useful for cleaning up geometry before texturing



Centre Pivot

Sets the pivot point of the mesh to the centre



# Links

## Probuilder

Probuilder documentation

<https://docs.unity3d.com/Packages/com.unity.probuilder@4.5/manual/index.html>

Edit modes

<https://docs.unity3d.com/Packages/com.unity.probuilder@4.5/manual/edit-mode-toolbar.html>

Tool reference

[https://docs.unity3d.com/Packages/com.unity.probuilder@4.5/manual/ref\\_tools.html](https://docs.unity3d.com/Packages/com.unity.probuilder@4.5/manual/ref_tools.html)

Creating meshes

<https://docs.unity3d.com/Packages/com.unity.probuilder@4.5/manual/workflow-create.html>

Modeling tips for beginners

<https://docs.unity3d.com/Packages/com.unity.probuilder@4.5/manual/workflow-edit-tips.html>

Importing and exporting

<https://docs.unity3d.com/Packages/com.unity.probuilder@4.5/manual/workflow-exporting.html>

Hotkeys

<https://docs.unity3d.com/Packages/com.unity.probuilder@4.5/manual/hotkeys.html>

## Level design

Skyrim level design - tips for creating modular art assets

<http://blog.joelburgess.com/2013/04/skyrims-modular-level-design-gdc-2013.html>



