

transform

G Move
R Rotate
S Scale
E Extrude

0, 1, 2, 3... **R R** Free rotate
X, Y, Z **0, 1, 2...**

Supr Delete *Dissolve vertices, faces, edge loops...*

***Shift + X, Y, Z + ...** Exclude axis on action

Tab Edit mode ↔ Object mode

***Shift + S** Snap pie menu **Z** Shading pie menu

M Merge **Ctrl + *** Extrude to click *new vertex or add*

Ctrl + R Loop cut **+**

F Create face *or close vertex shape*

***Shift + D** Duplicate
Alt + D Duplicate linked

Ctrl + B Bevel (+ **Shift** vertices)

***Shift + W** Bend **V** Rip

I Inset faces **K** Knife *Also "Bisect"*

Ctrl + A Apply transformations

O Toggle proportional editing

***Shift + Tab** Snap tool toggle

Ctrl + Shift + Tab *Increment, Vertex...*

viewports

Top **7** **8** **9** **Opposite**
4 **5** **6**
Front **1** **2** **3** **Right**
0 **Supr**

Isolate object **/** **+** Zoom in **-** Zoom out

Camera view **0** **Supr**

Smart UV project
U UV Mapping menu **Unwrap**
Project from View (Bounds)

A Select all **A A** Deselect

L Select linked

Ctrl + L Select linked all

Ctrl + * Select shortest path

Alt + * Select loop

Ctrl + Alt + * Select ring

***Shift** Accumulate selection

Ctrl + I Invert selection

C Circle select

Ctrl + + Grow selection

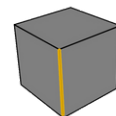
Ctrl + - Shrink selection

selection



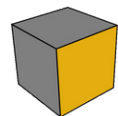
Vertex

1 **Ctrl + V**



Edge

2 **Ctrl + E**



Face

3 **Ctrl + F**

T Toggle toolbar menu (left)

N Toggle sidebar menu (right)

***Shift + N** Recalculate normals

Alt + Z Toggle X-Ray

Home Show all objects

P Separate selection

Ctrl + J Join objects

***Shift + A** Add item menu

***Shift + *** Place cursor

***Shift + C** Reset cursor to origin

***Shift + *** Drag view position

***Shift + R** Repeat last action

Texturing: Apply Rotation & Scale → Smart UV Project → Scale UVs → Configure modifiers UVs

Mix textures: **Noise Texture** → **ColorRamp** → **Mix Shader** → **Material (Surface)**

Ctrl + G Group texture nodes **F** Connect nodes

Ctrl + T Add Texture Setup

Ctrl + Shift + T Add Principled Setup

Ctrl + Alt + O Set camera **I** Add keyframe on frame

Vertex Groups

Face → Tris to quads **Mesh** → Clean up *Merge by distance Regenerate dissolve*

Edge → Subdivide **View** → View lock → Lock: Camera to View

Mesh → Transform → Randomize

Mesh → Bisect

Free Add-on Images as planes: Add → Image → Images as Planes

Ctrl + Alt + Space Fullscreen **Ctrl + Space** Maximized **Ctrl + Alt + Q** Quad view

Animation: Select objects, **Object** → Track: to Constraint
 Then Add Constraint → Clamp To *(i.e. a curve object)*

modifiers Displacement Subdivision Decimate Array Mirror Curve Remesh Boolean Shrinkwrap Solidify

Color (Albedo) **Normal Map** **Displacement**

Texture: Color **Texture: Color** **Texture: Color**
Color Space: sRGB *Non-Color (Opt. Cubic)* *Non-Color, Linear (Opt. Cubic)*

To BSDF: Base Color **To BSDF: Normal** **To Material: Displ.**



Ambient Occlusion **Specular, Metallic...** **Roughness**

Texture: Color **Texture: Color** **Texture: Color**
sRGB *Non-Color* *Non-Color*



Mix: Multiply **Optional Multiply: Value** **Optional Multiply: Value**
A: Base color B: A.O. *a/o Gamma / ColorRamp / NoiseText*

To BSDF: Base Color **To BSDF: Spec/Meta...** **To BSDF: Roughness**

Tips & tricks

- 1 Remove duplicated vertices, faces or edges. Use **Merge Vertices** → **By Distance**
Solves many workflow problems with transforms, modifiers...
- 2 Apply scale (**Ctrl** + **A**) and other transforms (rotation/location) if needed.
Solves many workflow problems with transforms, modifiers...
- 3 Check Normals. Use **Mesh** → **Normals** → **"Recalculate Outside"** (or **Alt** + **N**) for fixing.
Verify it in checkbox: "Viewport Overlays" → Face orientation
- 4 Check Object origin. Correct it in **Object** → **Set Origin** (select geometry in **Edit Mode** if needed).
Solves many problems with scale, modifiers like Array, Mirror...
- 5 Better use **quads** (4 edges). Avoid **ngons** (+4 edges). Also avoid, if possible, **tris** (3 edges).
- 6 Check **Render** (and other options) icons marked on object/collections in the **Outliner** to your needs.
- 7 Check if **"Snap"**  or **"Proportional editing"**  are activated, causing bad behaviors.
- 8 In **Edit Mode**, check **Options** → **Transform** → **"Correct Faces Attributes"** if needed.
For correctly transform meshes with applied UV map & textures.

Node Wrangler

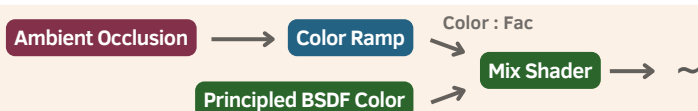
- Ctrl** +  **Disconnect/cut nodes**
- Ctrl** + **O** **Create a Mix node**
Select one or more for auto-mixing
- Alt** +  **Auto-connect nodes**
F **Connect selected nodes**

More shading nodes

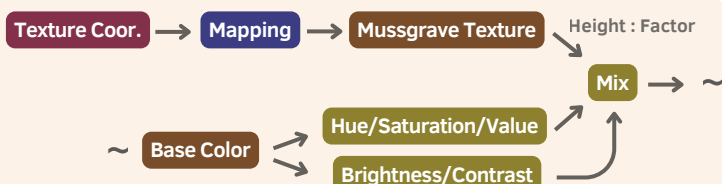
Hue/Saturation/Value & **Brightness/Contrast** : Change texture properties, like color, contrast...

Blackbody : Node for light temperature color, for example in an Emission surface (1500K to 12000K).



Ambient Occlusion : Add shadow in the object folds.
You can add "dirt" or remark this zones with this setup:










Add texture dirt with this setup:



Optimization tips

- 1 File → Clean Up → **Recursive Unused Data-Blocks**
Clean unused materials, textures, images... in the scene.
- 2 Right Click in Collection at Outliner: **Instance to Scene**
Make instances, optimizing the polygon count.
- 3 Use instances (**Alt** + **D**) and share materials in objects whenever possible.
- 4 File → External Data → **Automatically Pack Resources**
Activate for pack textures and resources into the .blend file.
- 5 Modifier: **Decimate**
Optimize polygon count in the scene.
- 6 Add-on: **Material Utilities** →  +  → **Specials** → **Merge Base Names**
Merge duplicated materials used by assets (then, Clean Up).
- 7 Bake textures and reduce model polygon count.
Select blank image and bake type in Render → Bake.
- 8 Use Simplify, **"Persistent Data"** and other options detailed in **"Default file start-up config"**.

Other

-  +  **Walk/fly navigation shortcut** 
 *Or accent grave, depending your keyboard region*
-  *in a menu*: Search in opened menu content
- H** **Hide**  + **H** **Show all hidden**
- Ctrl** + **L** **Link/transfer data**
For copy modifiers to multiple selected objects
-  **Free textures & assets:** bit.ly/sitios-texturas

Interesting basic free add-ons

- Node Wrangler Material Utilities Extra Objects Loop Tools
- Bool Tool Images as Planes ANT Landscape Real Snow
- Scatter Objects Copy Attributes Menu **Easy HDRI ***
- UV Squares *** **BlenderKit *** *All in Preferences → Add-ons, except **

Default file start-up config

- In **Viewport shading**: **Random & Cavity**.
- In **Output**, check **"Render region"**.
- In **Render**
 - Select **Cycles**. Config your samples.
 - In **Eevee** config, check **"Ambient Occlusion"**.
 - **Simplify**: Config to your liking/project, useful.
 - **Performance**: check **"Persistent Data"**.
 - **Color Management**: Choose to your liking.
- In the outliner filters, activate **"Selectable"**.
- In **World**: Set **"Sky Texture"** at 0.130 strength.
- In **Blender preferences**: Up the **"Undo steps"** number and select **Cycles Render Device** if possible.