



transform

G Move
R Rotate
S Scale
E Extrude
Supr Delete (Dissolve vertices, faces, edge loops...)
***Shift + X, Y, Z + ...** Exclude axis on action

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

selection

A Select all **A A** Deselect **↑Shift** Accumulate selection
L Select linked **Ctrl + L** Select linked all
Ctrl + L Select shortest path
Alt + L Select loop
Ctrl + Alt + L Select ring

Ctrl + I Invert selection
C Circle select
Ctrl + + Grow selection
Ctrl + - Shrink selection

modeling

Tab Edit mode ↔ Object mode
↑Shift + S Snap pie menu **Z** Shading pie menu
M Merge **Ctrl + L** 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 (Also "Bisect")
I Inset faces **K** Knife
Ctrl + A Apply transformations
O Toggle proportional editing
↑Shift + Tab Snap tool toggle (Increment, Vertex...)
U UV Mapping menu (Smart UV project, Unwrap, Project from View (Bounds))

viewport

F3 Search function
Isolate object / **+** Zoom in **-** Zoom out
Top 7 **8** **9** **Opposite**
Front 4 **5** **6** **Right**
1 **2** **3**
0 Focus selected
Supr Camera view

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 + L Place cursor
↑Shift + C Reset cursor to origin
↑Shift + M 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)

textures

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

Node wangler (Free Add-on)
Shift + W (Free Add-on)

common actions

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

Color (Albedo)

Texture: Color (Color Space: sRGB) → To BSDF: Base Color

Normal Map

Texture: Color (Non-Color, Opt. Cubic) → Normal Map: Color (Opt. Bump node a/o Height map) → To BSDF: Normal

Displacement

Texture: Color (Non-Color, Linear, Opt. Cubic) → Displacement: Height → To Material: Displ. (Set Displacement & Subdivision adaptive)

Ambient Occlusion

Texture: Color (sRGB) → Mix: Multiply (A: Base color, B: A.O.) → To BSDF: Base Color

Specular, Metallic...

Texture: Color (Non-Color) → Optional Multiply: Value → To BSDF: Spec/Meta...

Roughness

Texture: Color (Non-Color) → Optional Multiply: Value (a/o Gamma / ColorRamp / NoiseText) → To BSDF: Roughness



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

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

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** →  + **Q** → **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/recursos-3d

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.