

Blender Modelling

Navigation 01

Orbit view	MMB
Pan view	Shift + MMB
Zoom	Scroll
Dolly zoom	Ctrl + MMB
Front view	Num 1
Side view	Num 3
Top view	Num 7
Opposite side	Ctrl + Num 1/3/7
Toggle Ortho / Persp	Num 5
Camera view	Num 0
Frame selected	Num .
View pie menu	,

No numpad? **Edit** → **Preferences** → **Input** → **Emulate Numpad**.

Selection 02

Select / pick	LMB
Add to selection	Shift + LMB
Select all	A
Deselect all	Alt + A
Invert selection	Ctrl + I
Box select	B
Circle select	C scroll = size
Linked (hover)	L
All linked	Ctrl + L
Edge / face loop	Alt + LMB
Loop ring	Ctrl + Alt + LMB
Shortest path	Ctrl + LMB

EditPress **1/2/3** for vertex/edge/face select.

Transform 03

Grab / move	G
Rotate	R
Scale	S
Constrain to axis	X / Y / Z
Exclude axis	Shift + X/Y/Z
Local axis	press X/Y/Z twice
Type exact value	1...9
Fine adjust	hold Shift
Snap during move	hold Ctrl
Double tap rotate	R R trackball
Confirm / Cancel	Enter / Esc
Apply transforms	Ctrl + A

Workflow: G → Z → 2 → Enter moves 2m up.

Modes & Objects 04

Object ↔ Edit toggle	Tab
Mode pie menu	Ctrl + Tab
Vertex / Edge / Face	1 2 3
Add menu	Shift + A
Delete menu	X or Del
Duplicate	Shift + D
Linked duplicate	Alt + D
Join objects	Ctrl + J
Separate (Edit)	P
Parent / Unparent	Ctrl + P / Alt + P
Hide / Unhide	H / Alt + H
Local view (isolate)	/

Edit Mode — Mesh Operations 05

Extrude	E
Extrude along normals	Alt + E
Inset face	I
Inset individual	I I
Bevel	Ctrl + B scroll = segments
Bevel vertices	Ctrl + Shift + B
Loop cut	Ctrl + R scroll = cuts
Knife cut	K + Z = through
Subdivide	right-click → Subdivide
Fill (make face)	F
Grid fill	Ctrl + F → Grid Fill
Bridge edge loops	Edge menu → Bridge

Merge	M
Merge by distance	M → By Distance
Split / Rip	Y / V
Connect vertices	J
Recalculate normals	Shift + N
Flip normals	Mesh → Normals → Flip
Smooth / Flat	right-click → Shade Smooth shade
Mark seam / sharp	Edge menu
Proportional edit	0 scroll = radius
Toggle X-Ray	Alt + Z
Wireframe / Solid	Shift + Z

Snap, Pivot & Cursor 06

Snap menu (pie)	Shift + S
Toggle snap	Shift + Tab
Snap during move	hold Ctrl
Selection → Cursor	Shift + S → SC
Cursor → Selection	Shift + S → CS
Cursor → World Origin	Shift + S → 1
Pivot point (pie)	. (period)
Origin to Geometry	Object → Set Origin
Transform orientation	, (comma)

Pro tip: set pivot to 3D Cursor, snap cursor to a vertex, rotate around it.

3D Printing Workflow 07

Set units to mm	Scene Props → Units
Apply scale before export	Ctrl + A → Scale
Apply all transforms	Ctrl + A → All
Recalculate normals out	Shift + N
Check inside normals	Shift + Ctrl + N
Merge by distance	M → By Distance
Export STL	File → Export → STL
Export 3MF	File → Export → 3MF

Modifiers 08

Open modifier panel	Properties
Subdivision Surface	Ctrl + 1...5
Toggle in viewport	eye icon on modifier
Apply modifier	Ctrl-A on modifier
Reorder modifiers	drag handle

Workflow Essentials 09

Undo / Redo	Ctrl + Z / Ctrl + Shift + Z
Search menu	F3
Repeat last action	Shift + R
Last-op panel	F9 bottom-left
Save / Save As	Ctrl + S / Shift + S
Save incremental	Ctrl + Alt + S
Quit	Ctrl + Q
N panel (transform info)	N
T panel (toolbar)	T
Fullscreen area	Ctrl + Space
Maximize area	Ctrl + Alt + Space

Viewport & Display 10

Wireframe shading	Z → Wire
Solid shading	Z → Solid
Material preview	Z → MatPrev
Rendered preview	Z → Rendered
Toggle X-Ray	Alt + Z
Toggle overlays	overlay icon
Hide gizmos	gizmo icon
Split / join area	right-click corner
Resize area	drag edge

Quad view: Ctrl + Alt + Q — four orthographic panels.