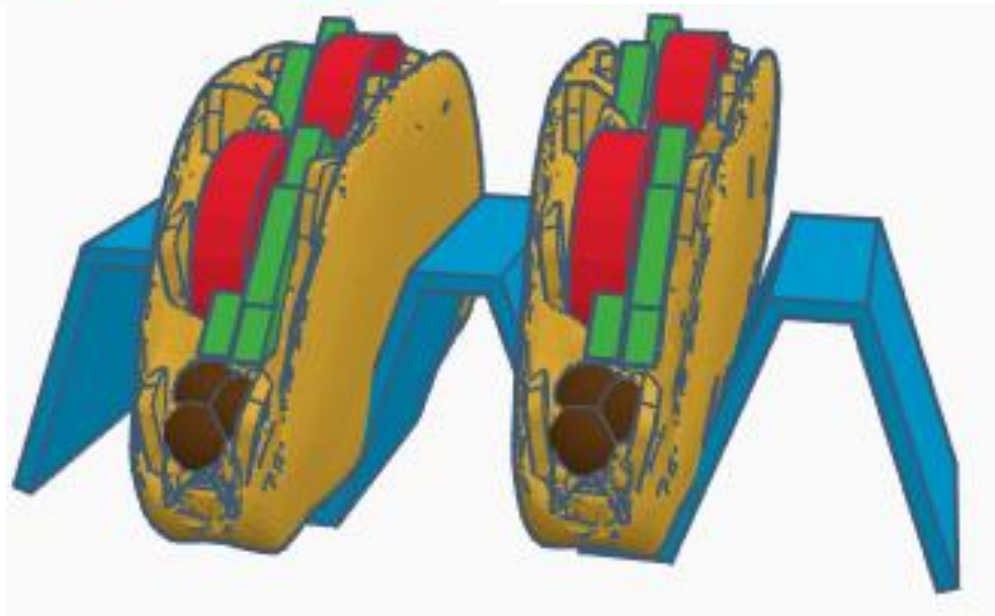
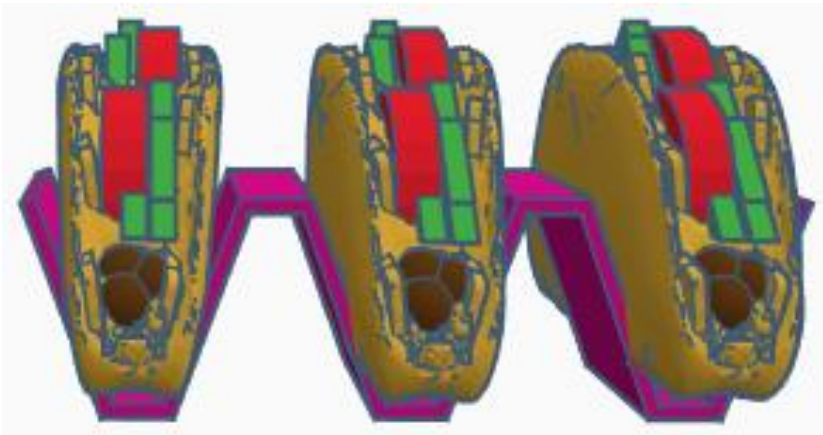




Taco Holder Project



Contents:

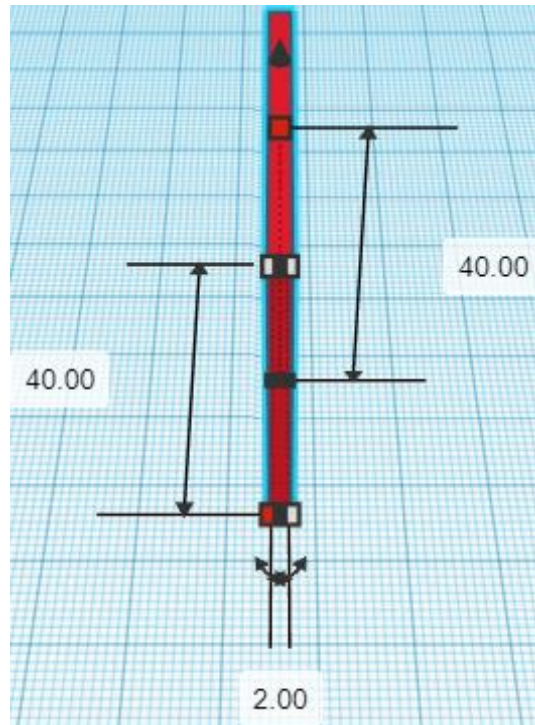
Cover.....	1
Table of Contents.....	2
Top Side.....	3
Bottom Side	9
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Tool Guide.....	13

Taco Holder:

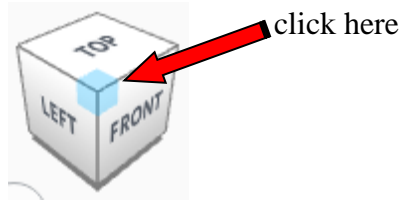
Top Side:

Bring in a Box, located in Basic Shapes on the left 2 shapes down.
From now on this will be called the **Top Left Side**.

Change the dimensions to
2mm X direction,
40mm Y direction, and
40mm Z direction.

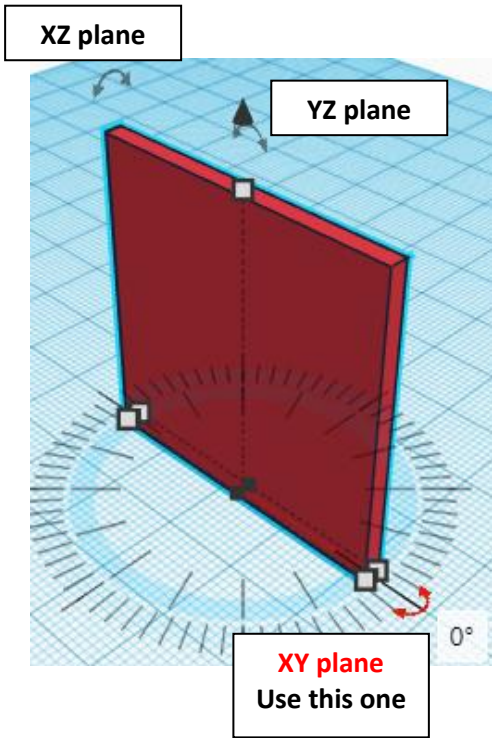


Go to TOP LEFT FRONT view for rotations

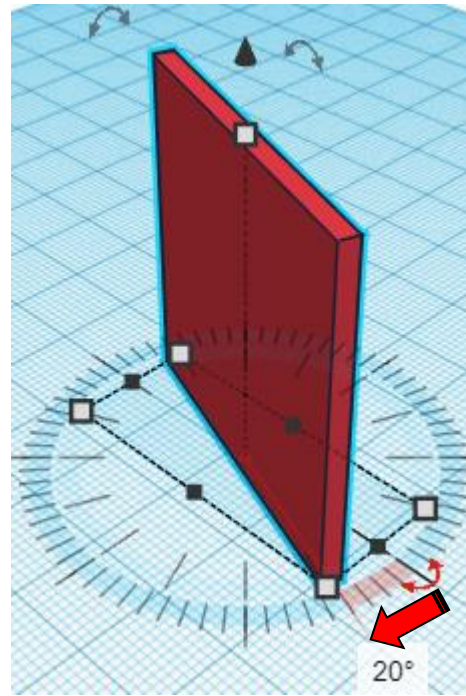


Rotate the Top Left Side clockwise 20 degrees in XY plane.

Before



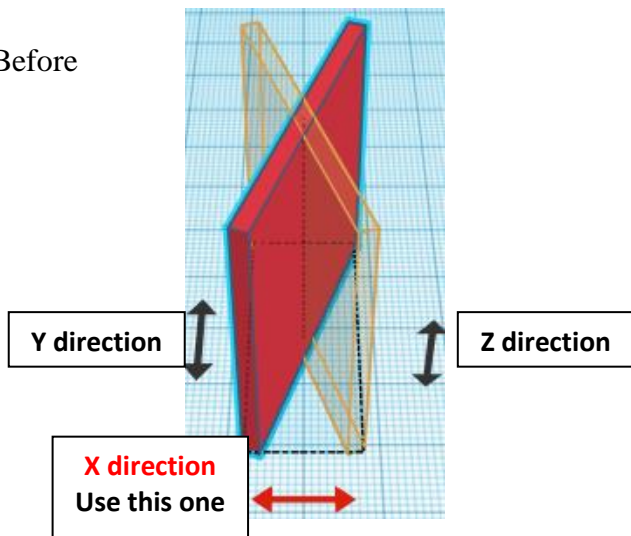
After



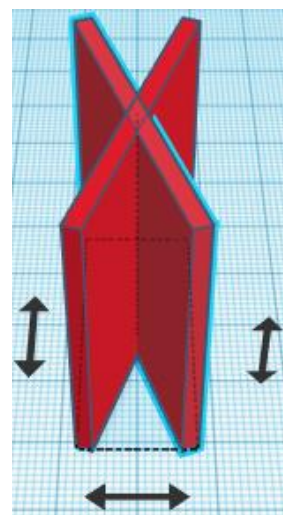
Duplicate Top Left Side 1 time

Flip Top Left Side in X direction.

Before



After

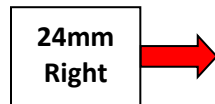
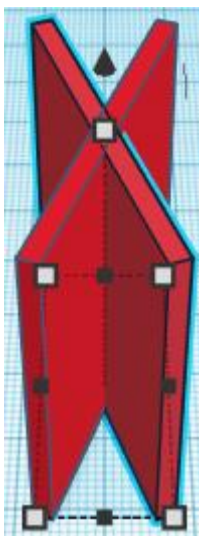


From now on this new flipped part will be called the **Top Right Side**

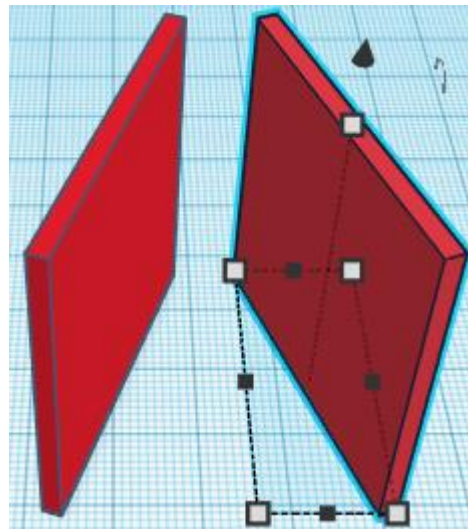
Move Top Right Side (Must be in home view for this to work!)
move right in positive X direction 24mm

Hint: Select Top Right Side and push right arrow key 24 times.
Or
Select Top Right Side and hold shift and push right arrow key 2 times,
then release shift and push right arrow key 4 more times.

Before



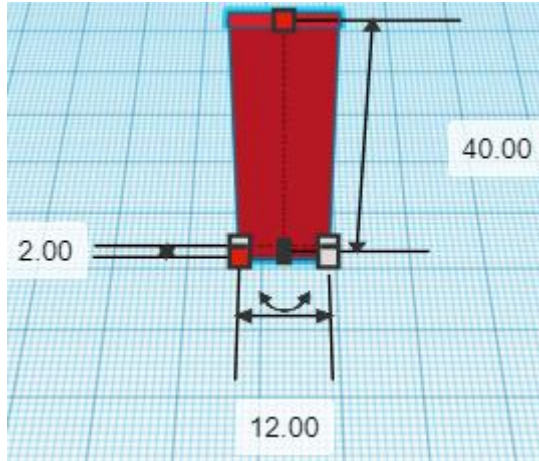
After



Group Top Left Side and Top Right Side
From now on this will be called the **Top Side**

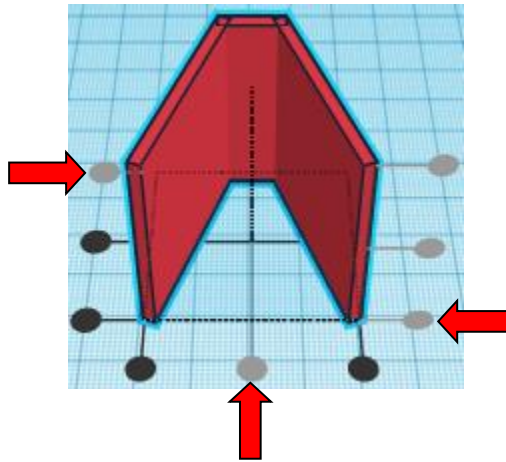
Bring in a Box, located in Basic Shapes on the left 2 shapes down.
From now on this will be called the **Top of Top Side**.

Change the dimensions to
12mm X direction,
2mm Y direction, and
40mm Z direction.



Align Top Side and Top of Top Side

centered in X direction,
back in Y direction, and
bottom in Z direction.



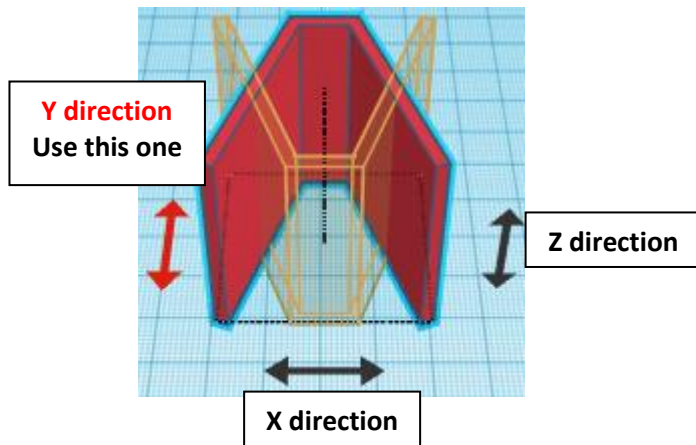
Group Top Side and Top of Top Side

From now on this will be called the **Top Side**

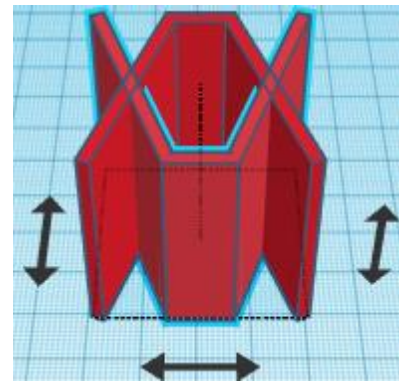
Duplicate Top Side 1 time

Flip Top Side in Y direction.

Before



After



From now on this new flipped part will be called the **Bottom Side**

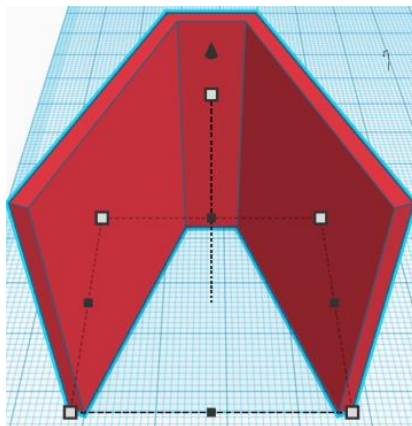
Move the Bottom Side off to the side for now.

Duplicate Top Side 1 time

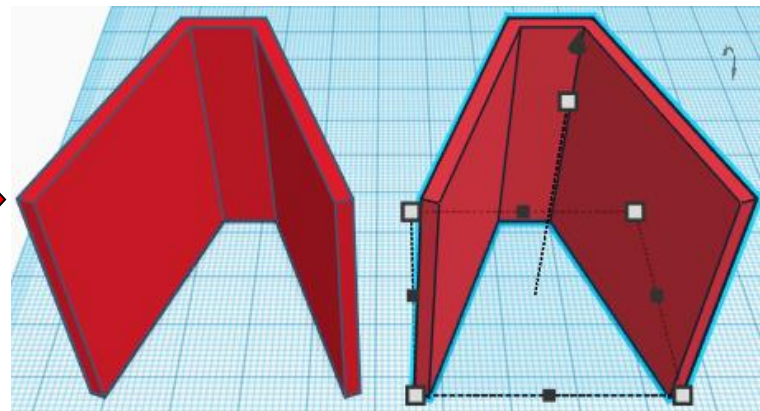
Move Top Side (Must be in home view for this to work!)
move right in positive X direction 48mm

Hint: Select Top Side and push right arrow key 48 times.
Or
Select Top Side and hold shift and push down arrow key 4 times,
then release shift and push right arrow key 8 more times.

Before



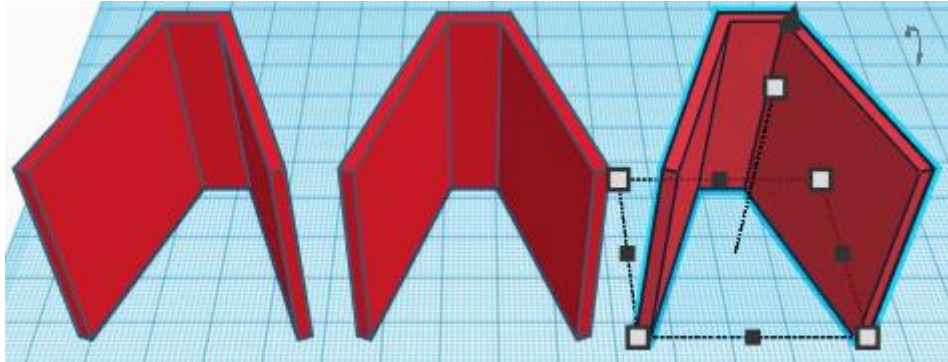
48mm
Right



After

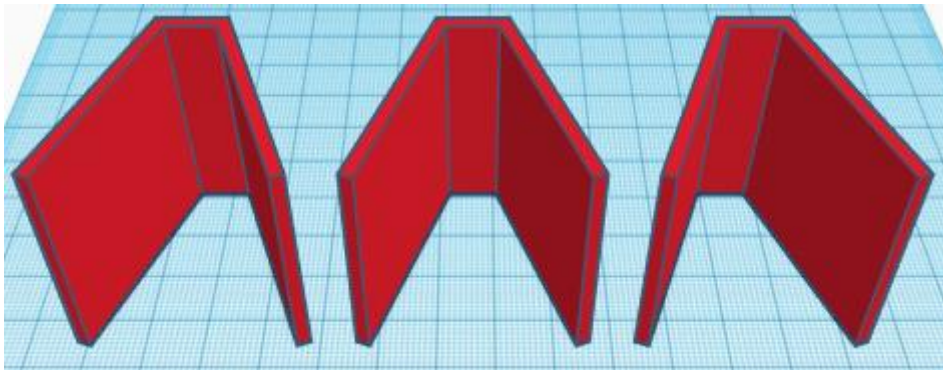
Immediately push ctrl-d 1 time to repeat this process once.

(If you don't immediately push ctrl-d,
then do the duplicate and move the Top Side again,
1 more time.)



Group Top Side and Top Side Duplicates

From now on this will be called the **Top Side**



You are done with the Top Side for now, set it off to the side and bring the Bottom Side to the work area.

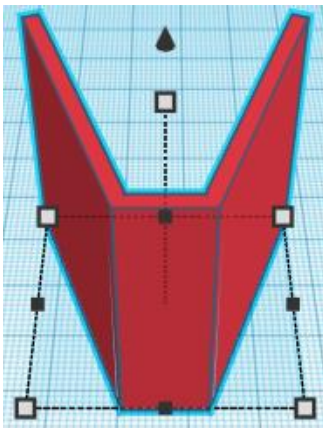
Top Bottom:

Duplicate Bottom Side 1 time

Move Bottom Side (Must be in home view for this to work!)
move right in positive X direction 48mm

Hint: Select Bottom Side and push right arrow key 48 times.
Or
Select Bottom Side and hold shift and push right arrow key 4 times,
then release shift and push right arrow key 8 more times.

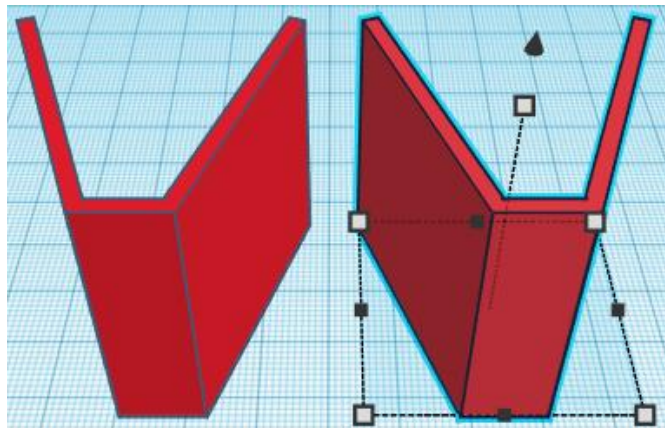
Before



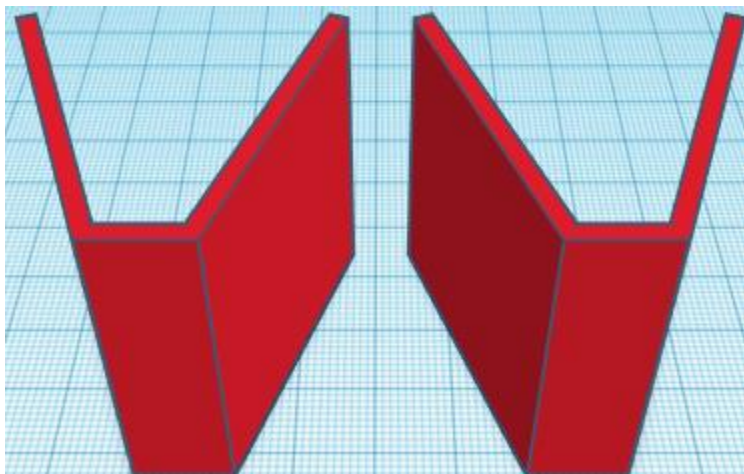
48mm
Right



After

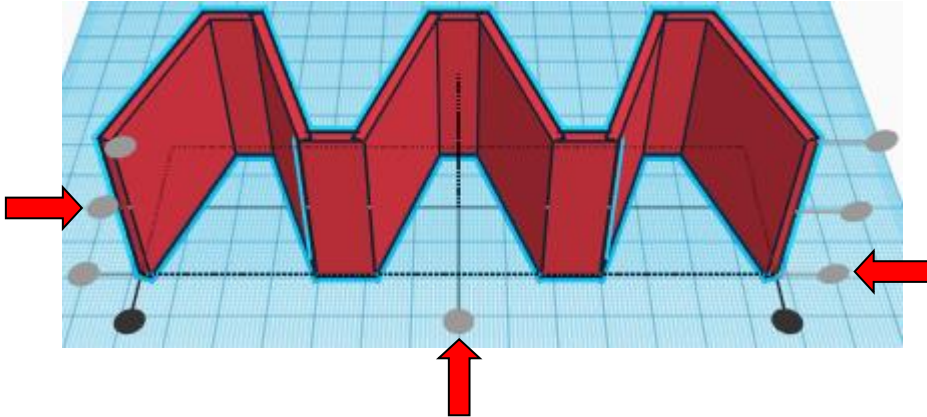


Group Bottom Side and Bottom Side Duplicates
From now on this will be called the **Bottom Side**



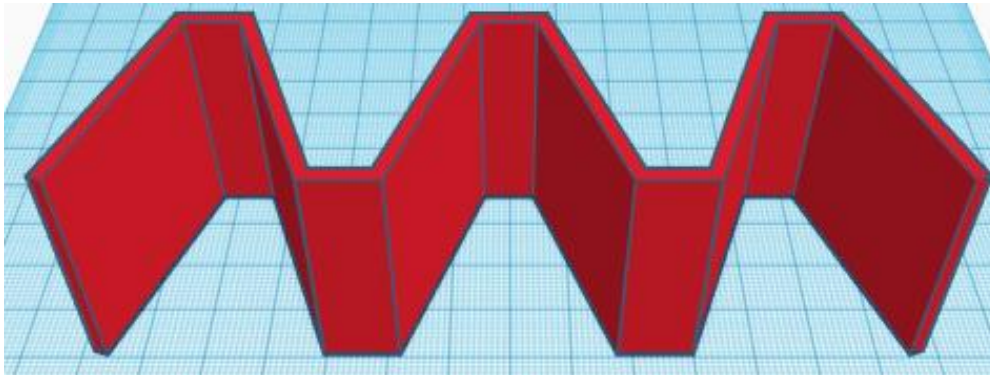
Align Top Side and Bottom Side

centered in X direction,
centered in Y direction, and
bottom in Z direction.



Group Top Side and Bottom Side

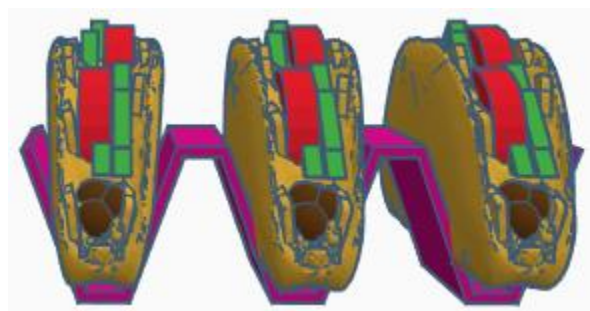
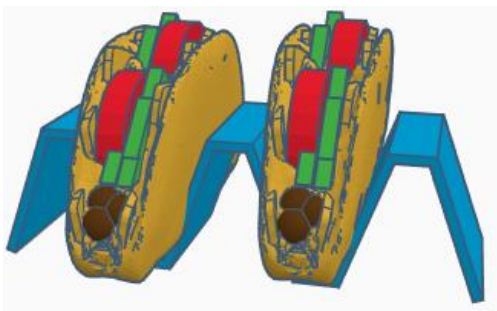
From now on this will be called the **Taco Holder**



You're are done! Print and get some tacos!

Stand one way to hold two tacos or flip over to hold three tacos!!

Enjoy

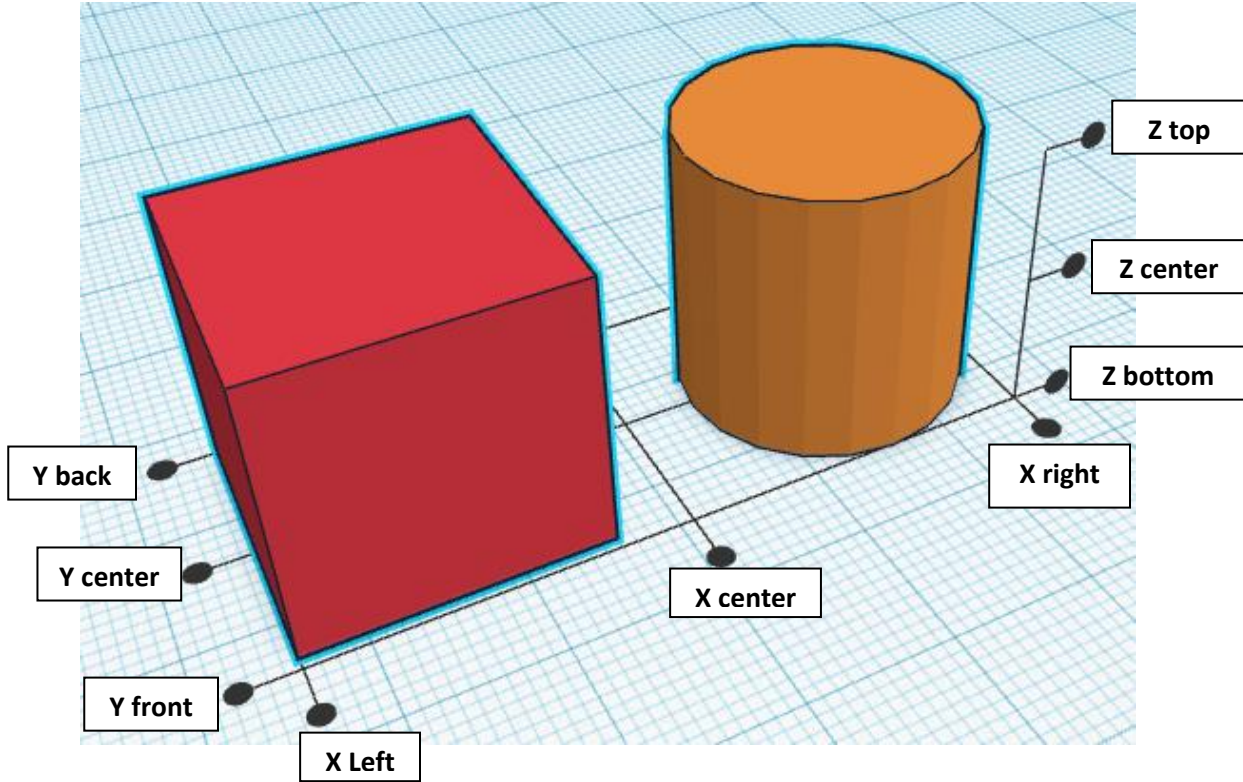


Reference to Aligning, Flip direction, Move direction, and Rotate direction.

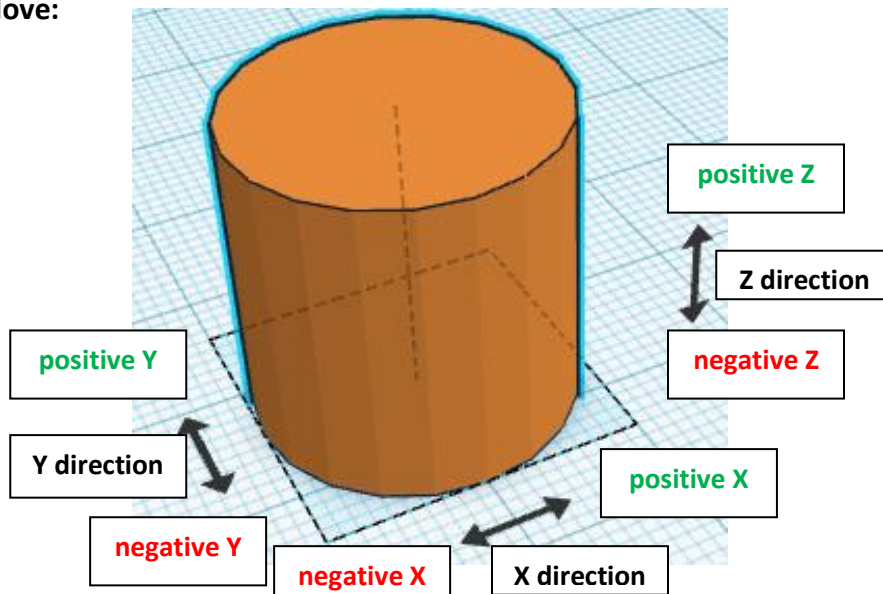
Always be in the "home view" when doing any of these!!!



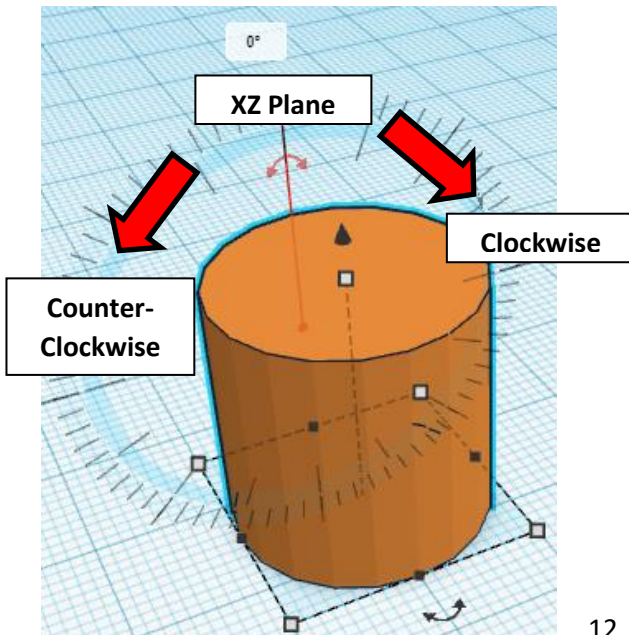
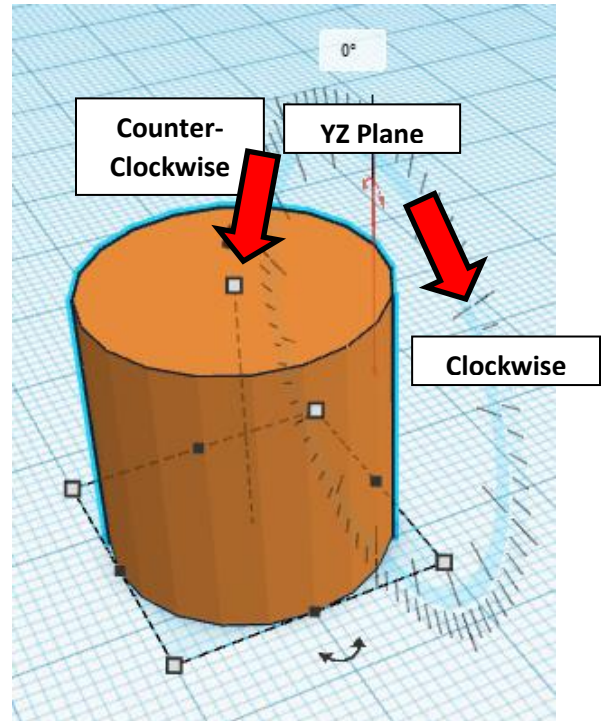
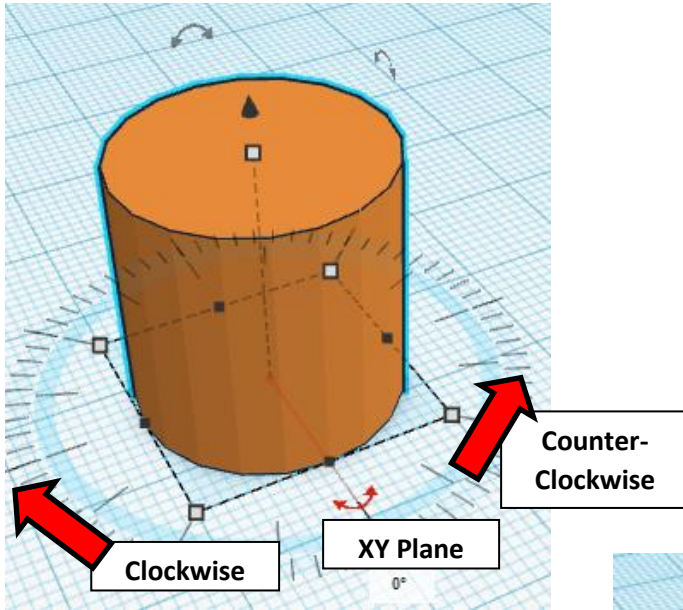
Aligning:



Flip or Mirror and Move:



Rotate:



Tool Guide

Most used Keyboard Shortcuts:

Transparency toggle	T	Duplicate object(s) in place.	Ctrl + D
Turn object(s) into Holes	H	Delete object(s)	Del
Turn object(s) into Solids	S	Undo action(s)	Ctrl + Z
Align object(s)	L	Zoom the view in or out	Mouse scroll wheel
Flip/Mirror object(s)	M	Zoom-in	+
Drop object(s) to workplane	D	Zoom-out	-
		Fit selected object(s) into view	F

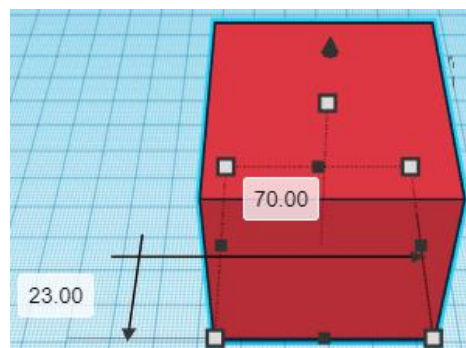
Moving Object(s):

To move object(s) with mouse:

In XY Plane
(left/right and forward/ backward)

Click and hold left mouse button on object.

Move mouse to desired location.

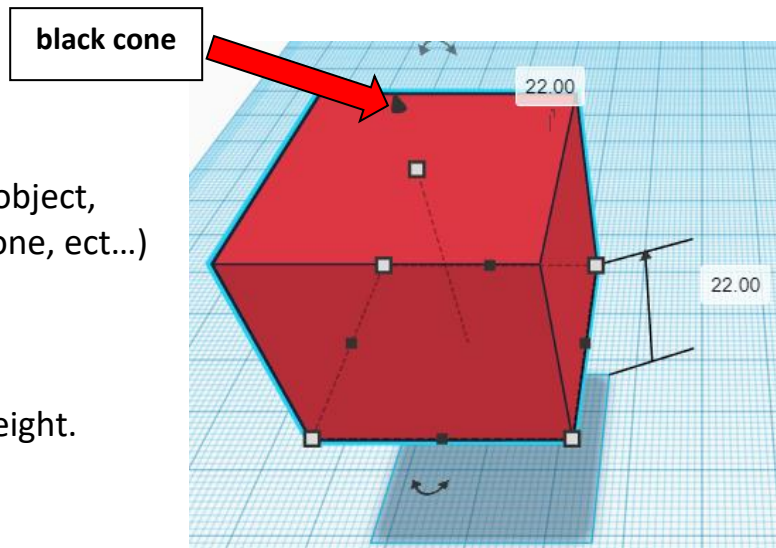


Moving Object(s) continued:

In Z direction (up/down)

Select object with left mouse button.
Notice that several shapes appear on object,
(white squares, black squares, black cone, ect...)

Click and hold left mouse button
on the black cone at top of object.
Move mouse up or down to desired height.



To move object(s) with keyboard:

In XY Plane (left/right and forward/ backward)

Select object with left mouse button.

Use arrow keys to move the object in 1mm increments.



In XY Plane (fast) (left/right and forward/ backward)

Select object with left mouse button.

Hold shift key
and use arrow keys to move the object in 10mm increments.



Moving Object(s) continued:

In Z direction (up/down)

Select object with left mouse button.



Hold control button
and use up and down arrow keys to move the object in 1mm increments.

In Z direction (fast) (up/down)

Select object with left mouse button.

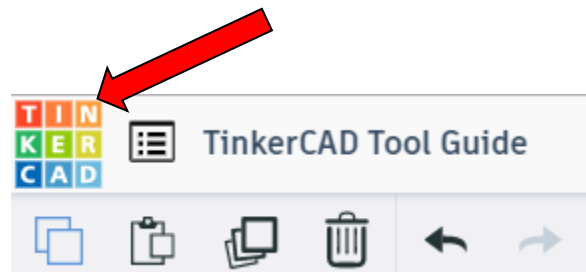


Hold control button and hold shift button
and use up and down arrow keys to move the object in 10mm increments.

Using on screen icons:

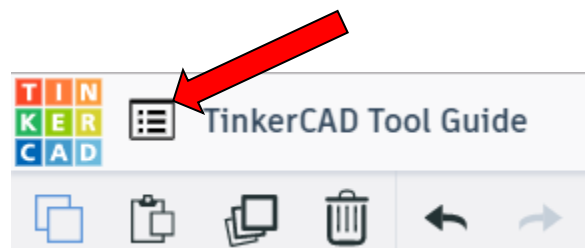
TinkerCAD main screen:

(I know this doesn't look
like an icon button, but it is)



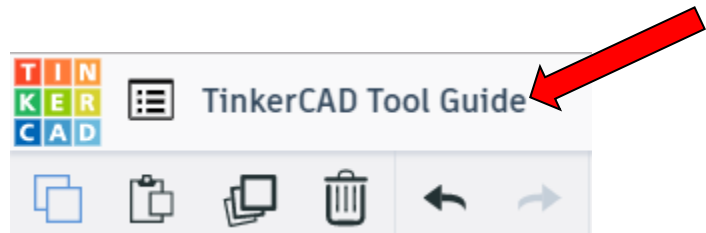
My designs:

Pulls up menu of your designs.



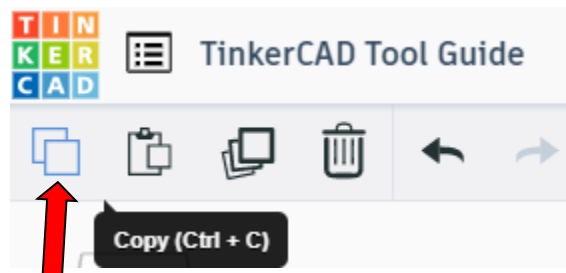
Design name:

TinkerCAD automatically names your design a random name.
Click here to change your design name.



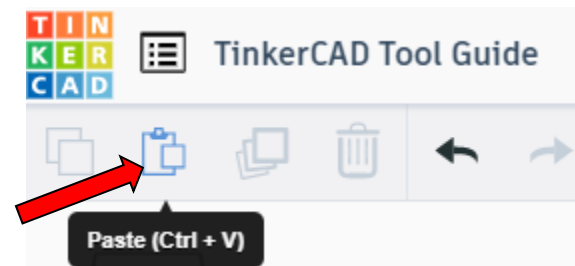
Copy:

Select shape.
Click copy or use ctrl + c
Paste to copy or go into new design and paste to copy.



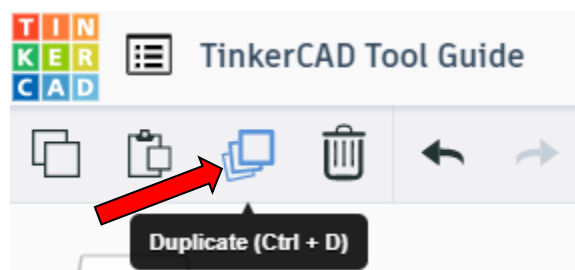
Paste:

After using copy,
click paste or use ctrl + v to paste.



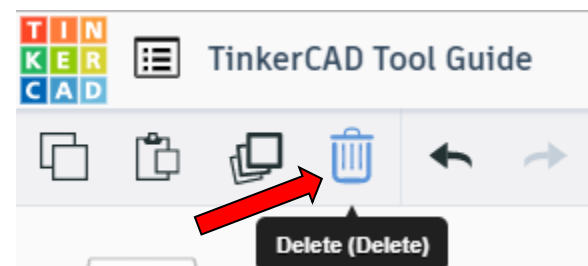
Duplicate:

Similar to copy, but can't copy to other designs.
Select shape.
Click duplicate or use ctrl + d
It will appear as if nothing happened, but if you move the shape you will see then duplicate underneath.



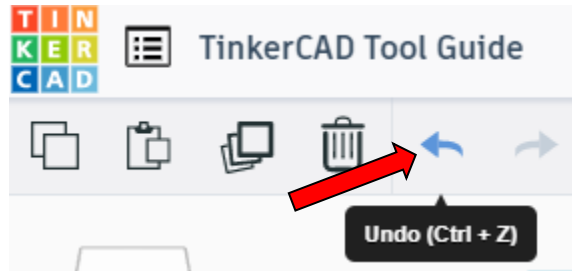
Delete:

Select shape.
Click delete or delete key.



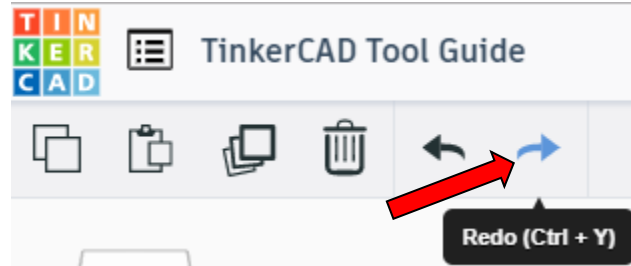
Undo:

Click undo or use ctrl + z
This will undo your last command.
This can be repeated.



Redo:

Click redo or use ctrl + y
This will redo your last undo command,
can only be used after using the
undo command.



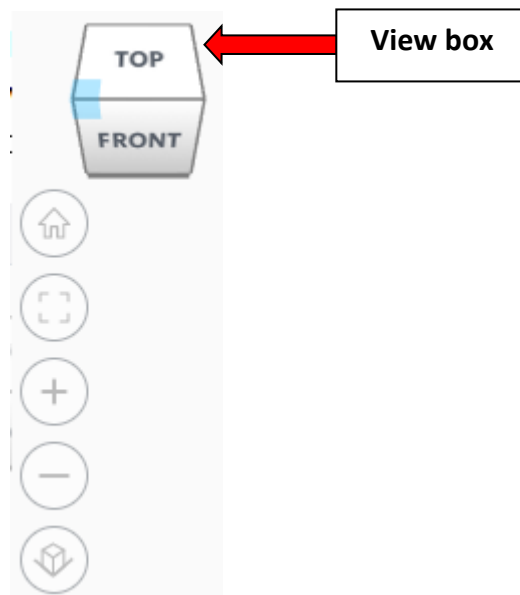
Change View:

To change view with mouse:

Right click and hold anywhere in work area. While holding right mouse button move mouse.
This will change the view of the work area.

To change view with icons:

Left click on view box.
Where you click determines
the view shown.

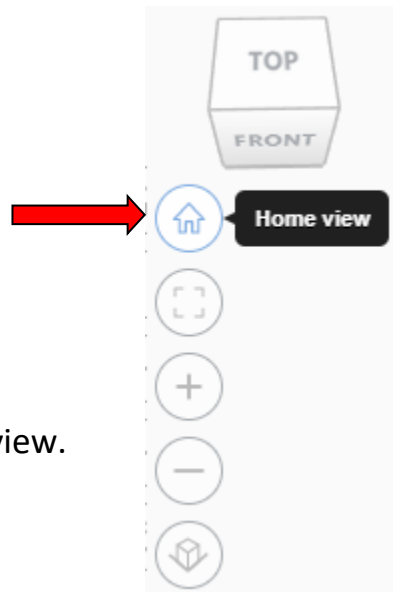


Change view to home view:

Most TinkerCAD Tutorials only work while in home view.

Click on home view icon to go to the home view.

You can also use the view box between the top and front view to change to the home view.



Fit all in view:

If you lose an object off the screen, you can click on Fit all in view to un-zoom to see all objects.

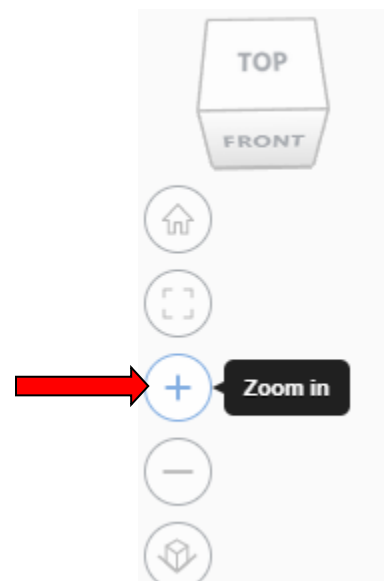
Fit one or more object(s) in view:

If you want to only see one or more object(s) in the view then select the object(s) and click Fit all in view or click the "f" key. This will zoom in on the object(s).



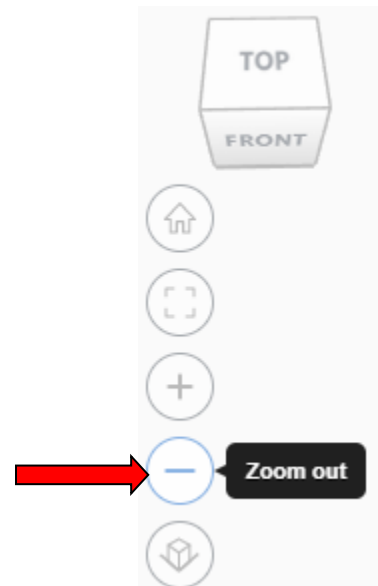
Zoom in:

Click the Zoom in icon or click the "+" key to zoom in.



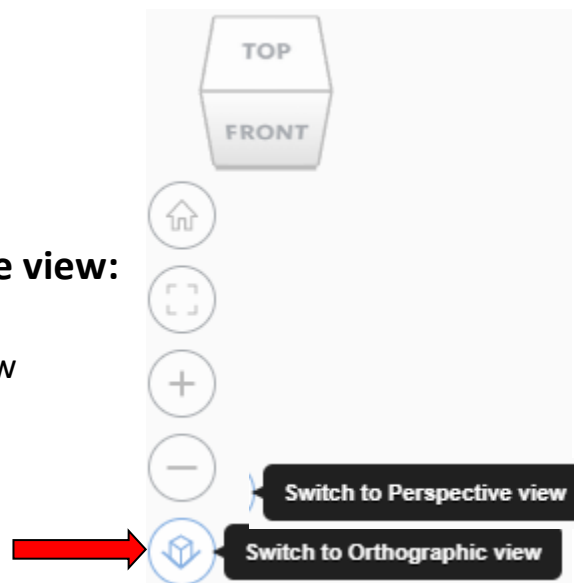
Zoom out:

Click the Zoom out icon or click the “-” key to zoom out.



Switching to orthographic and perspective view:

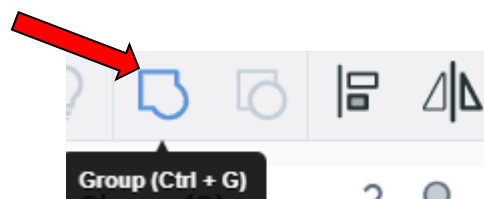
Click the Switch to orthographic/perspective view
To change to your preferred view.



Group:

To combine two or more objects into one object.

Select the objects to combine and click the
Group button or click ctrl + G



Ungroup:

After group objects, this will ungroup the object
back to separate objects.

Select the objects to ungroup and click the
ungroup button or click ctrl + shift + G



Align:

To perfectly center objects to each other or
To line up objects along their edges then use align.

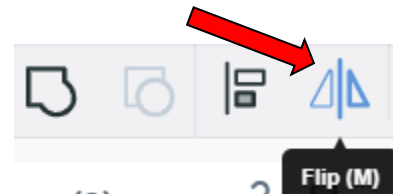
Select the objects to align and click the
align button or click "L"



Flip (Mirror):

This is mainly used for symmetric builds,
you create one half, duplicate it, then flip it
and move it in place and group it.

Select the objects to flip and click the
flip button or click "M"



Full list of Keyboard Shortcuts

MOVING OBJECT(S)

(Using keyboard)

Move along X/Y axis	← / ↑ / ↓ / →
Move along Z axis	Ctrl + ↓ / ↑
×10 Nudge along X/Y axis	Shift + ← / ↑ / ↓ / →
×10 Nudge along Z axis	Ctrl + Shift + ↓ / ↑

KEYBOARD + MOUSE SHORTCUTS

(Press and hold the keys, then click and drag the mouse)

Duplicate dragged object(s)	Alt + Drag left mouse button
Select multiple object(s)	Shift + Left mouse button
45° rotation	Shift (Hold while rotating)
Scale in one direction	Alt + Hold side handle
Scale in two directions	Alt + Hold corner handle
Uniform scale	Shift + Hold corner handle
Uniform scale in all directions	Alt + Shift + Corner handle
Uniform scale in all directions	Alt + Shift + Top handle

VIEWING DESIGNS

(With the help of a mouse or a mouse pad)

Orbit the view	Right mouse button
Orbit the view	Ctrl + Left mouse button
Pan the view	Shift + Right mouse button
Pan the view	Ctrl + Shift + left button
Zoom the view in or out	Mouse scroll wheel
Zoom-in	+
Zoom-out	-
Fit selected object(s) into view	F

OBJECT SETTINGS

Transparency toggle	T
Turn object(s) into Holes	H
Turn object(s) into Solids	S
Lock or Unlock object(s)	Ctrl + L
Hide object(s)	Ctrl + H
Show all hidden object(s)	Ctrl + Shift + H

TOOLS AND COMMANDS

Copy object(s)	Ctrl + C
Paste object(s)	Ctrl + V
Duplicate object(s) in place.	Ctrl + D
Delete object(s)	Del
Undo action(s)	Ctrl + Z
Redo action(s)	Ctrl + Y
Redo action(s)	Ctrl + Shift + Z
Group object(s)	Ctrl + G
Un-group object(s)	Ctrl + Shift + G
Align object(s)	L
Flip/Mirror objects(s)	M
Select all object(s)	Ctrl + A
Place a Ruler	R (Shift toggle midpoint/center)
Place a Workplane	W (press Shift to flip direction)
Drop object(s) to workplane	D