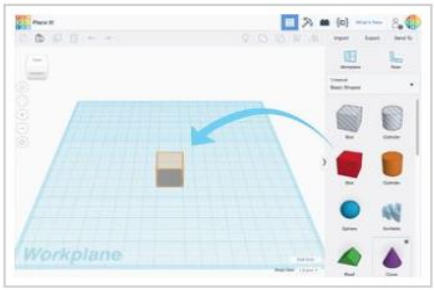
1. Place It!

Welcome to Tinkercad, we are excited to have you with us!

Tinkercad is used to build all types of creations by adding and removing shapes from the design workspace.

Let's add a shape to the Workplane now!



1. Find the shape you want in the shapes panel on the right side of the screen.

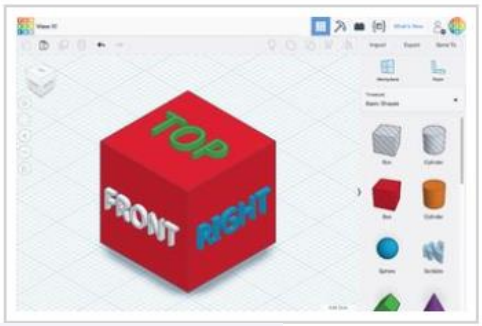
2. Left click and drag the shape on the workplane.

2. View It!

While creating designs it helps to see your shapes from all sides.

The ViewCube (located at the top left of Tinkercad) will help you looking around.

Let's learn how you can change your view.



1. Just left-click and drag anywhere on the ViewCube and see how it changes the point of view.

2. Try clicking different areas of the ViewCube to rotate the design to match.

OR:

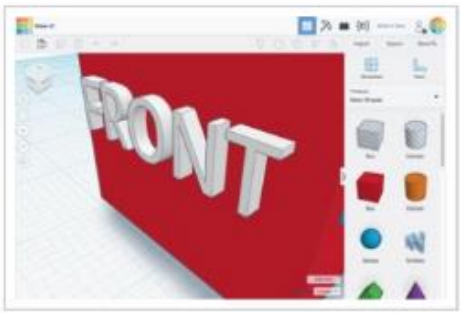
1. Press and hold the right mouse button while moving your mouse to practice rotating your view of the design.

2. If you want to use your touchpad, you can either press Ctrl and left click while you drag, or simply right click and drag if you have your touchpad set up for accepting right clicks.

3. Learn to Zoom

From time to time, it helps to take a closer look at your design.

Practice zooming in and out.

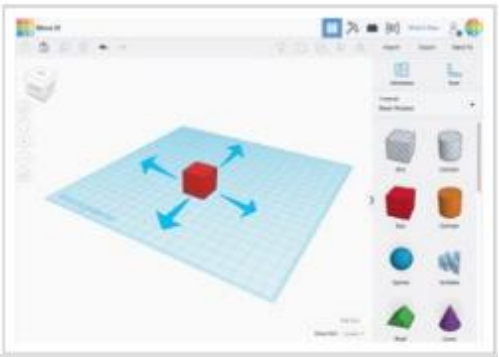


1. If you have a mouse with a scroll wheel, use it for zooming in and out.

2. If you use a touchpad, you will zoom using the gesture that you normally use in other apps when wanting to zoom.

4. Move It!

Let's move shapes around the workplane.

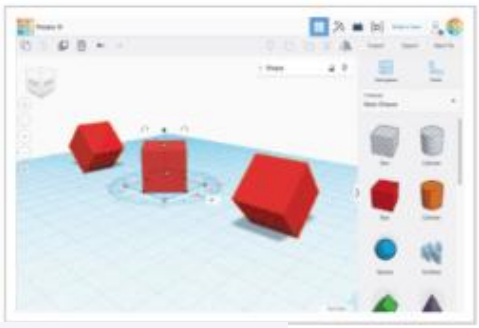


Left click and drag the shape to move it.

5. Rotate Each Box

Rotate (spin) each of the Box shapes match the hint.

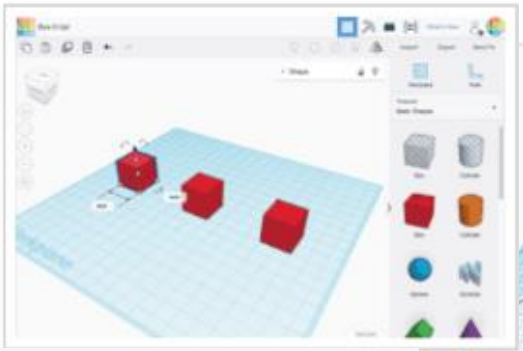
Let's get started!



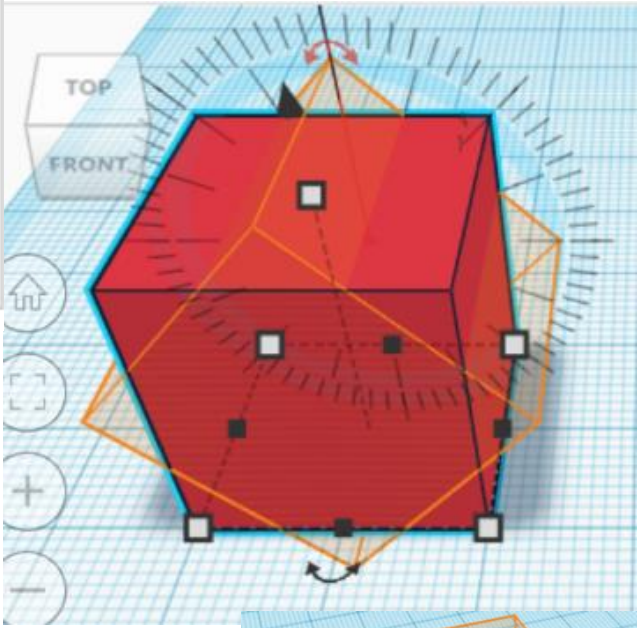
1. Select a Box by left clicking on the shape.
2. This will enable the shape handles.
3. Rotate your view to get the best view of the curved rotation handles.
4. Use the curved arrows to rotate each shape 45 degrees

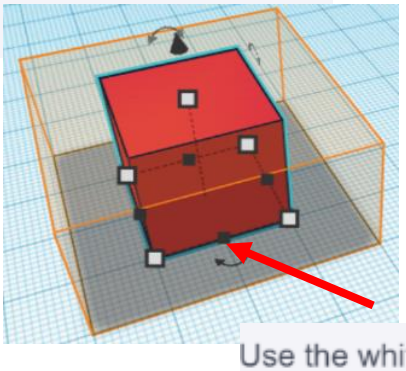
6. Size It Up!

Let's make a change to the the basic box shape by sizing it up!

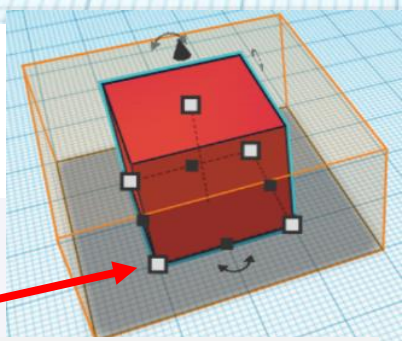


Use the black handles on the bottom edge of each shape to size the shape in a single direction.



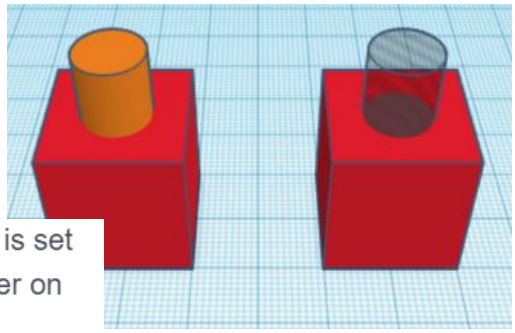


Use the white handles on the bottom corners to size in two directions at once.



Holding the SHIFT button, you aspect the ratio.

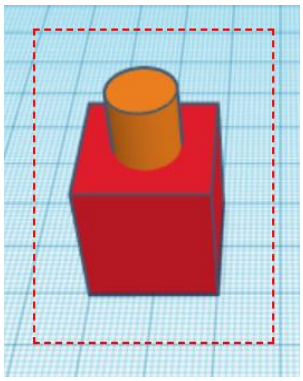
Group It! 7.



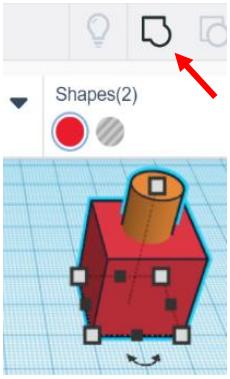
Building with Basic Shapes is a lot of fun, but did you know you can combine shapes to create new ones?

The cylinder shape on the left is set to an orange color. The cylinder on the right is set to be a hole.

Let's see what happens when we group a box with each of these shapes.

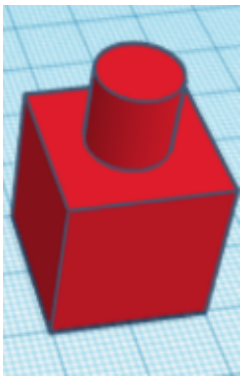


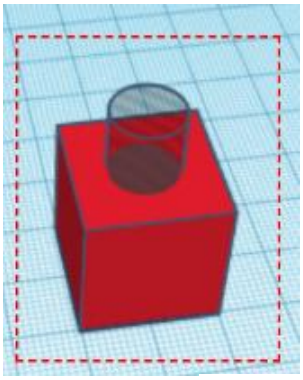
Select both shapes by using left mouse button.



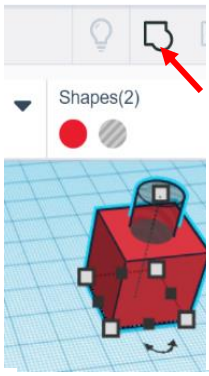
Click the Group button on the toolbar.

The two shapes should both turn the same color.



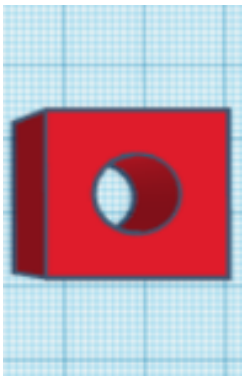


Select both shapes by using left mouse button.



Click the Group button on the toolbar.

The cylinder should make a hole in the red box shape.

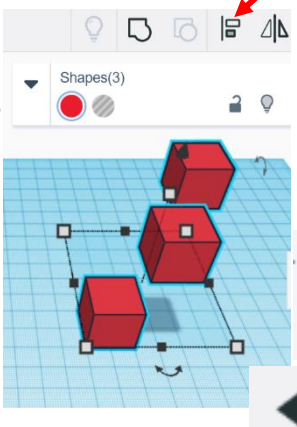


Align It! 8.

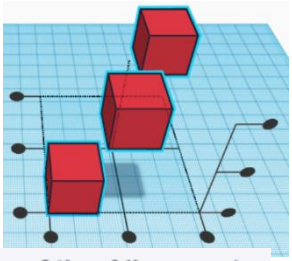
While building you may need to line up shapes.

Let's try aligning some shapes.

Select all shapes by using left mouse button.



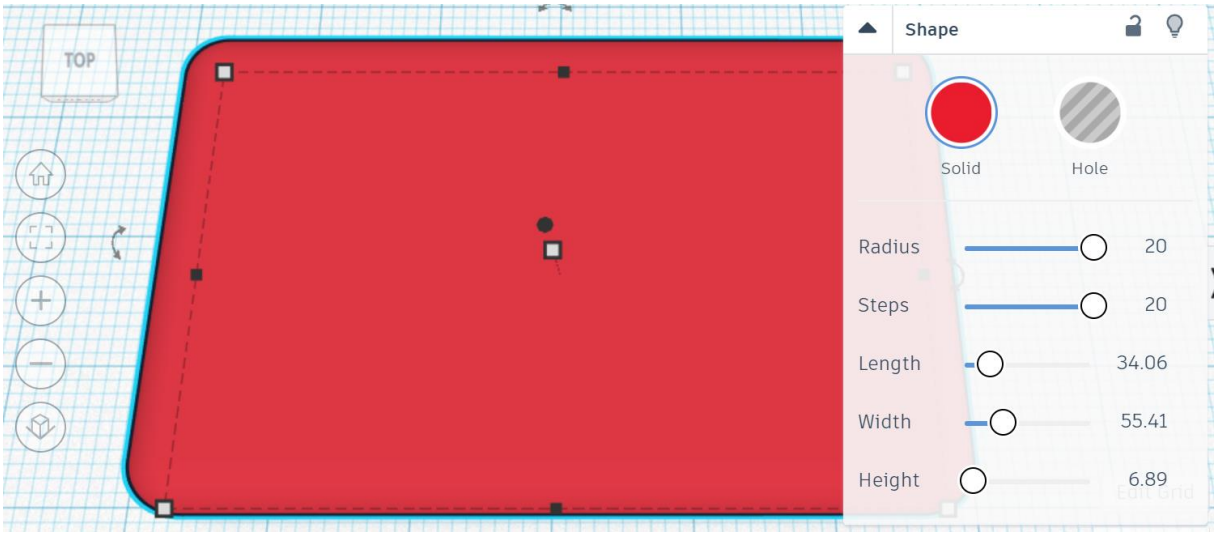
Click the Align button on the toolbar.



Clicking on any of the Alignment handles will move the shapes into the align position.

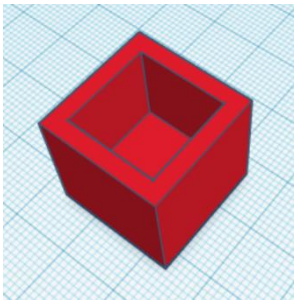
The undo button on the toolbar will let change back to the original position if needed.

9. How to change properties of shape?



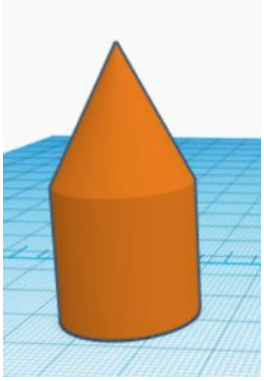
10. Example 1:

a) create the box: length, width and height – 20
b) create second box: l, w and h – 15, place it above the workplane: 5
    a. set it like a hole
c) align objects centre and centre
d) group the objects



11. Example 2:

a) create the cylinder: sides 64; l, w, and h – 20
b) create cone: sides 64; w – 20, place it above the workplane: 20
c) align objects centre and centre
d) group the objects



12. Example 3 - keychain:

a) create the box: length – 30, width – 15, height – 4
    a. set the radius – 20
    b. set the steps as you like
b) put a text: write your name (ideally max 5 letters)
    a. place it above the workplane: 2
    b. length – 20, width – 10, height – 2
    c. set it as a hole
    d. align the objects centre and quite right
    e. group the objects
c) create the cylinder: width and length – 3, height – 20
    a. set it as a hole
    b. place it under the workplane: -8
    c. align the hole to left upper corner
    d. group the objects