Creating a Custom Phone Stand in Tinkercad
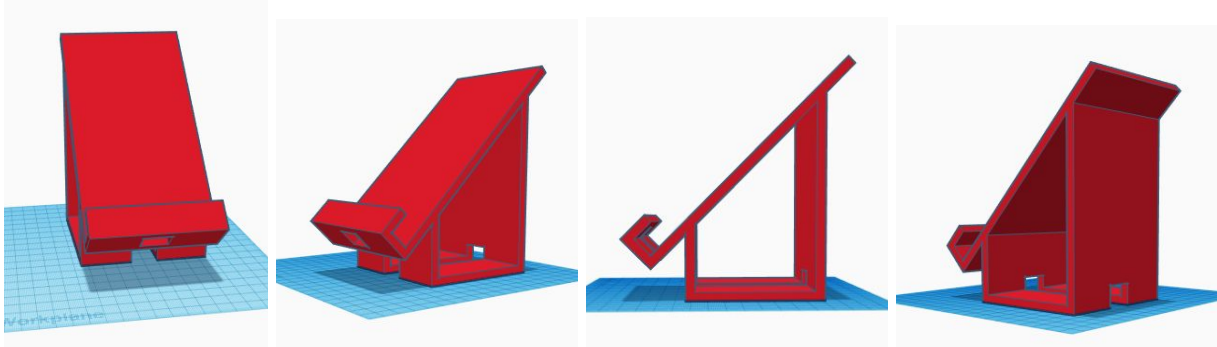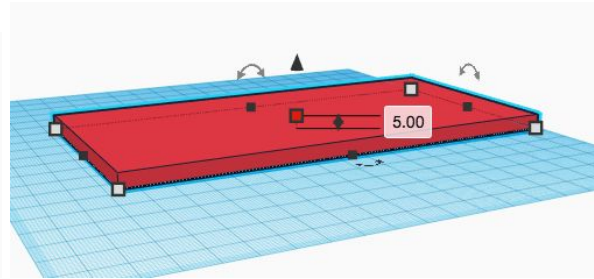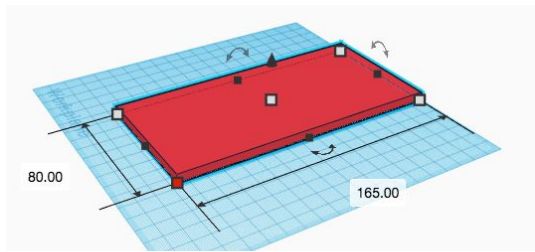

Before You Begin

1. Sign in to Tinkercad.com and click the Create New Design button
2. Brainstorm about how you would like your stand to look. Check out existing designs at Thingiverse.com.
3. Measure the height, width, and thickness of your phone (in its case if you use one!) in mm.
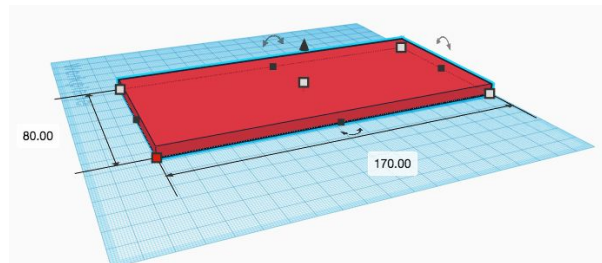

Creating Your 3D Design

1. **Create the back of the stand**
   a. Drag and drop a box onto the workplane
   b. Adjust the length and width to match your phone's measured dimensions and add 5 mm to each dimension.
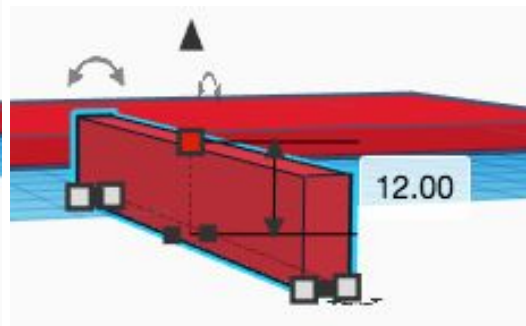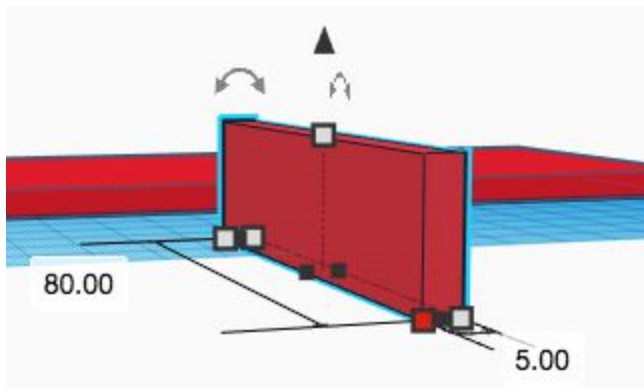   c. Decide how thick you want the back to be (5 mm is a good start)

d. Add the thickness of the back to the length of the back. For example, if your back is 165 mm long and you've made it 5mm thick, change the length to 170 mm
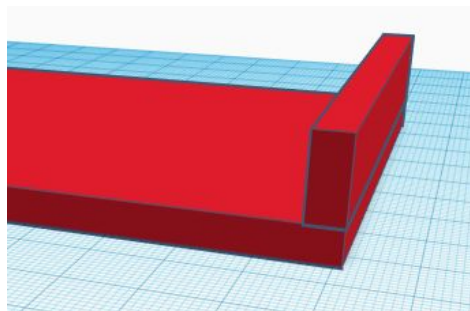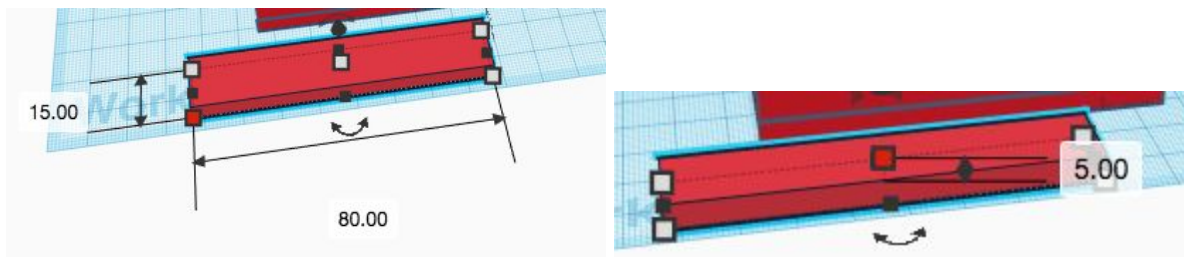

2. **Create the shelf for the phone to rest on**
    a. Drag and drop another box to the workplane and make the width the same as the back and the length the same as the thickness of the back. Make the height the thickness of your phone + 5 mm.
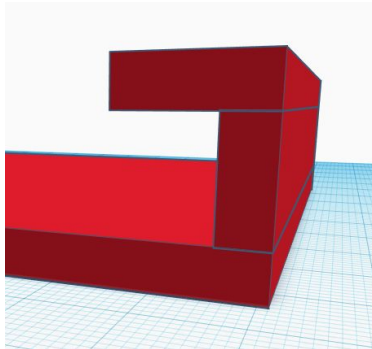

    b. Move this box to align it with the bottom of the back and place it on top of the back

c. Drag and drop another box and make it the same width as the back, the same height as the thickness of the back and the length at least 10 mm, adjust as you like.
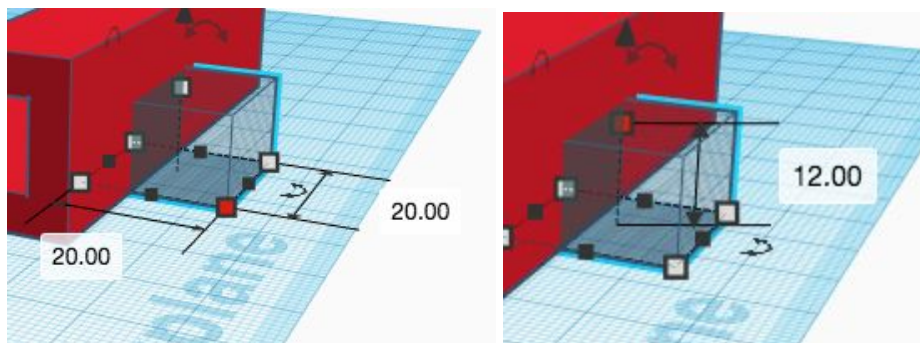

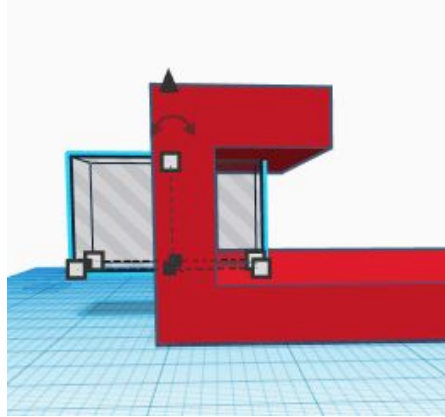d. Place this box on top of the previous box, aligned with the back.

e. Select all three boxes and group them
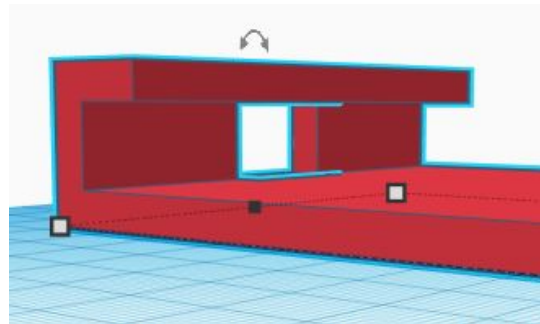
3. **Create a hole for a charger cord to fit through**
   a. Measure the width of the charger port on your phone and add a few mm or just use the measurement of 20 mm.
   b. Drag and drop a box hole to the workplane
   c. Change the width to the width you just measured, the length to ~10 mm or larger than the thickness of the back, and the height to the height of the second box you made in step 2.
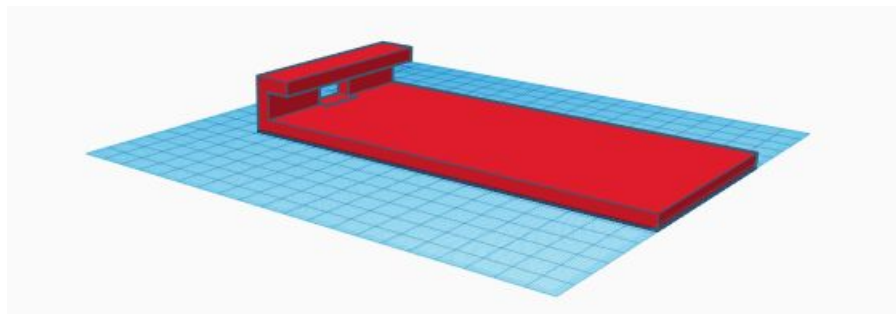

d. Align the box hole to the middle of the back (or wherever your charger plugs into your phone) and raise it up to the middle of the shelf. Make sure the box hole sticks through the shelf so that it will create a hole.
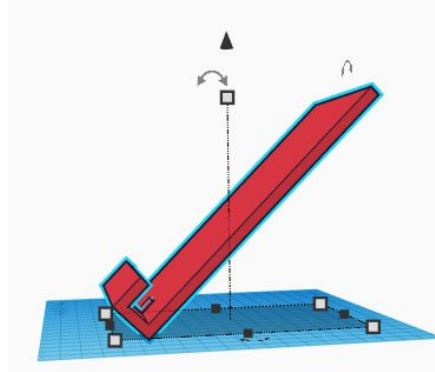
e. Group the box hole and the back of the stand.

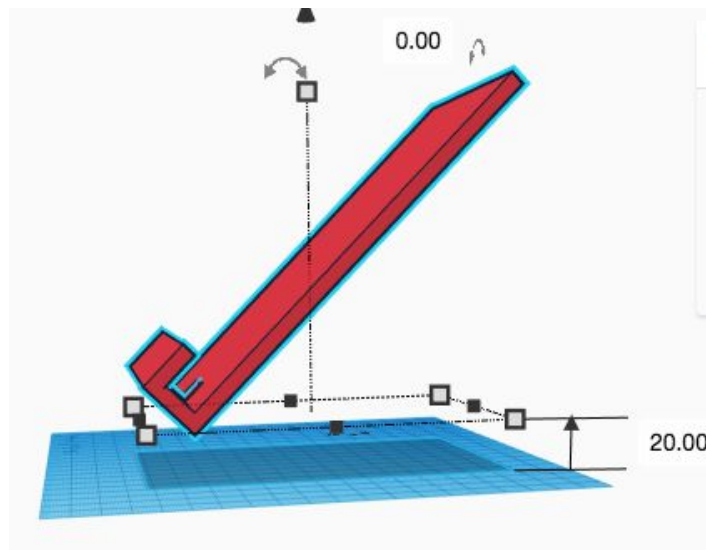
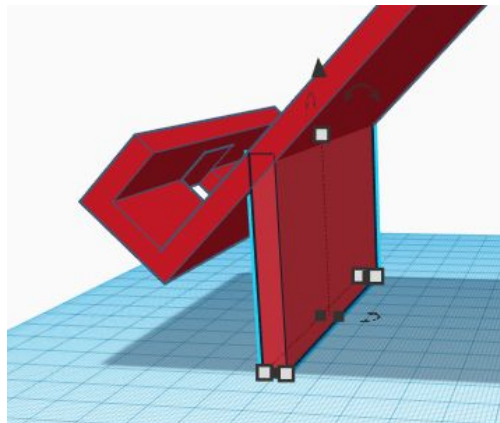You should have something that looks roughly like the image below:

4. **Create the base of the stand.** The base of the stand can be created in many different ways. We will show you how to make a simple base using boxes.
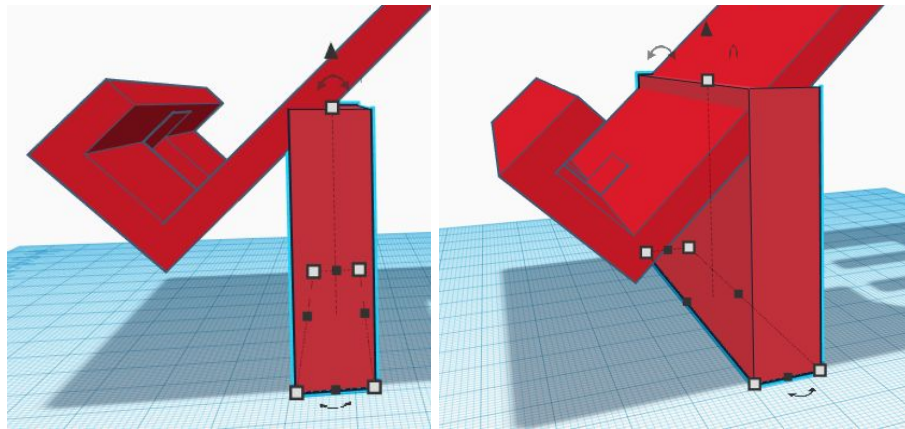   a. Rotate the back of the stand to a 45 degree angle and raise it up so the bottom is at 0.

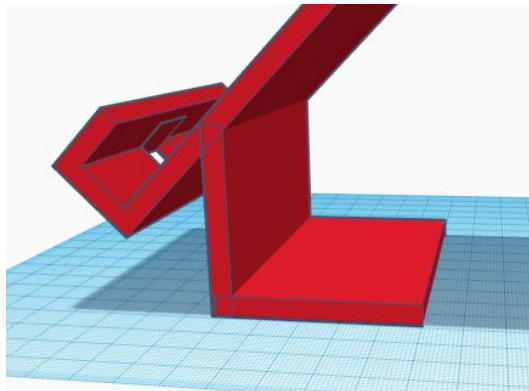b. Raise up the back again about 20 mm more so there is room for the charger cable.

c. Drag and drop a box on the workplane and make its width equal to the width of the back. Make its length equal to the thickness of the back. Drag the box to a location under the front of the back and extend its height until it intersects with the back. Make sure the box and back are aligned in the center.
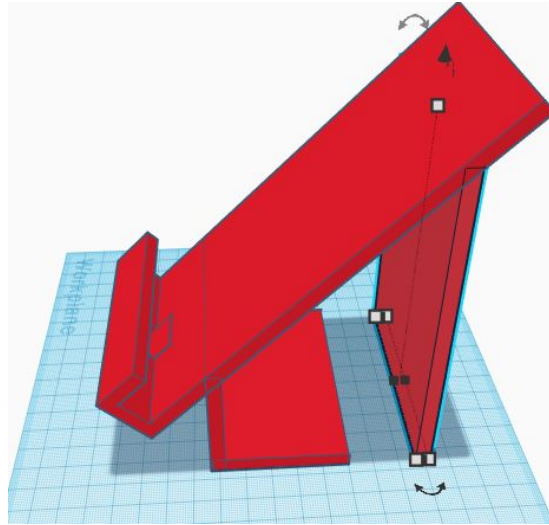
d. Note: If the thickness of this new box is larger than the thickness of the back it will cause problems when grouping the objects (see the images below).
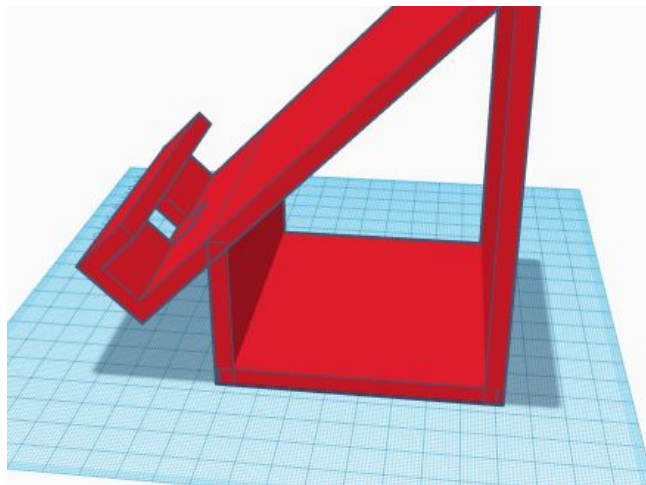

e. Drag and drop another box to the workplane. Again make its width equal to the back's width. Make its height equal to the thickness of the back. Drag this box so that it intersects with the first box of the base. Make sure all objects are aligned at the center.
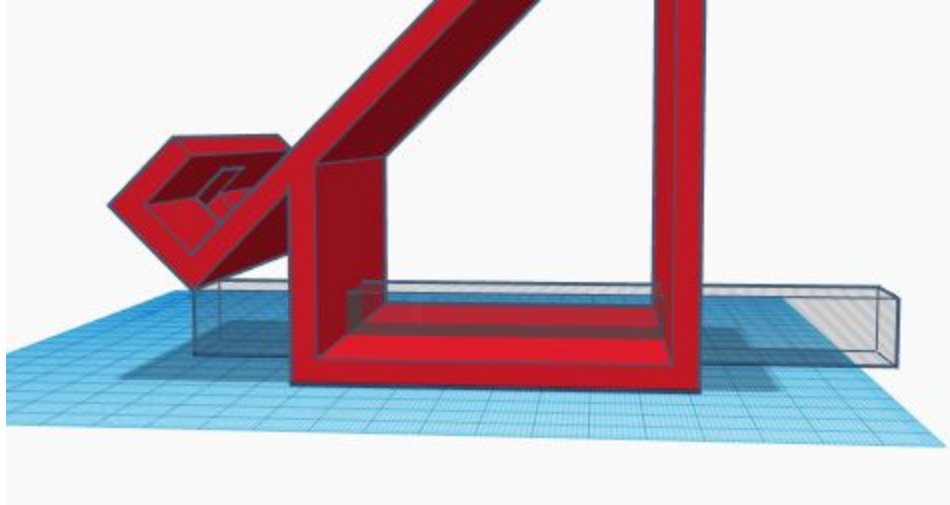

f. Drag and drop a third box to the workplane. Again make its width equal to the back's width. Make its length equal to the thickness of the back. Drag this box to a location at the posterior of the back and extend its height to intersect with the back. Make sure all objects are aligned at the center.
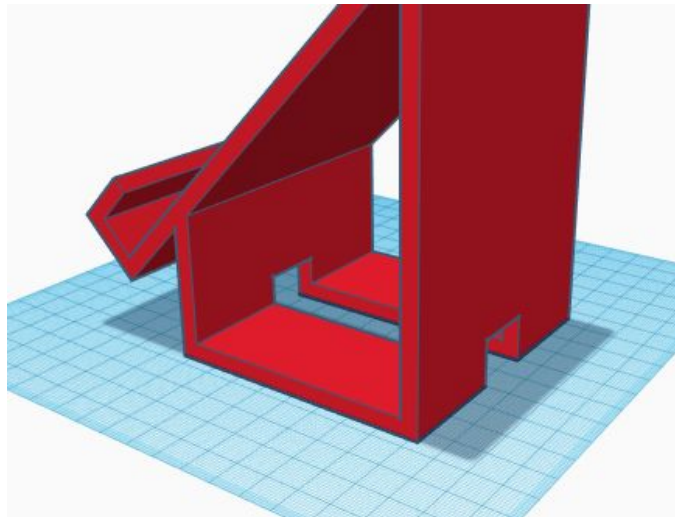
g. Extend the length of the second box so that it intersects with the third.

h. Select all of the objects and group them together.
i. Drag and drop a box hole to create a hole for the charger cord. Make the width equal to the width used previously for the shelf. Make the height equal or larger as what was used for the shelf and make sure it is long enough to reach both legs of the base. Align the hole to the center of the stand.

j. Group the hole with the phone stand.

5. Congrats, You have created your own custom phone stand! If you wish to 3D print your design, export it in the .stl file format!