



TinkerCAD Design Challenge!

Learn how to create 3D models with TinkerCAD

Introduction

3D design refers to using software to create a digital model of a three-dimensional shape or object. Organisations and professionals across industries use 3D design to communicate ideas, create products and customer experiences, teach concepts, improve lives, and more. For example, dentists can X-ray a damaged tooth and produce a 3D model of a crown to repair it, while the film industry uses 3D design to envision scenes and execute special effects.

Today, we are going to use TinkerCAD

TinkerCAD is a free go-to program for anyone who is looking to delve into the world of 3D modelling, electronics, and coding.



Getting Started

First login to TinkerCAD using the link below and enter the class code

tinkercad.com/joinclass/

Class Code: **1GV PWN 75S 22I**

A screenshot of a mobile app dialog box titled "Join Class". It has a back arrow on the top left and a close 'X' on the top right. The text inside says "Type the code your teacher shared". Below this is a text input field containing the placeholder text "Like: 1234 5678 9012". At the bottom is a green button labeled "Go to my class".

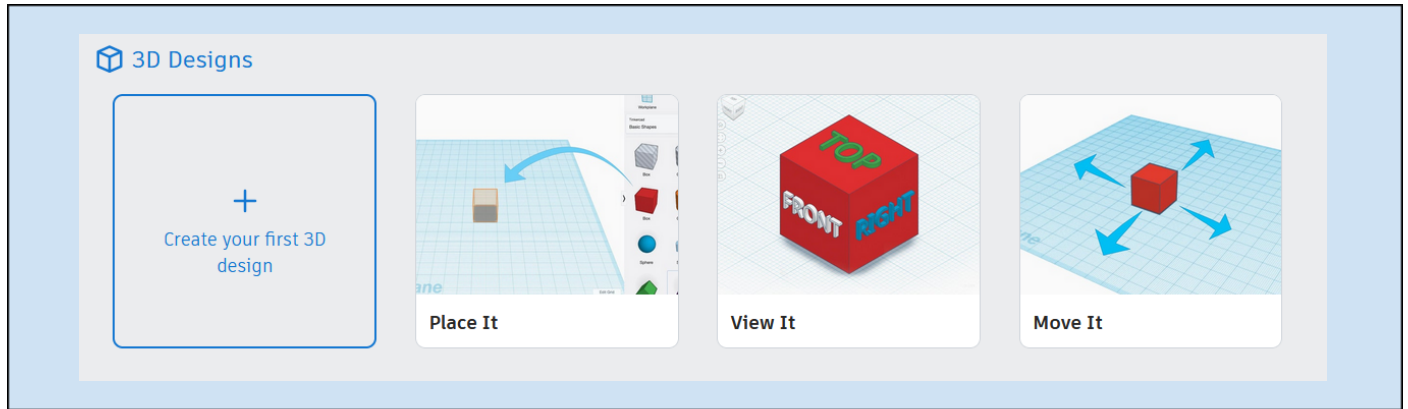
Next, click on **Join with Nickname** and type your first name

A screenshot of a mobile app dialog box titled "Welcome to Holiday Program". It has a back arrow on the top left and a close 'X' on the top right. The text says "Welcome to Holiday Program". There are three main options: a green button labeled "Join with Nickname", a blue button labeled "Email or Username" with an '@' icon, and a section titled "Other providers" with icons for Apple, Google, Microsoft, and Facebook.

A screenshot of a mobile app dialog box titled "Welcome to Holiday Program". It has a back arrow on the top left and a close 'X' on the top right. The text says "Welcome to Holiday Program" and "Your Nickname?". Below this is a text input field containing the placeholder text "Type your Nickname". At the bottom is a green button labeled "That's me!".

Getting Started

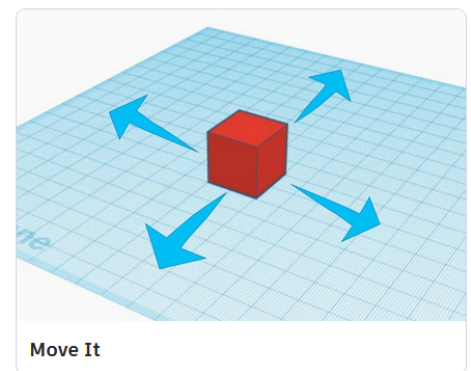
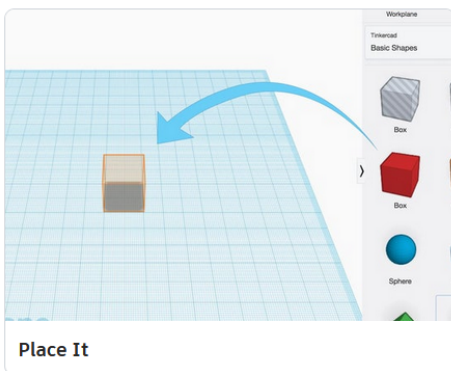
Start by going through the tutorials **Place It**, **View It**, and **Move It**
 Follow the instructions on the **Left Panel**



If you want to skip ahead or look at different tutorials, go to this link.
 Then click **View All** tinkercad.com/learn

Learn 3D Design

These starter projects are the perfect launchpad to all things Tinker.



[View All](#)

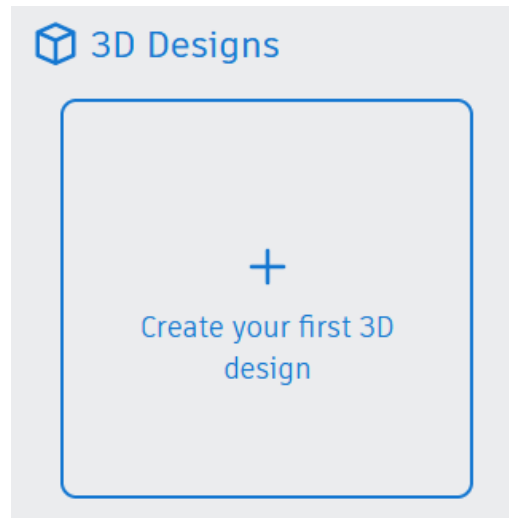


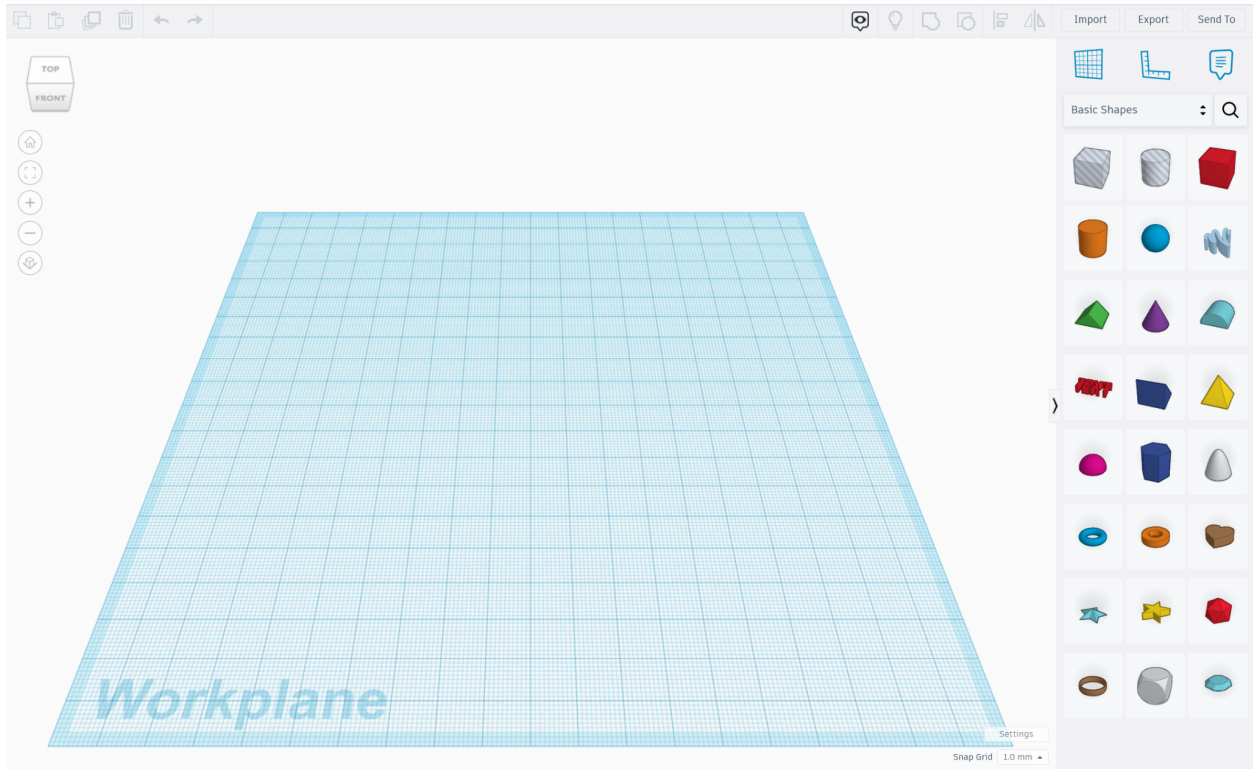
Once you've finished the tutorials or feel confident enough to use Tinkercad, let's create our first 3D design and complete the Mini Challenges

Click on the Tinkercad icon at the top right



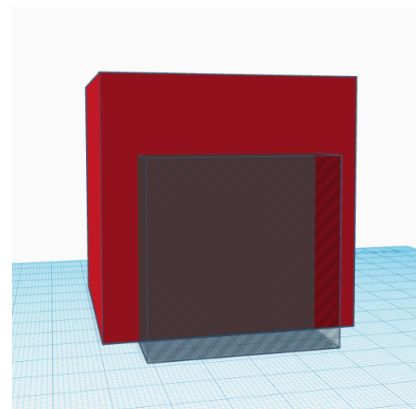
Then click **Create your first 3D design**





Mini Challenge Checklist

1. Place a shape
2. Delete A Shape
3. Change the Size of a shape
4. Move a Shape
5. Change the workplane
6. Cut a hole out of a shape



Challenge - Create your own Name Tag

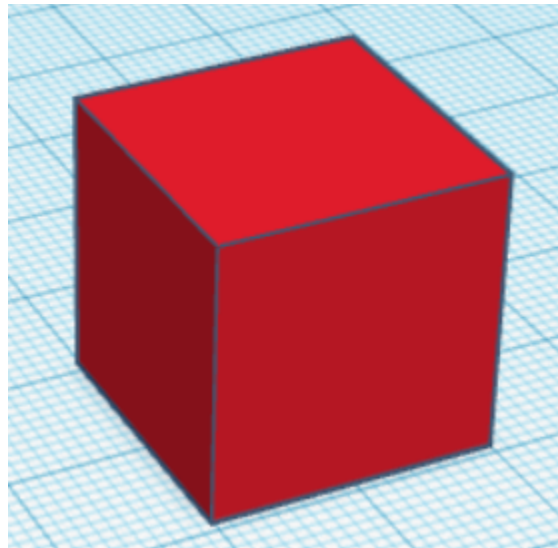


This challenge will include skills on

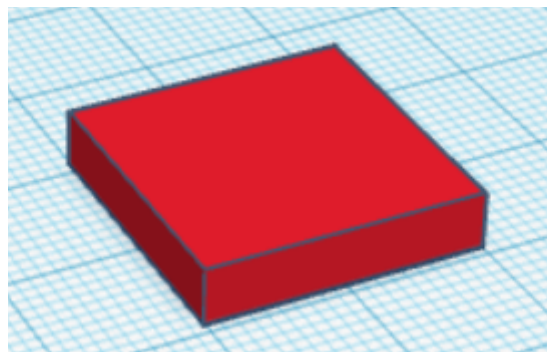
- Placing shapes
- Changing the size of a shape
- Moving shapes
- Cut a hole out of a shape
- Grouping shapes

Try and complete this challenge on your own, using your new skills from the tutorial. If you are ever stuck on anything, go through the next few pages of this booklet, or ask your instructor for help.

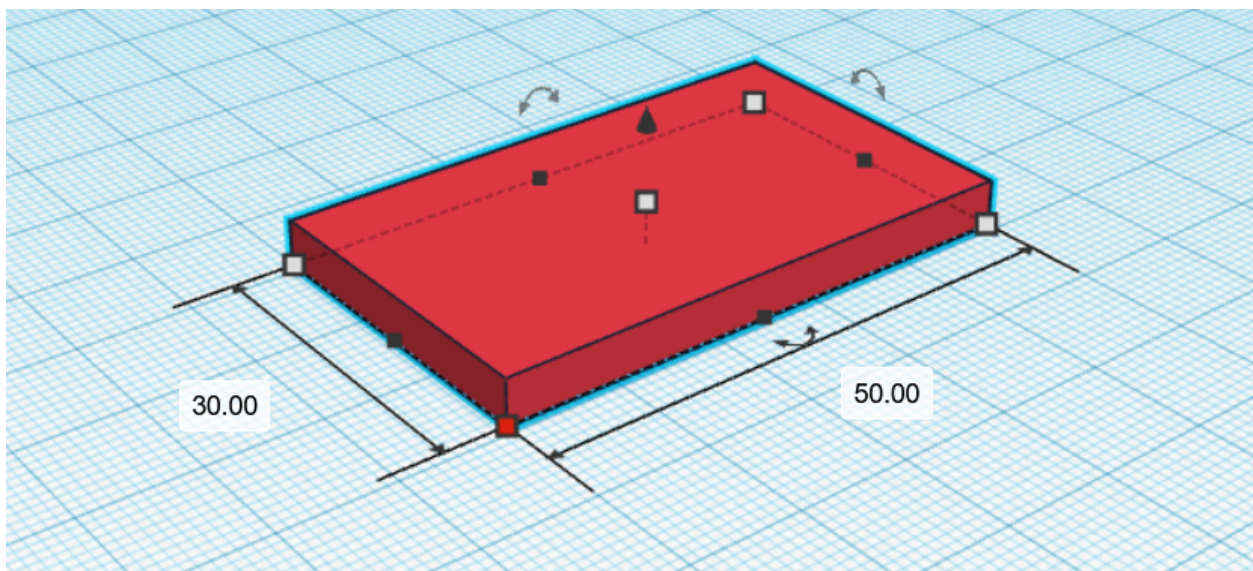
1. Create a cube



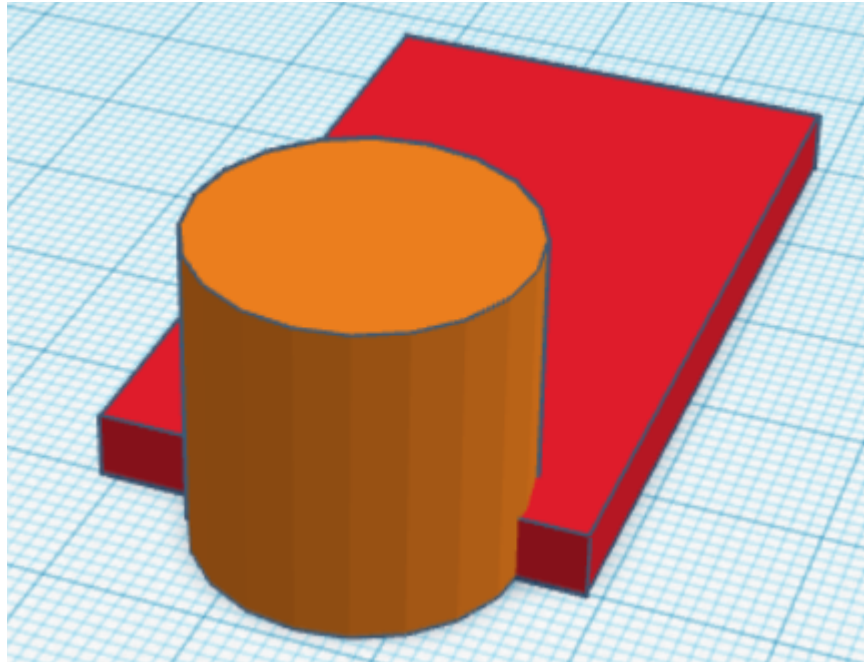
2. Flatten the cube. Aim for a **height** between 3.00 - 5.00 mm



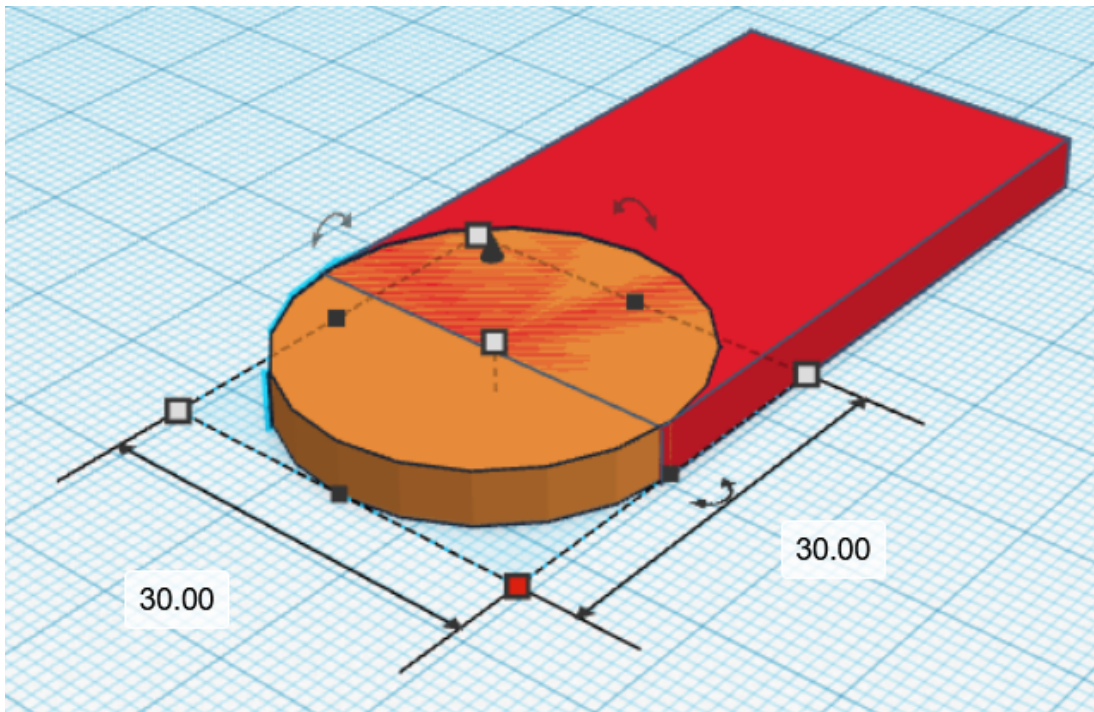
3. Stretch the object to the dimensions as shown below



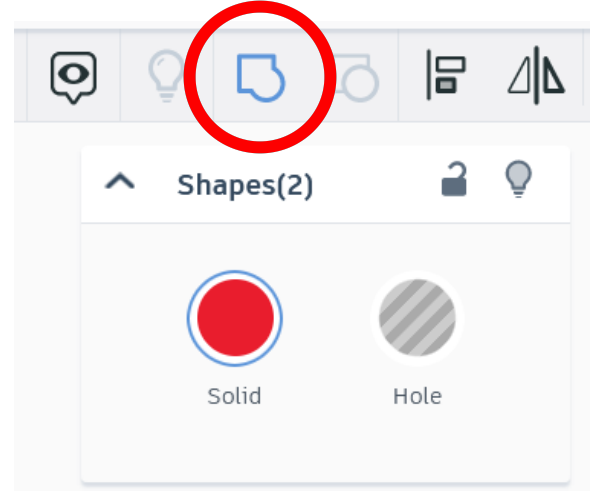
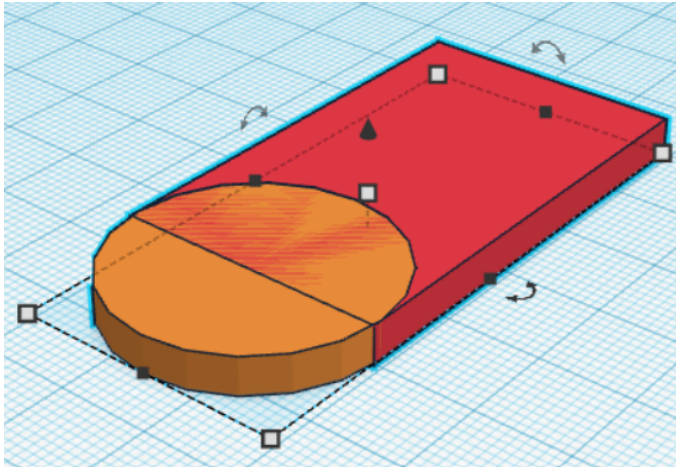
4. Insert a cylinder



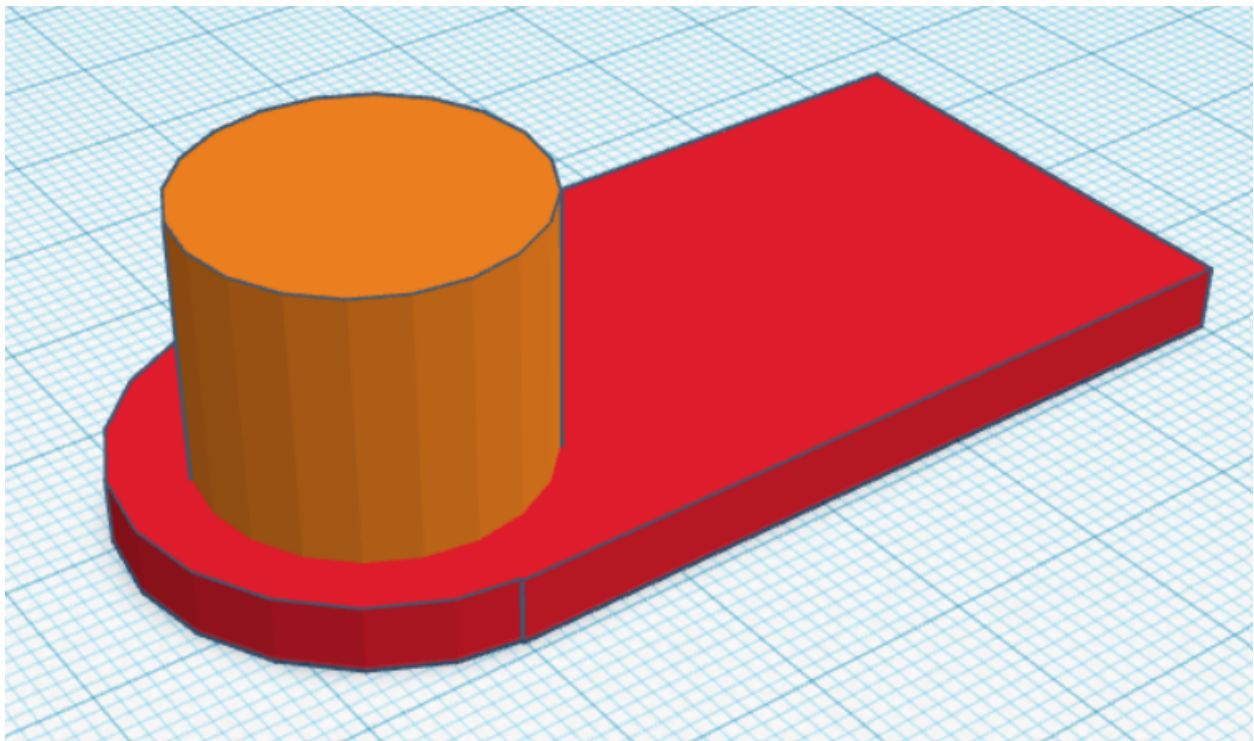
5. Move and resize the cylinder as shown below



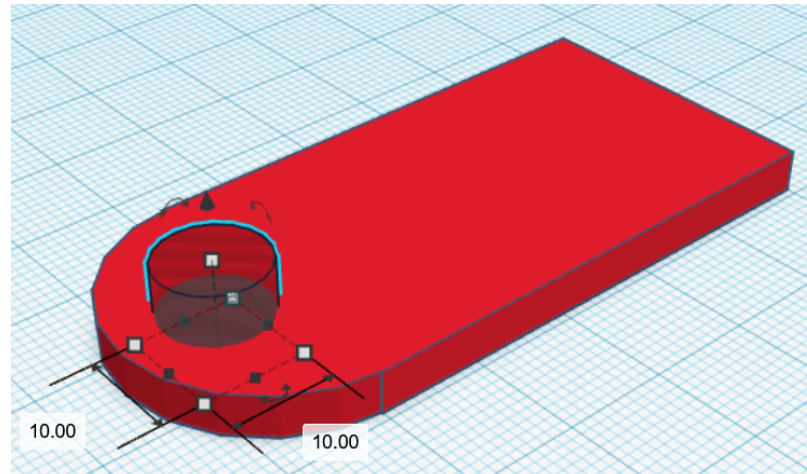
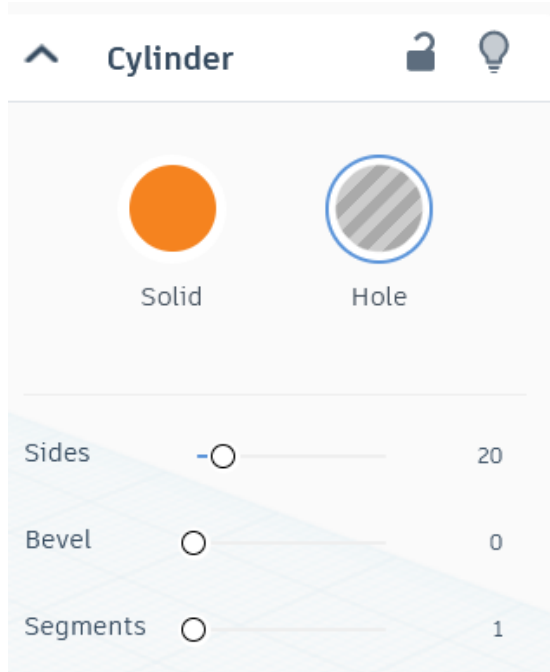
6. Select all the objects and click on **Group**



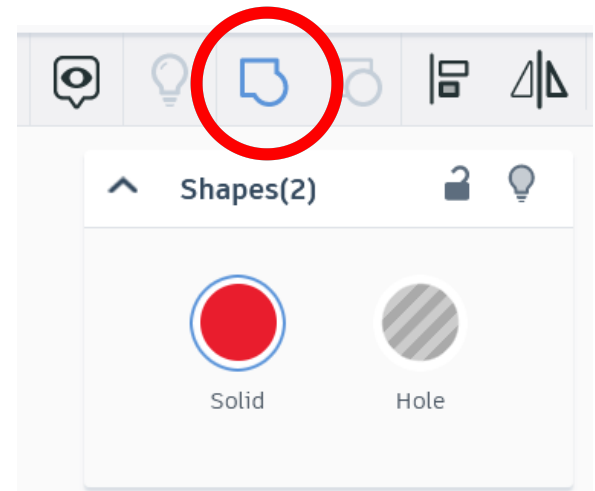
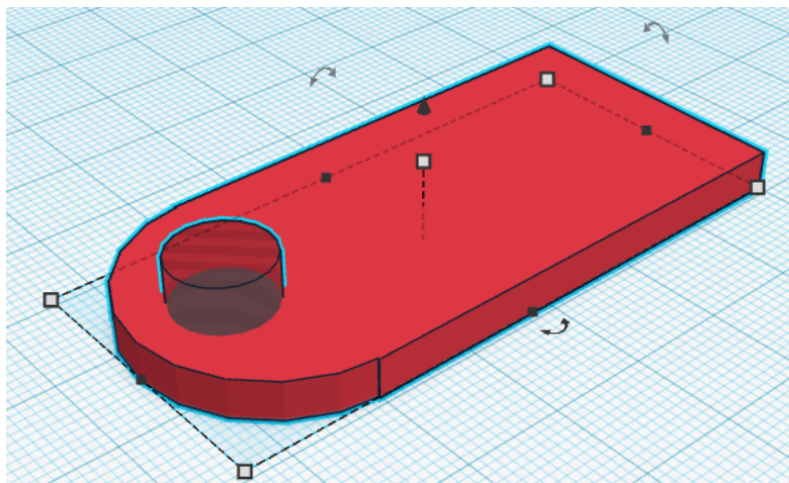
7. Insert another **cylinder**



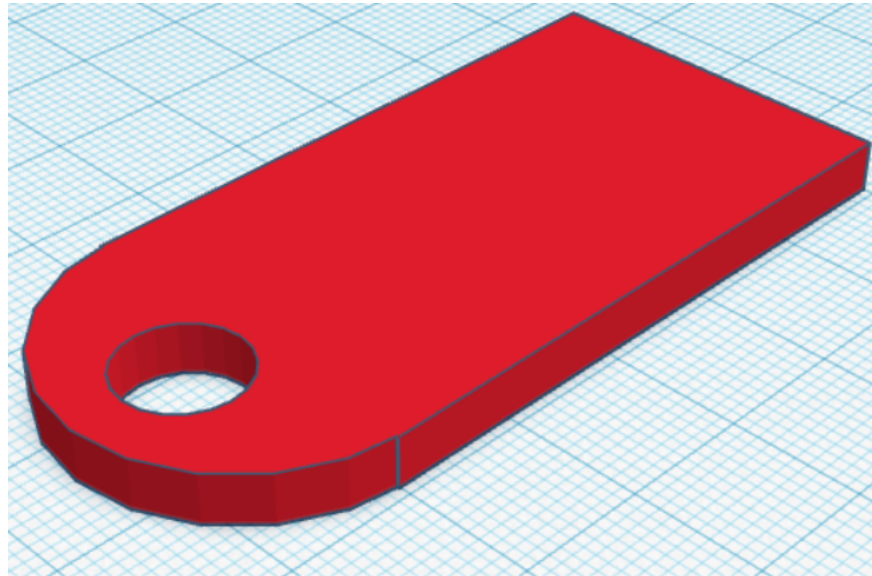
8. Select **Hole** at the top right, and reposition the cylinder as shown below



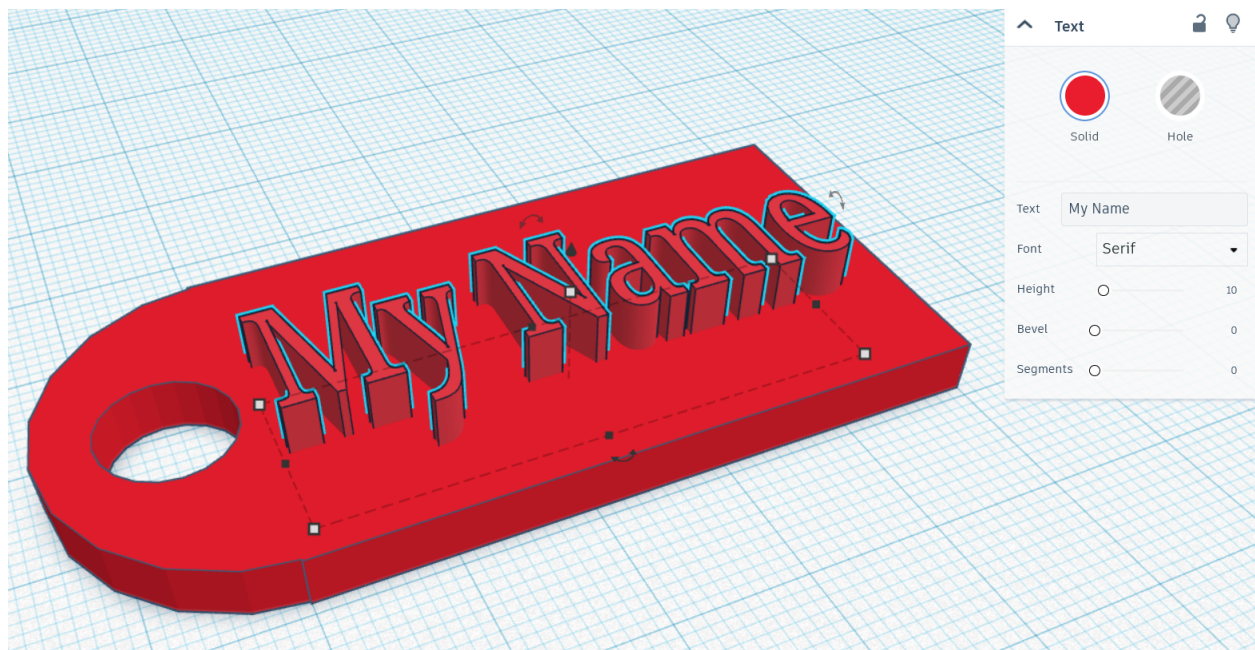
9. Select all the objects and click on **Group**



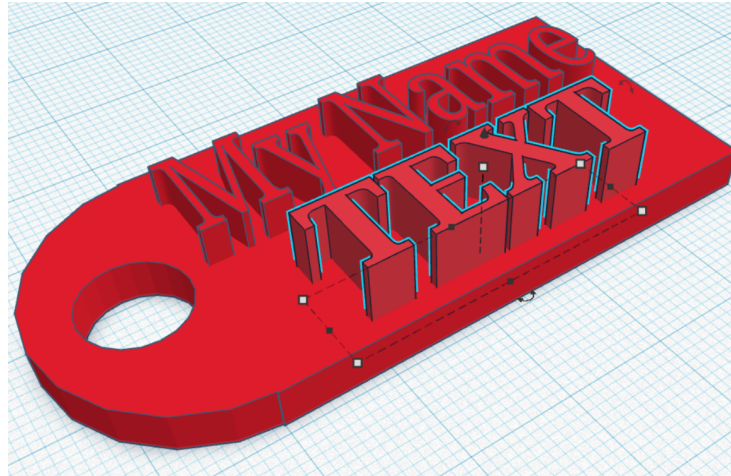
Your name tag should look like this so far



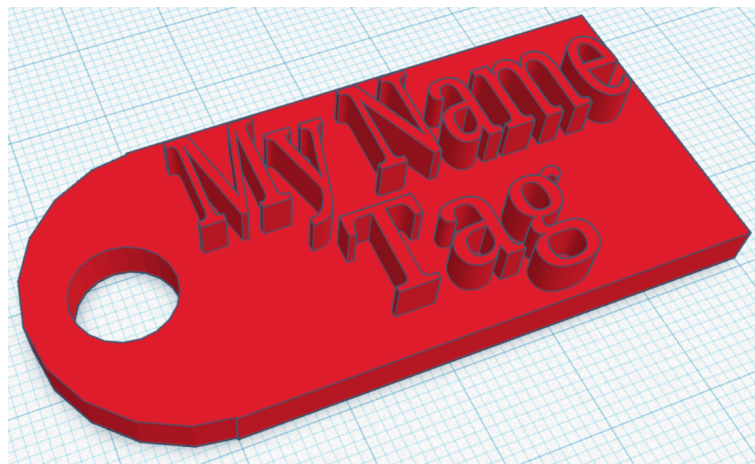
10. Insert a **TEXT** object and write your name. Resize the text object to fit into your name tag



If you need another line, **insert** another **TEXT** object



11. **Select all the objects** and click on **Group**.



Well Done! You have created your own Name Tag!

Extensions:

1. Use another shape for your name tag
2. Use the **Hole** function for the **Text Object**
3. Make the name tag double-sided