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

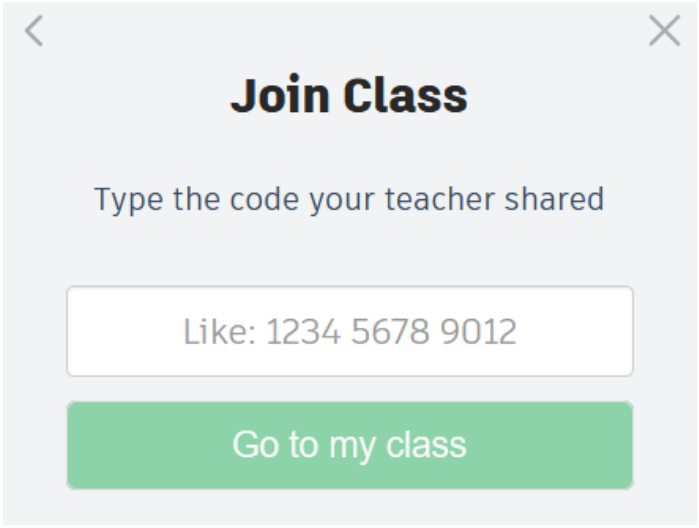
TinkerCAD is a free go-to program for anyone who is looking to delve into the world of 3D modelling, electronics, and coding.

Getting Started

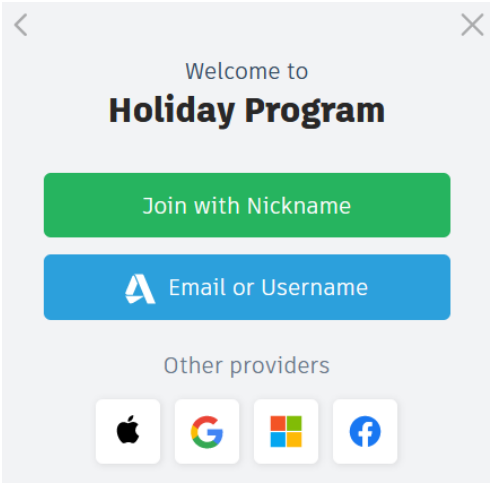
First login to TinkerCAD using the link below and enter the class code

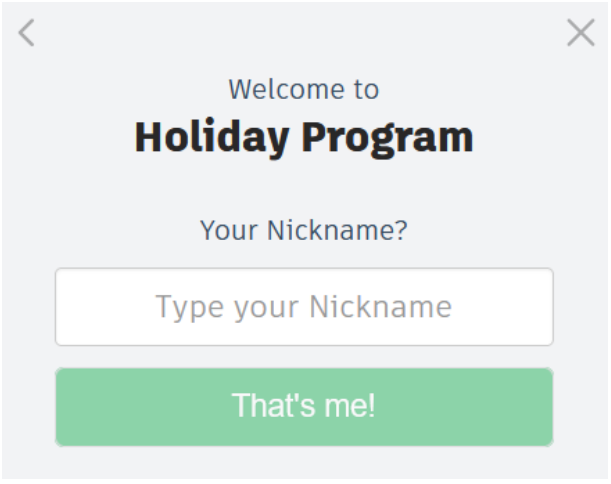
tinkercad.com/joinclass/

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



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

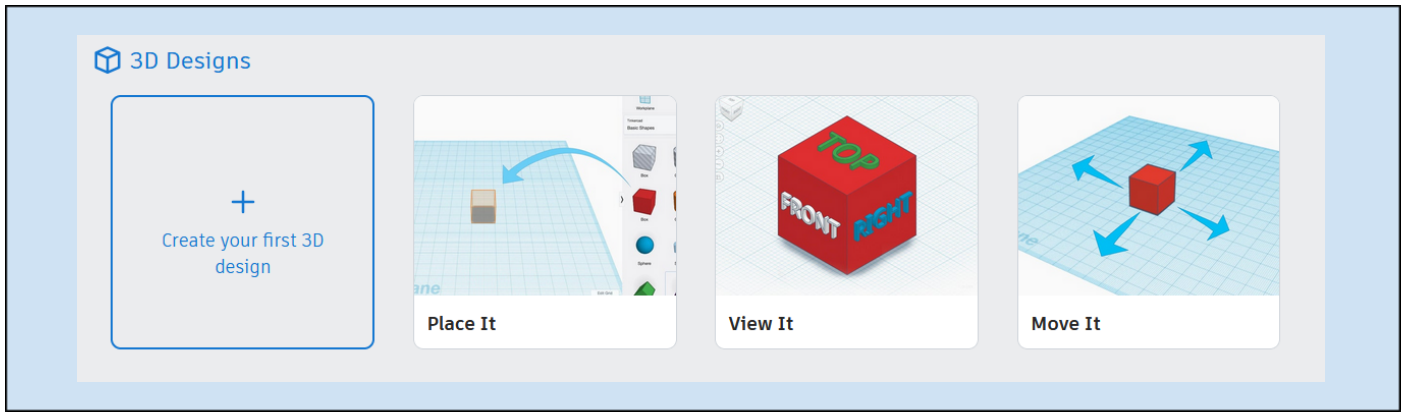




Getting Started

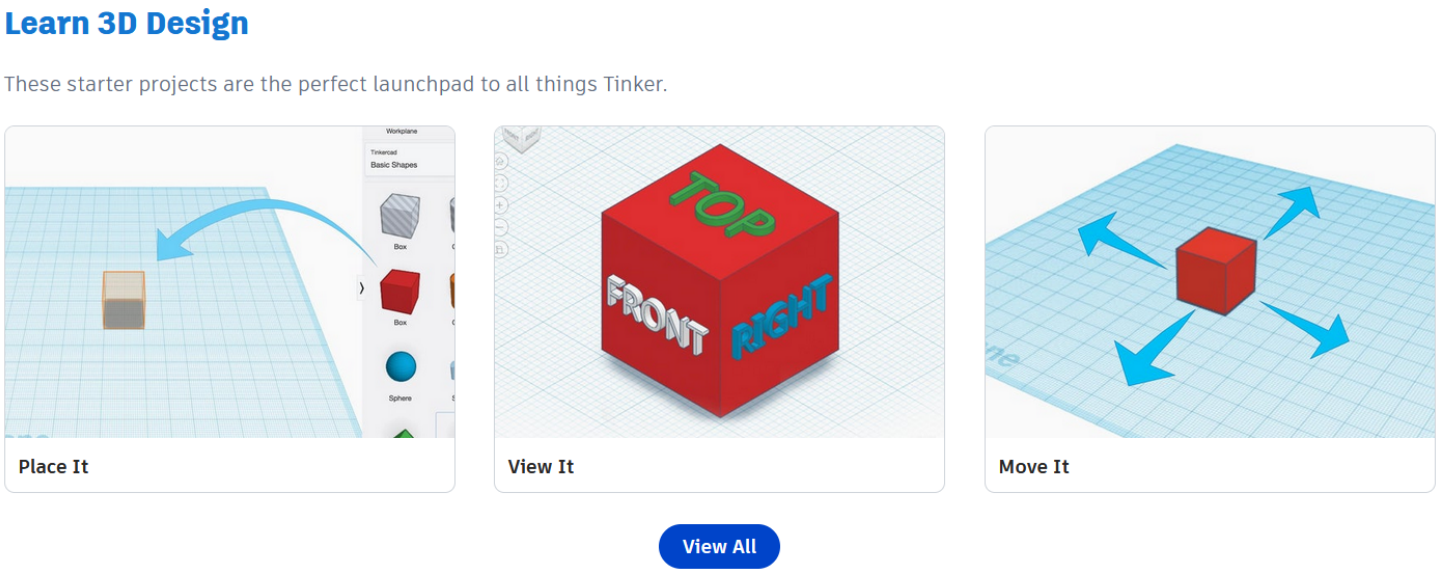
Start by going through the tutorials **Place It**, **View It**, and **Move It**

Follow the instructions on the **Left Panel**



If you want to skip ahead or look at different tutorials, go to this link.

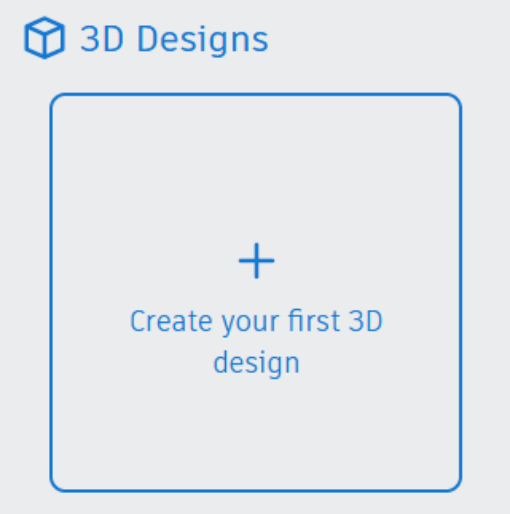
Then click **View All** tinkercad.com/learn

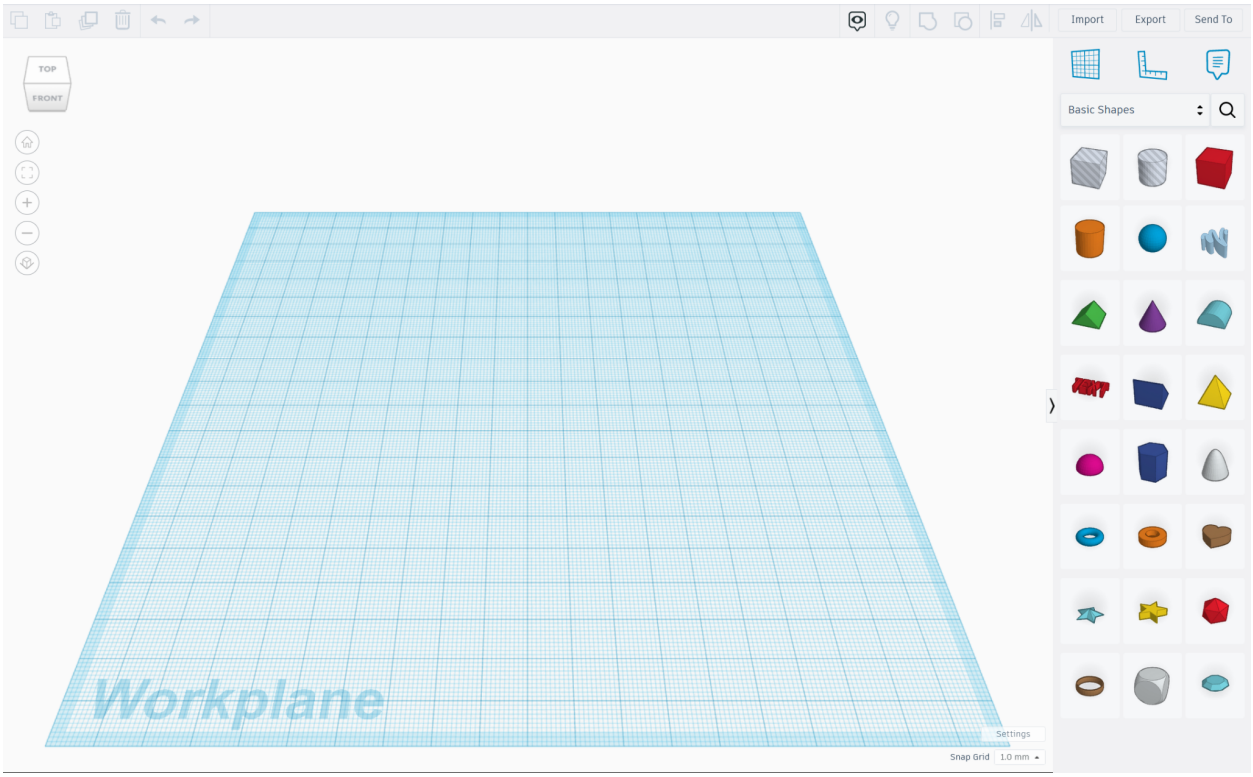


Once you've finished the tutorials or feel confident enough to use TinkerCad, let's create our first 3D design and complete the Mini Challenges

Click on the TinkerCad icon at the top right

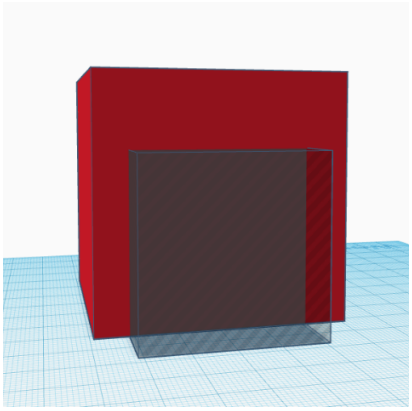
Then click **Create your first 3D design**



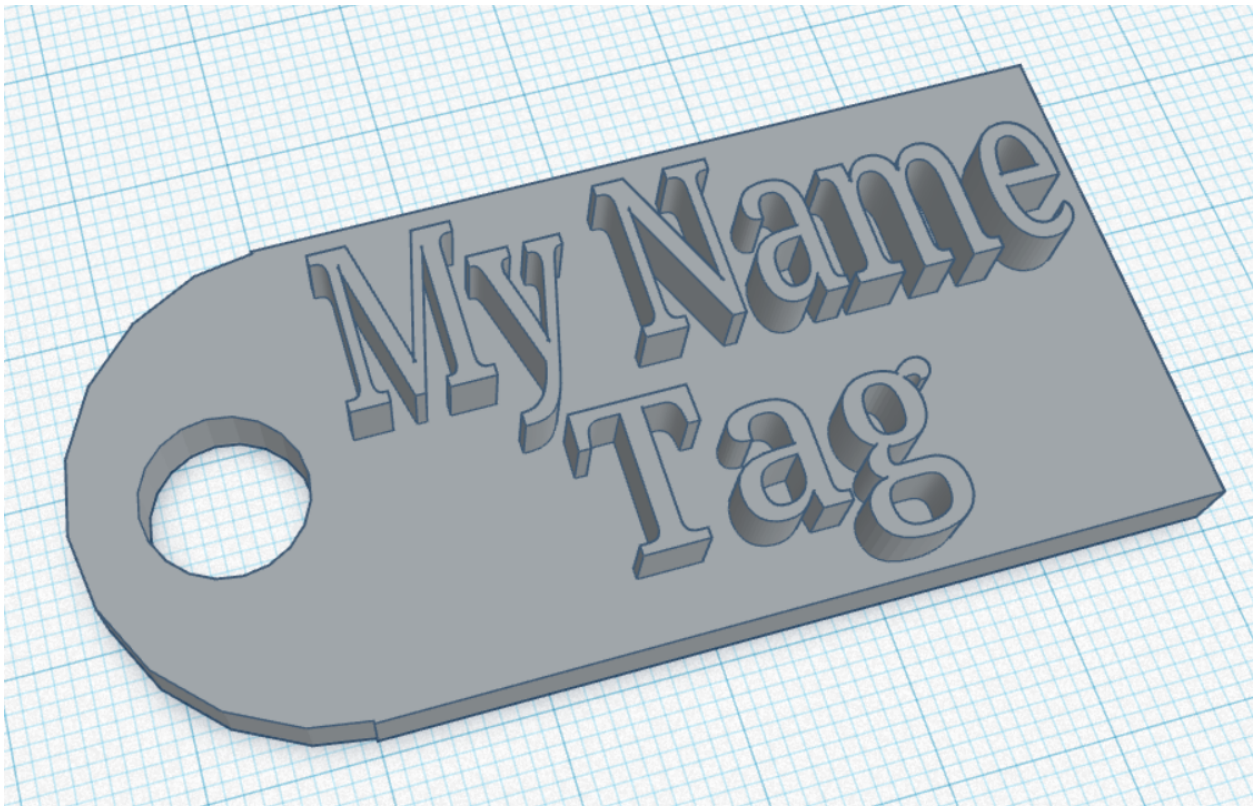


Mini Challenge Checklist

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

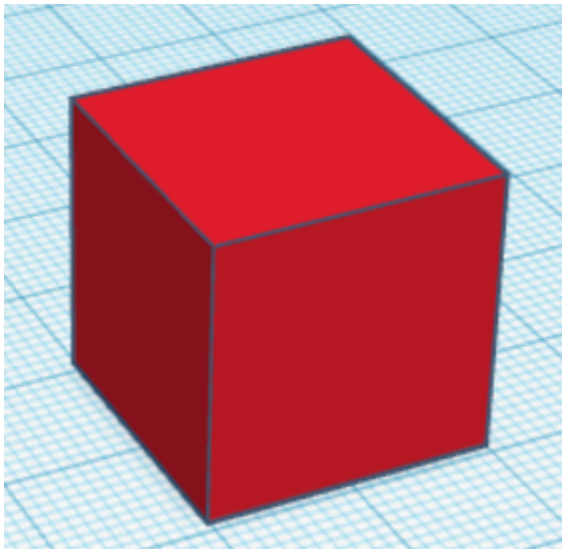


This challenge will include skills on

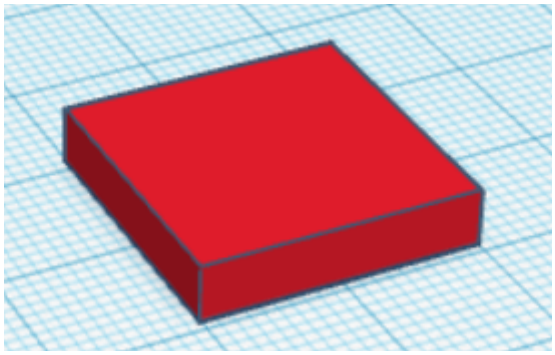
- Placing shapes
- Changing the size of a shape
- Moving shapes
- Cut a hole out of a shape
- Grouping shapes

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.

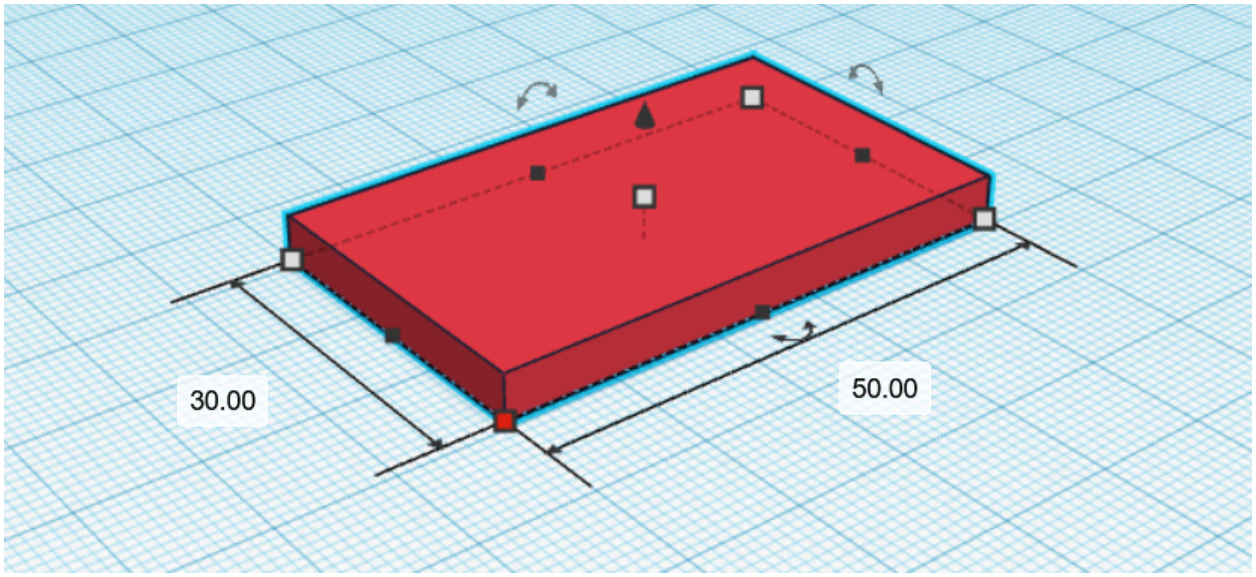
1. **Create** a **cube**



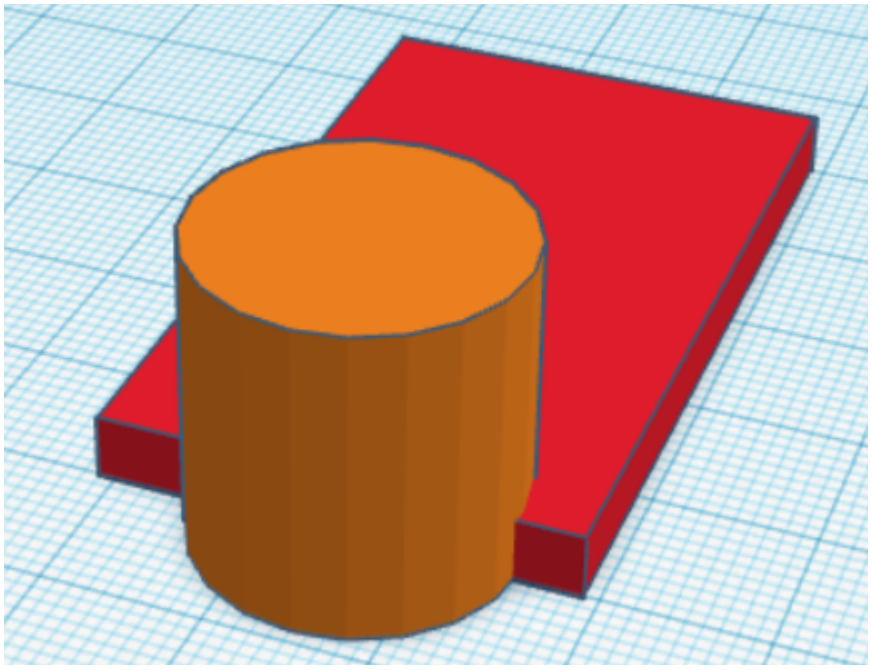
2. Flatten the cube. Aim for a **height** between **3.00 - 5.00 mm**



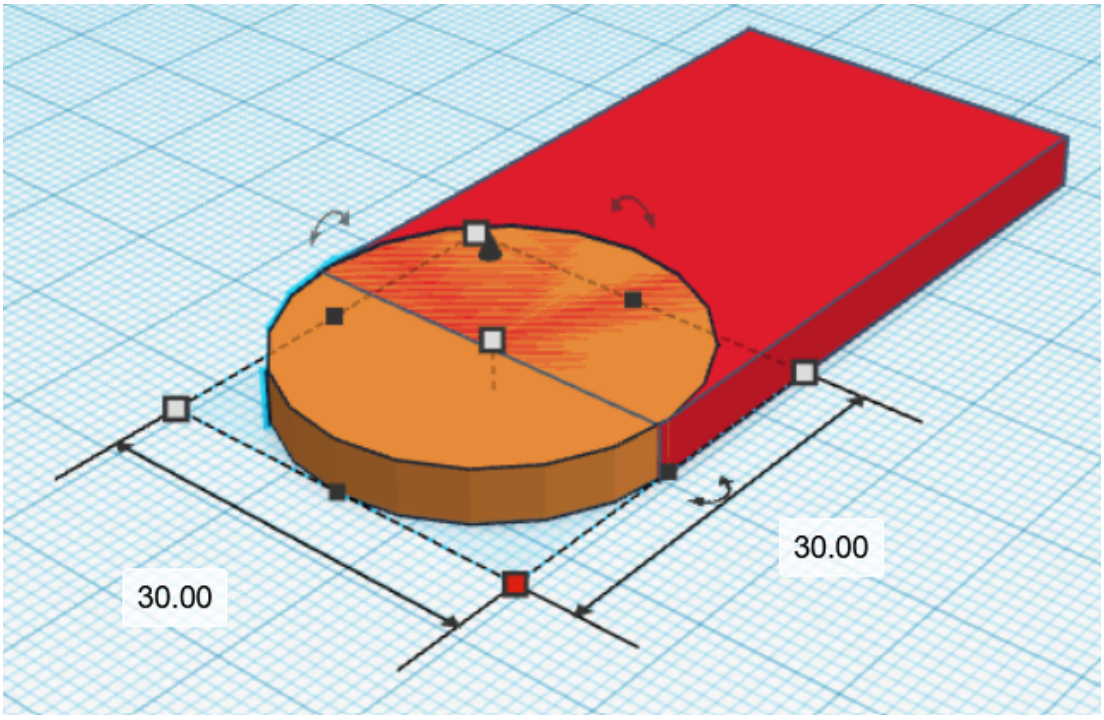
3. Stretch the object to the dimensions as shown below



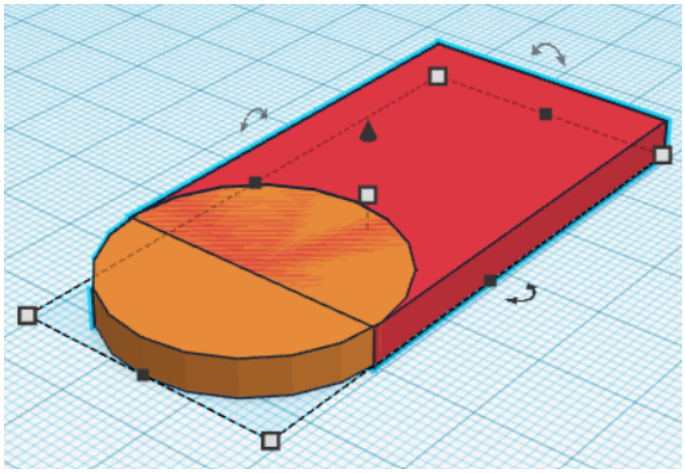
4. **Insert** a **cylinder**

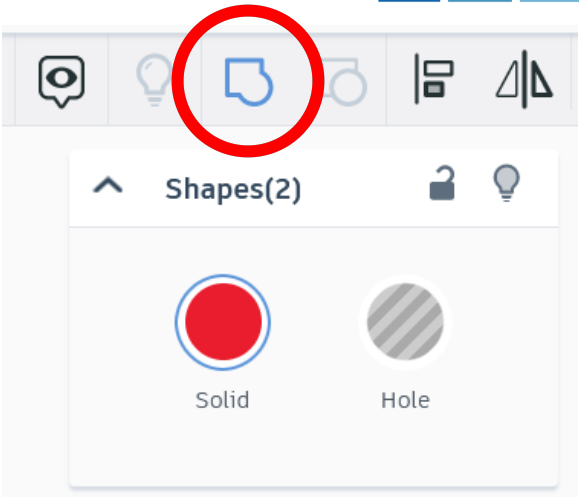


5. Move and resize the cylinder as shown below

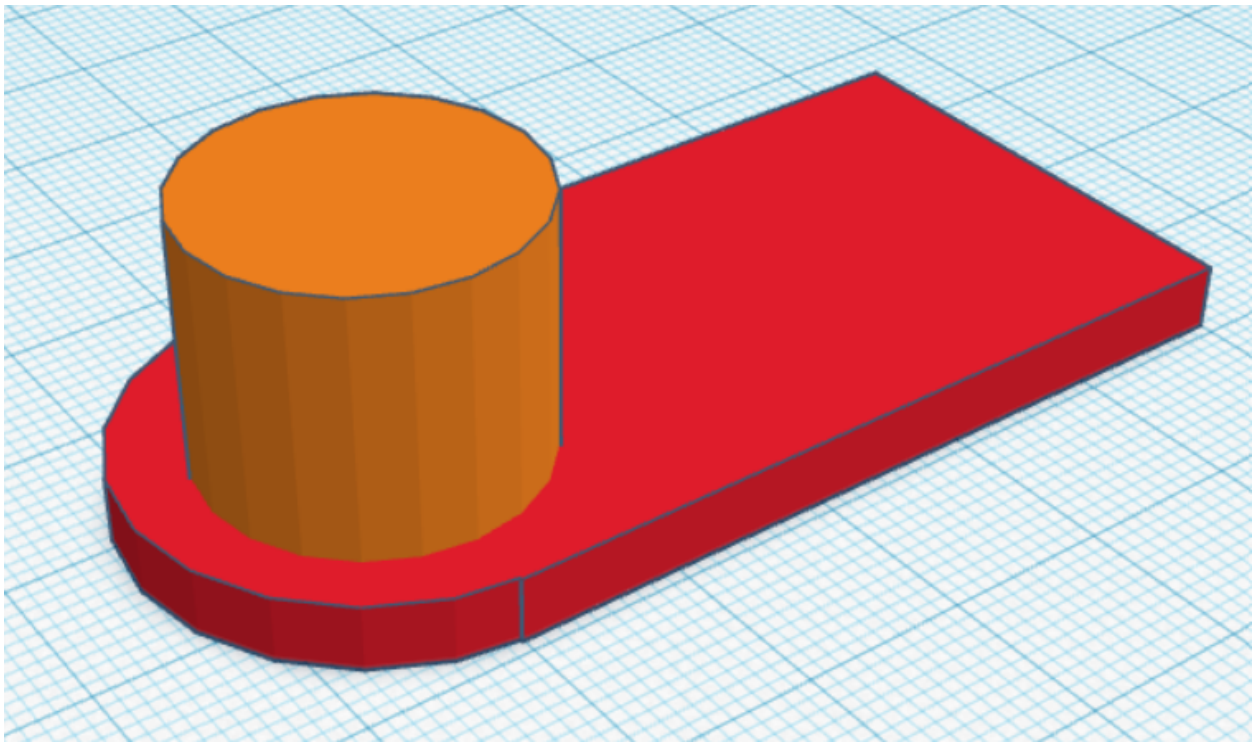


6. **Select all the objects** and click on **Group**

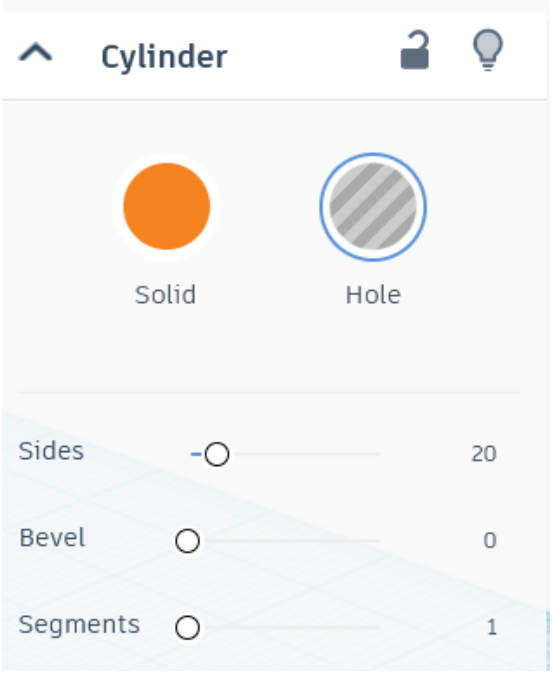


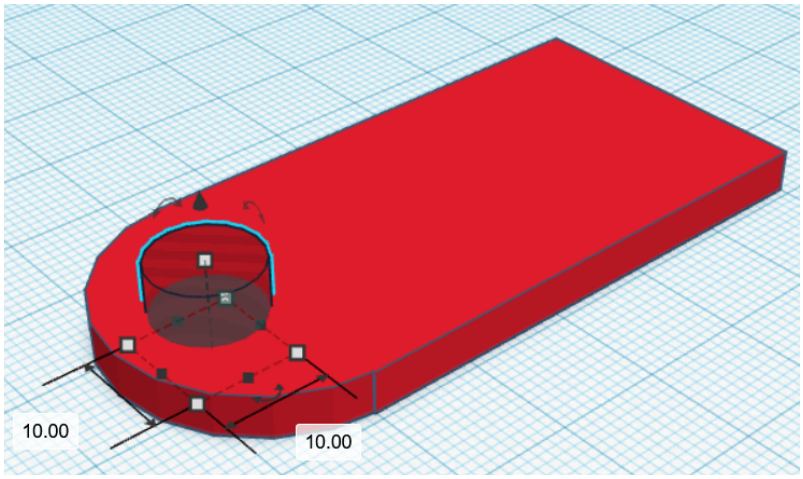


7. **Insert** another **cylinder**

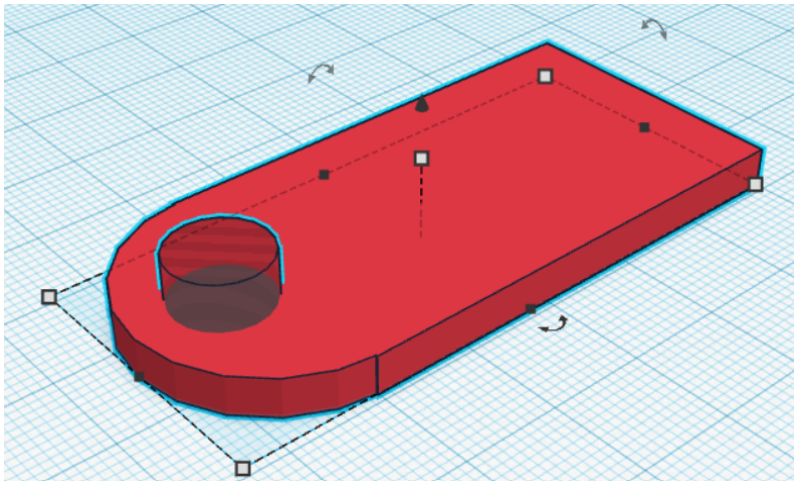


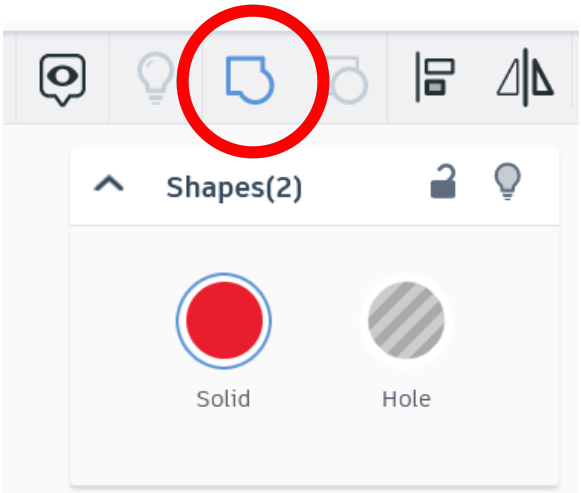
8. Select **Hole** at the top right, and reposition the cylinder as shown below



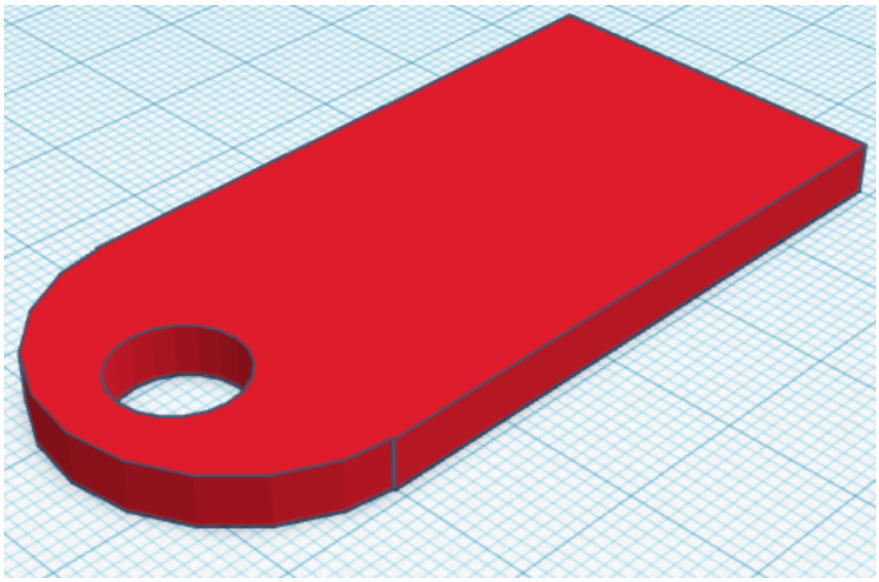


9. **Select all the objects** and click on **Group**

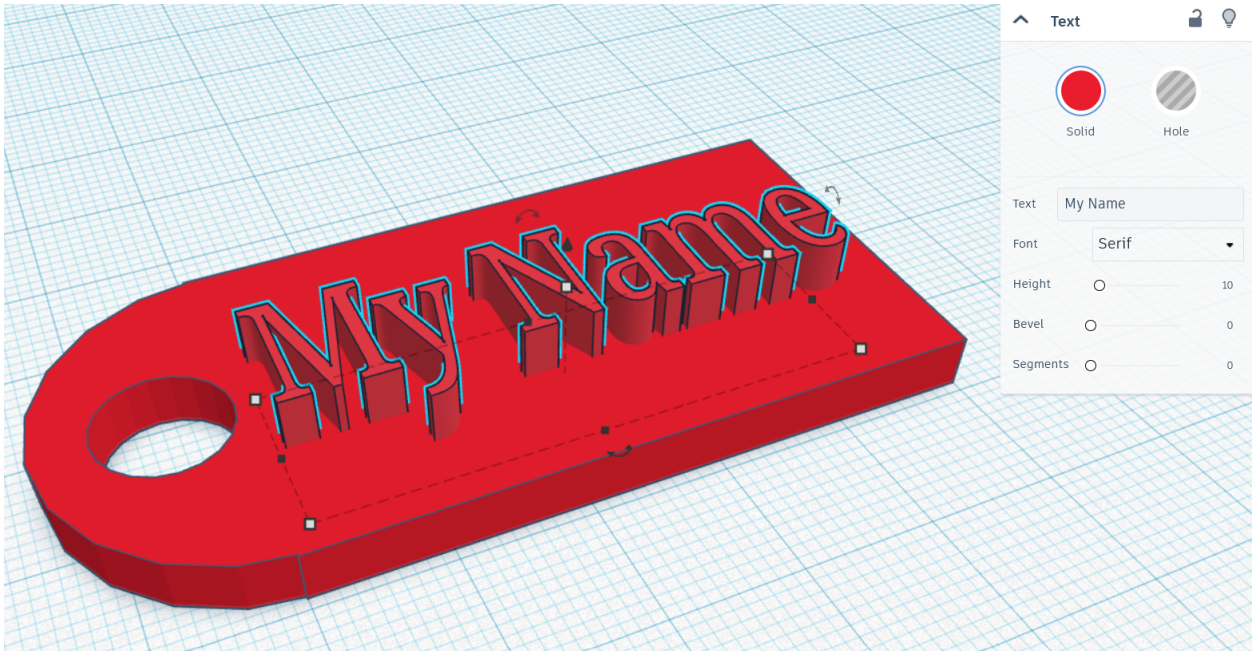




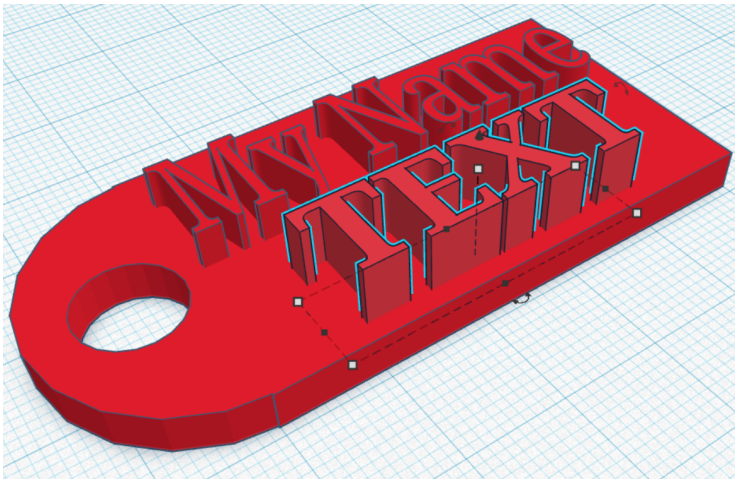
Your name tag should look like this so far



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