UNIT 3 – Additive manufacturing and 3D printing in Industry 4.0
Subunit 3 – 3D software for 3D printing

How to 3D Print a Name Tag Using Tinkercad

Introduction

Tinkercad is a browser-based computer-aided design (CAD) app that serves as a good entry point for beginners.

This 3D printing software can be used to build 3D models from basic shapes, customising parameters to achieve precision in what is created. Tinkercad also allows the creation of geometrical (vector) shapes in 2D and convert them into 3D models.

In this activity trainees will learn how to design a 3D name tag using Tinkercad.

How to 3D Print a Name Tag Using Tinkercad

Name tags can be a brilliant tool for many situations. These include creating an individual company name tag, labelling your holiday luggage or even designing a quirky present for someone with an unusual name.

Step 1: Sketch out your idea

Having a good idea of the shape, colours and design you would like before you begin is a great way to ensure that your overall product looks professional. It is always worth remembering that simple shapes make modelling a lot easier.

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Step 2: Create a project on Tinkercad

Tinkercad is a great 3D design software as it has an easy layout and a guide to show you the basics – plus it's free and can be used online without installing software on your computer.

The process of signing up is very simple; all you have to do is visit https://www.tinkercad.com/ and follow the simple instructions to create a free account.

1. Once you have signed up, an online tutorial opens. Either work that through or close it.

2. In the left-hand column, choose **Create project**.

3. Click **Create new design**.

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Step 3: Create the base

Having a base is important so that you can connect up different letters and support them. This option also looks more professional and adds the background to your name tag.

1. Once you have created your new project, the process of creating a base is easy. The best option is to choose a basic cube shape from the **Geometric** pane on the right.

2. In order to have a smart appearance, the best base option is a thin rectangle upon which you can then build your text. Scaling your base to make sure it is thin is also an easy aspect of Tinkercad: Using the shapes and handles surrounding your base you can push and pull the box to resize the image. To resize the height, use the handle marked by an arrow in our screenshot.
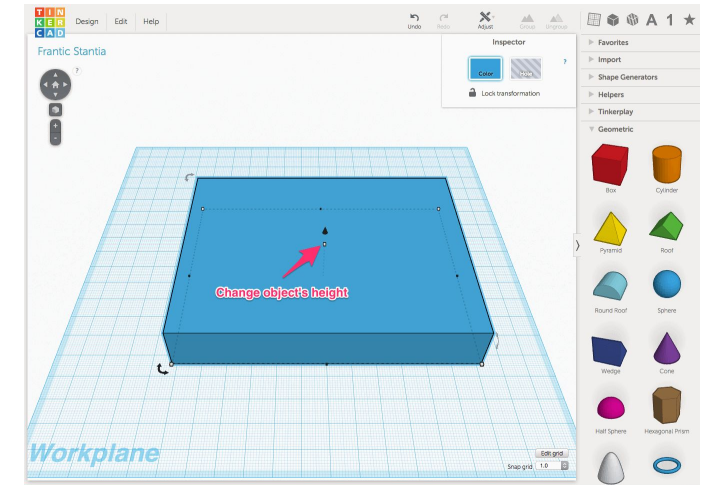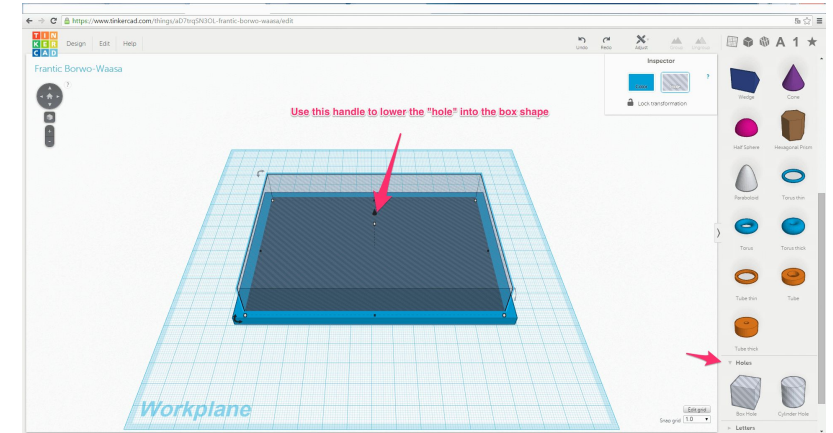
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Step 4: Add edges to the base

In order to create an impressive name tag, it is worth creating a base with edges to surround your name. You can do this by creating a "hole" on the top of your chosen base:

1. In the toolbar at the right side, there is a pane named **Holes**. Open the pane and select **Box Hole**.

2. Make your hole smaller than your base allowing enough room for an edge to be created: Hover the hole above the base and use the small black cone shape at the top of the rectangle (see the arrow in the screenshot) to drop it onto the surface without creating a complete hole, just removing the first layer.
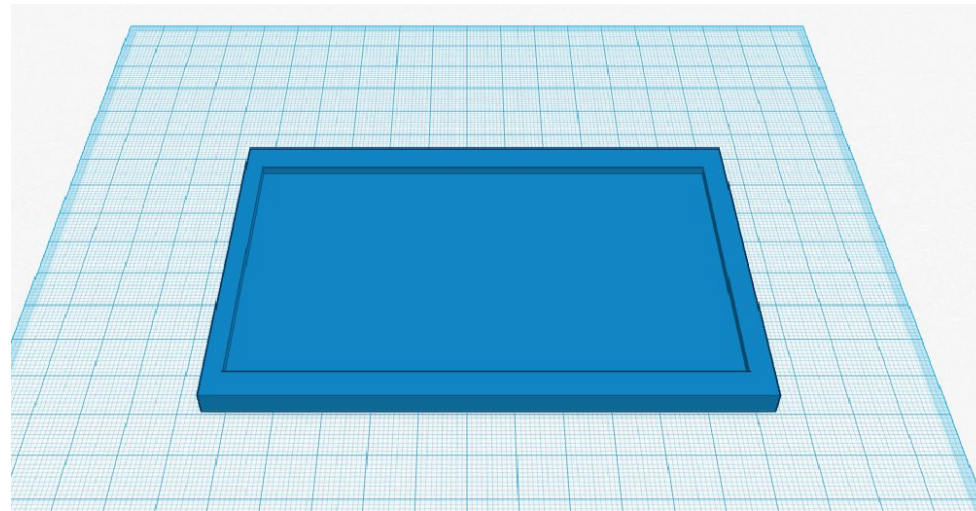
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Step 4: Add edges to the base (continuation)

Select the base and the hole and click the **Group** button at the top to join the hole to the base.

So, this is what the tag should look like:

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Step 5: Add your name

Tinkercad gives you the ability to emboss the name on your base. You are also able to change the colours and shapes of your letters so as to create a quirkier tag.

1. On the toolbar on the right-hand side, open the **Letters** pane.

2. Drag the letters for the name on the tag.

3. Play around with the shapes and sizes of each letter; rescaling your letters works in the same way as rescaling your base. Make sure that each of your letters is properly on top of your base (use the cone shaped handle to move the letter up and down).

4. When finished, select all the letters and click the **Group** button.
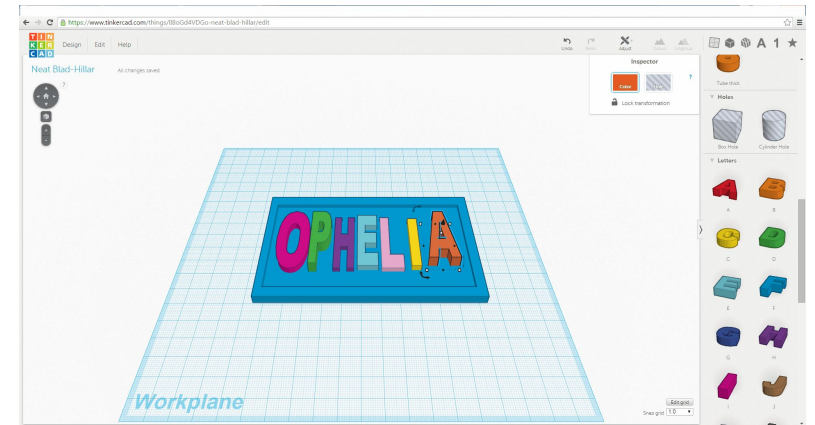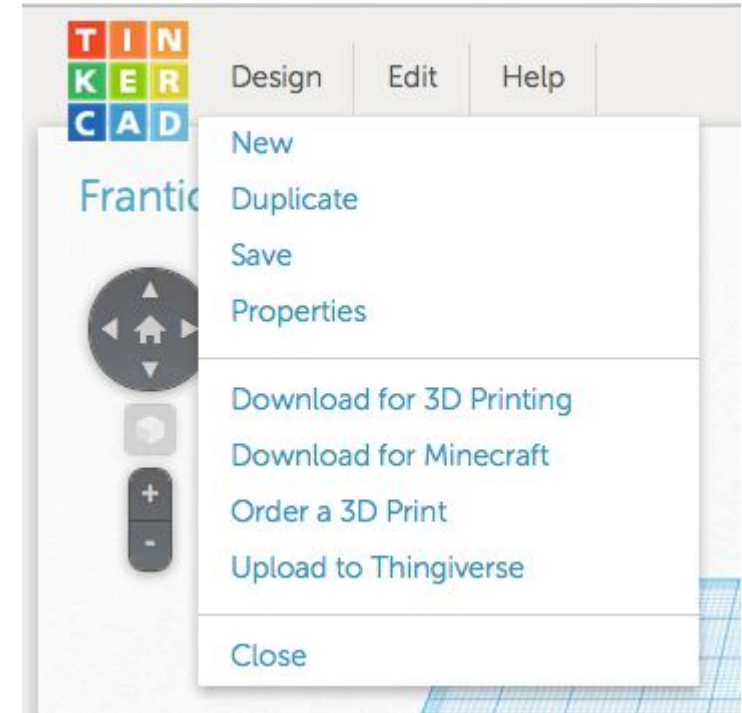
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Step 6: Print your name tag

Once, the name tag is finished, save it and either create an .STL or .OBJ file for your 3D printer or send it directly to a 3D printing service (right now, Tinkercad supports 3D Hubs, I.materialise, Ponoko, Sculpteo, and Shapeways):

1. To be able to reuse the name tag, open the **Design** menu, select **Save** and save the file to your disk.

2. If you have a 3D printer (or have access to one), select **Design →Download for 3D Printing** and then the **.STL or .OBJ** file format. Save the file to disk. If you wish to have your name tag printed by a printing service, choose **Design → Order a 3D Print** and select the service of your choice.

The process is as easy as that, and you will be able to use your name tags to bring personality to your luggage or shirt.

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