

Gladstone Regional Library MakerTime

What is a MakerSpace?

A MakerSpace is a collaborative workspace used for making, learning, exploring and sharing ideas that uses high-tech (e.g. 3D Printing) to no-tech tools (e.g. Knitting).

What is MakerTime?

MakerTime sessions are creative sessions aimed at teaching or providing a chance to practice new arts, crafts, science and technology.

Some MakerTime sessions previously run include:

- Quilling
- Jam making
- Galaxy Pendants
- Spool Knitting
- Squishy Circuits
- Sewing
- Embroidery
- Paper Pot creation
- Papercraft
- Robotics
- Macramé and
- 3D Printed Christmas Decorations

Information Handouts:

This range of information handouts have been created as a beginner's guide to a variety of self-paced activities. There are a large variety of resources readily available both in library and online for guidance and ideas.

Further Reading and References

The following resources contain more information about the topic:

1. 2022. [online] Available at: <<https://all3dp.com/2/d-ampersand-d-miniatures-3d-print-files-dnd-3d-models/>> [Accessed 6 June 2022].
2. Instructables.com. 2022. [online] Available at: <<https://www.instructables.com/3D-Printing-Basics/>> [Accessed 6 June 2022].
3. Sequeira, E., 2020. *3D printing and maker lab for kids*. Beverly: Quarry Books.
4. Rock, S., 2019. *3D printing for beginners : 3D printer manual for exploring, maintaining and troubleshooting your 3D printer*. 2nd ed. U.S.A.
5. Jha, S., 2019. *Autodesk Tinkercad exercises*. CADIN360.

Boyne Island Library hosts a dedicated MakerSpace however MakerTime sessions are available at all branches region wide including:

- Agnes Water Library
- Boyne Island Library
- Calliope Library
- Gladstone City Library
- Miriam Vale Library
- Mount Larcom Library

For more information visit:

www.gladstonelibraries.qld.gov.au

Gladstone Regional Libraries

MakerSpace DIY Collection

Basics 3D Crafting



Image: Alchemy Vials
Source: Jamie Treble



Basic 3D Crafting

With some simple editing you can take an everyday item and embellish it with some 3D printing to craft something new.

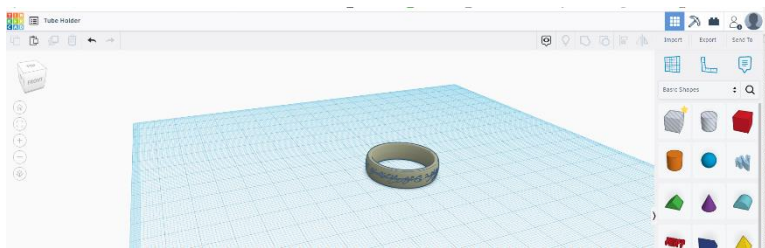
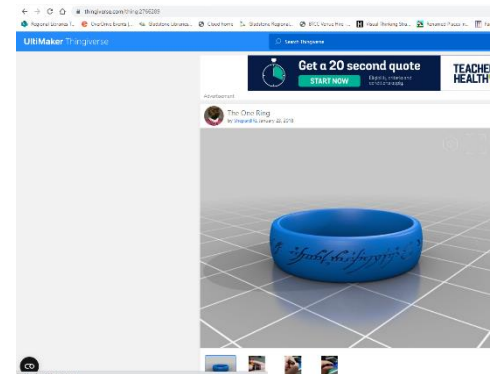
Materials:

- Item to be edited e.g. glass tumbler
- Measuring tape/ruler
- 3D Printer
- Spray paint/acrylic paints
- Cement glue/Super glue (optional)
- Computer with internet connection
- Free Tinkercad.com account

Note: for the basics of how to use the Tinkercad program check out our Basic 3D Design handout

How to Start:

1. Go to www.Thingiverse.com and browse the many different designs that may suit the object you want to create. e.g. search for items called cylinder, tower or ring for the glass tumbler
2. Scroll through the results and download the file for several items. Not all designs will work when you try to edit them
3. Import the files into www.Tinkercad.com in order to edit them



4. Measure the dimensions of the item you would like to craft e.g. the tumbler has a 73mm diameter and is 85mm high
5. Take time to think how the 3D object can be added to your item e.g. around base of item, halfway up, around the lip, turned into a lid
6. Edit the shape to match the size of the item you wish to modify e.g. increase ring inner measurement to 73mm and height to 25mm to add it as a border around the base of the tumbler, or using the basic shapes in the program create a lid



7. Export the item as an *.STL file and get it printed
8. Once printed, paint the object to suit your taste
9. If affixing to the item use a glue that will adhere to both surfaces

