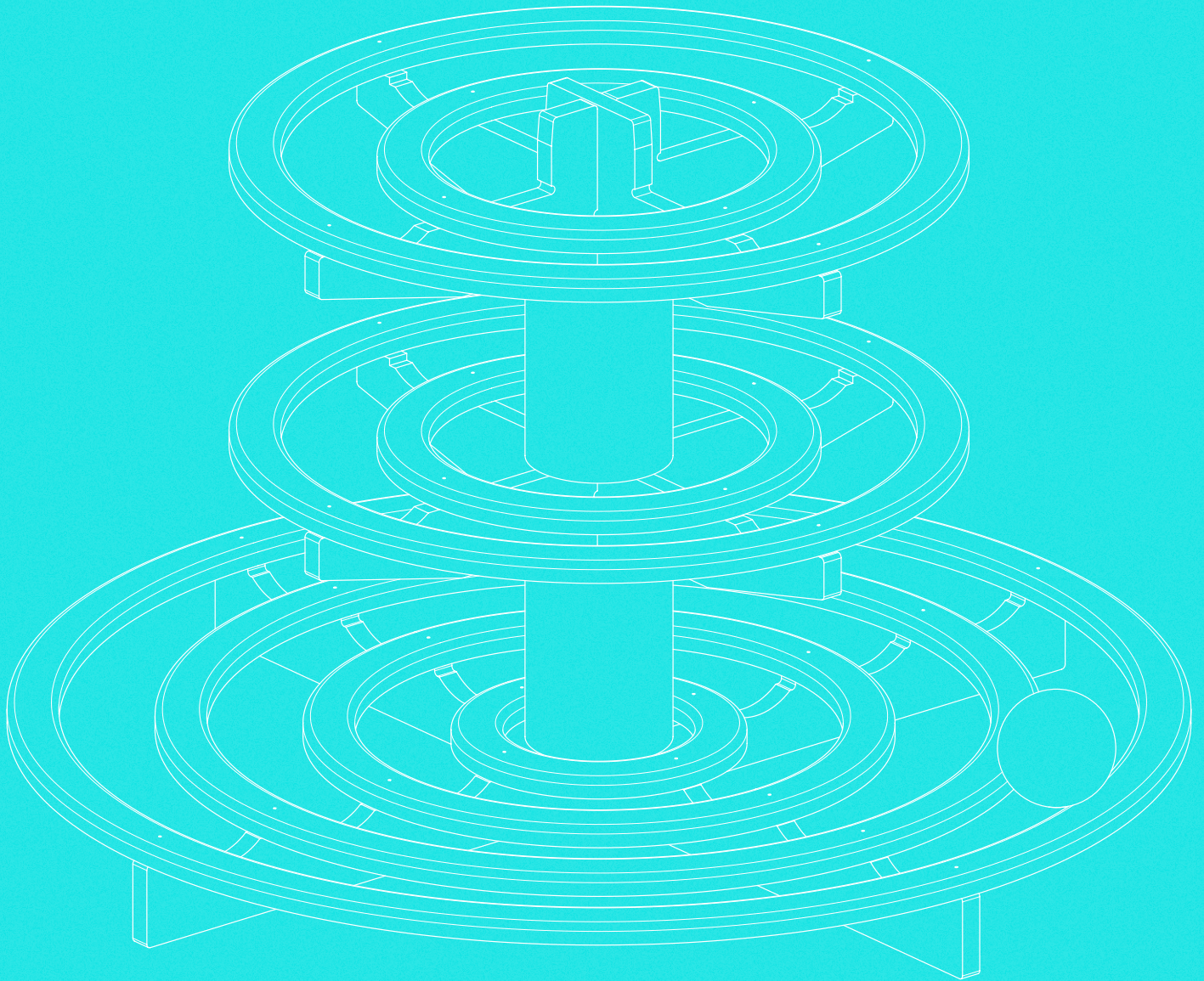


JUGGLING TOWER

USER MANUAL





WOESH

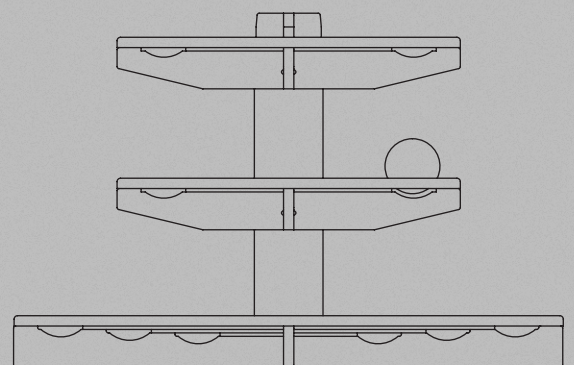
Hoi!

Dit is een handleiding voor de Juggling Tower.

Een ontwerp gemaakt door ons, een team van Ergotherapeuten en Industrieel Productontwerpers. We bundelen de krachten in een gezamenlijk project voor Circus Woesh. Zij zetten zich in om de individuele, sociale, motorische en creative ontwikkeling van kinderen, jongeren en volwassenen te bevorderen. Het motto is dan ook: "Circus is voor iedereen!"

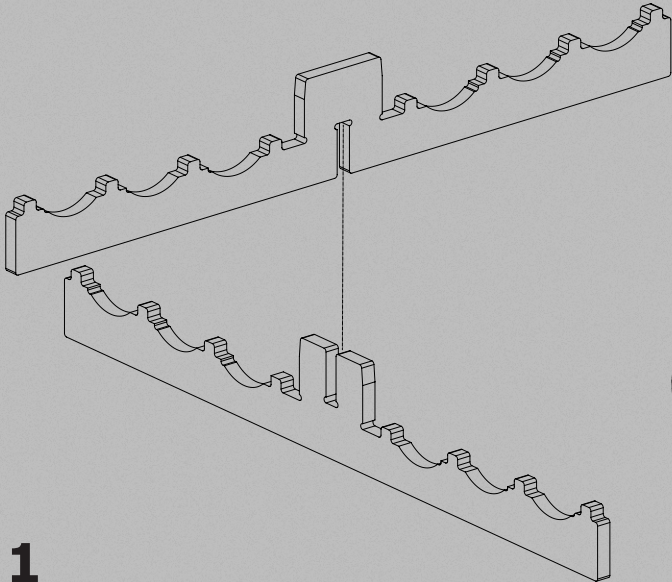
Ons specifieke doel is om circustools te optimaliseren voor mensen met een handicap. Het eindproduct volgt de principes van functional juggling en open design.

In deze handleiding staat alles om je eigen Juggling Tower te maken. Veel succes!

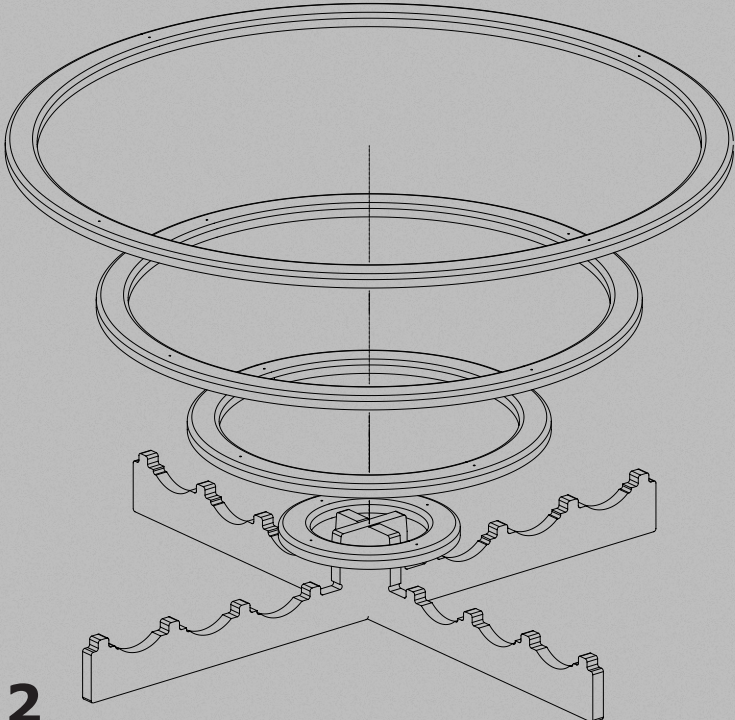


1: ASSEMBLY

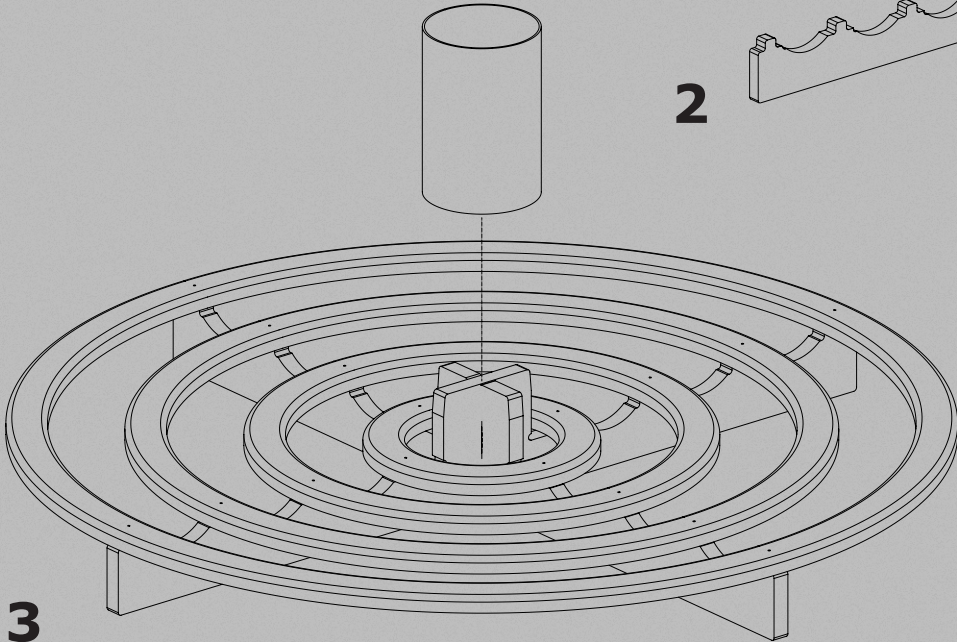
1.1: BASE



1

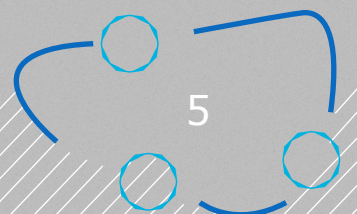
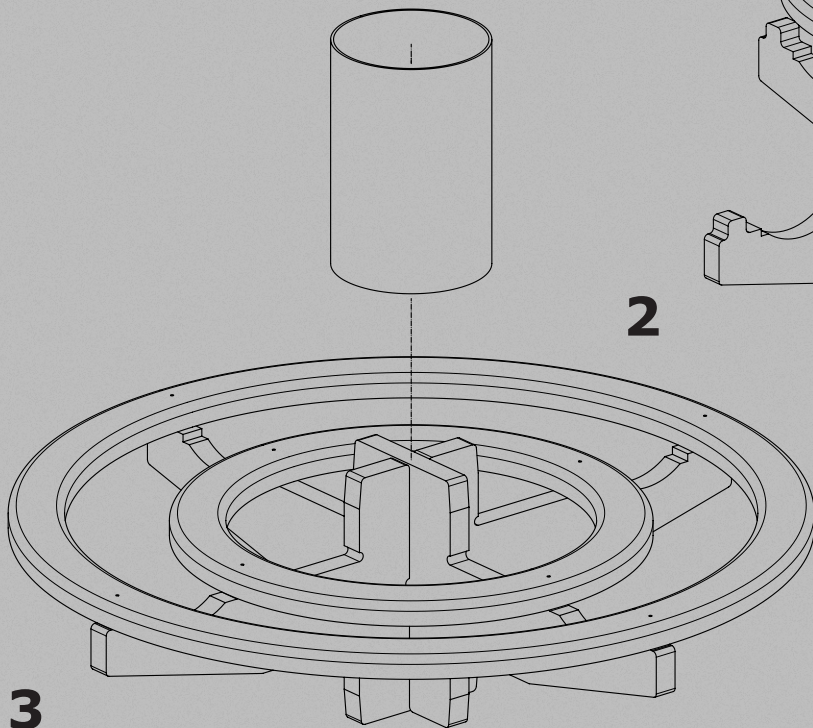
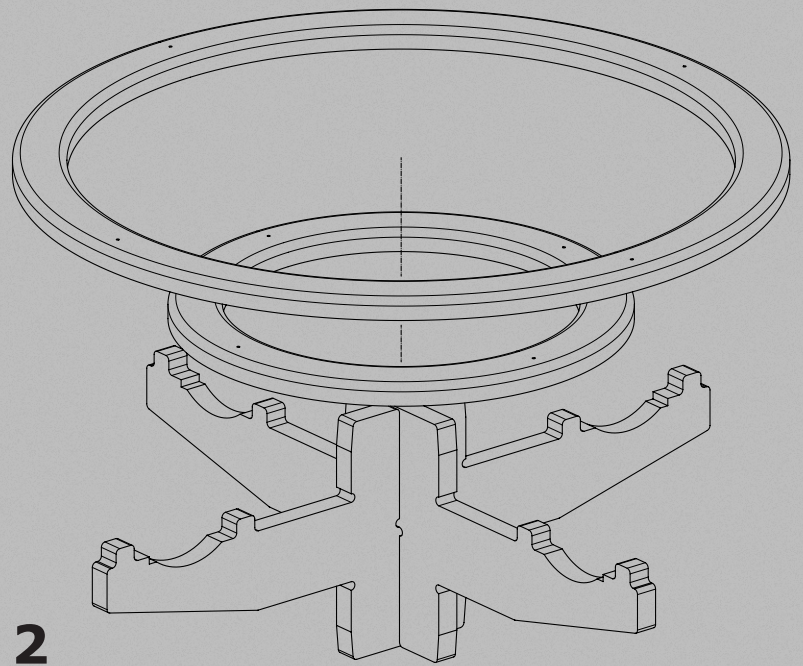
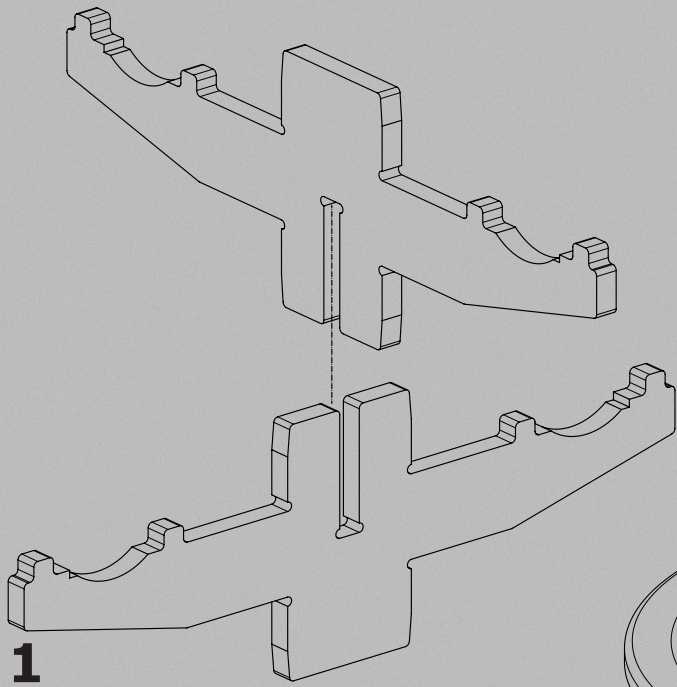


2

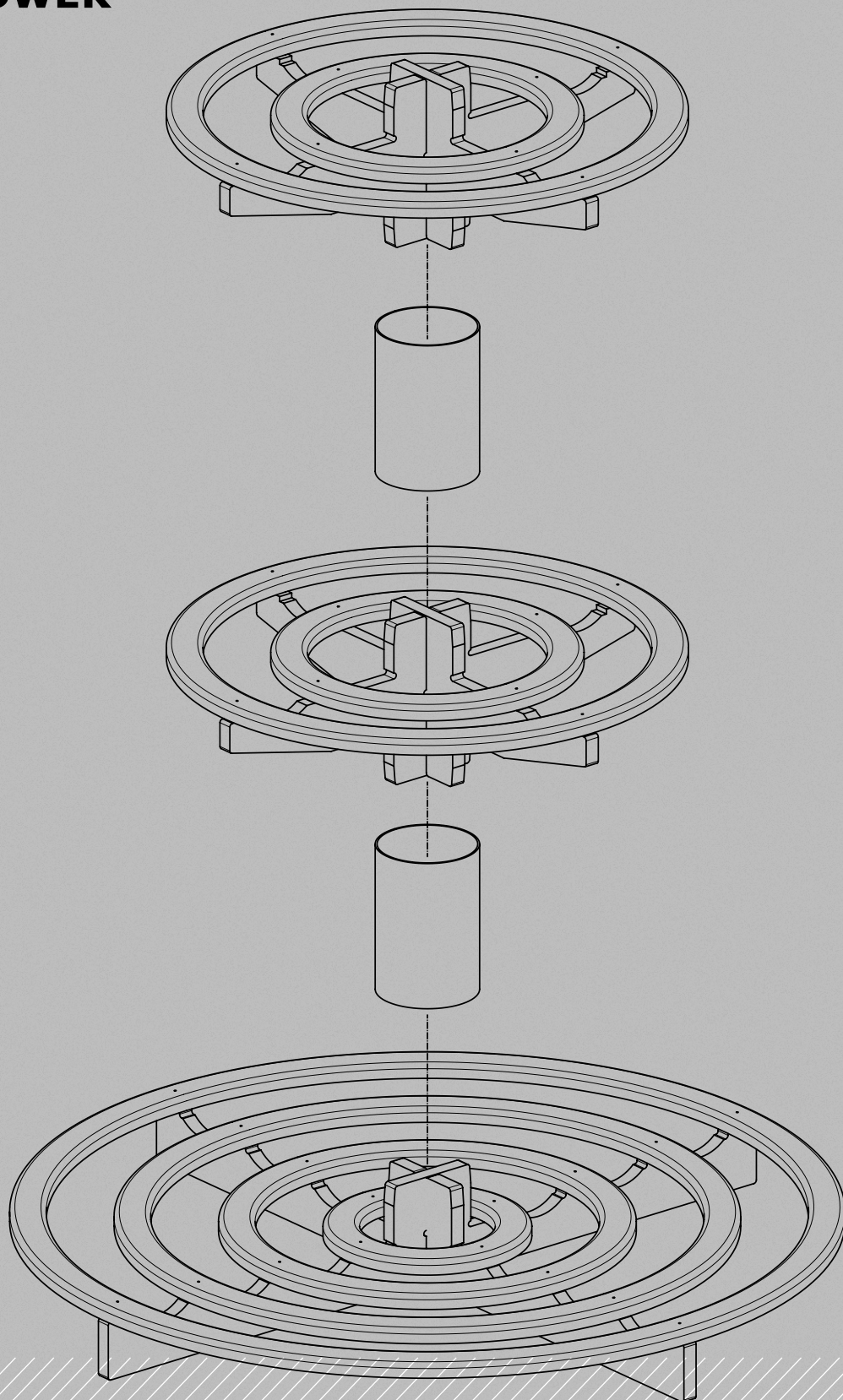


3

1.2: LEVELS

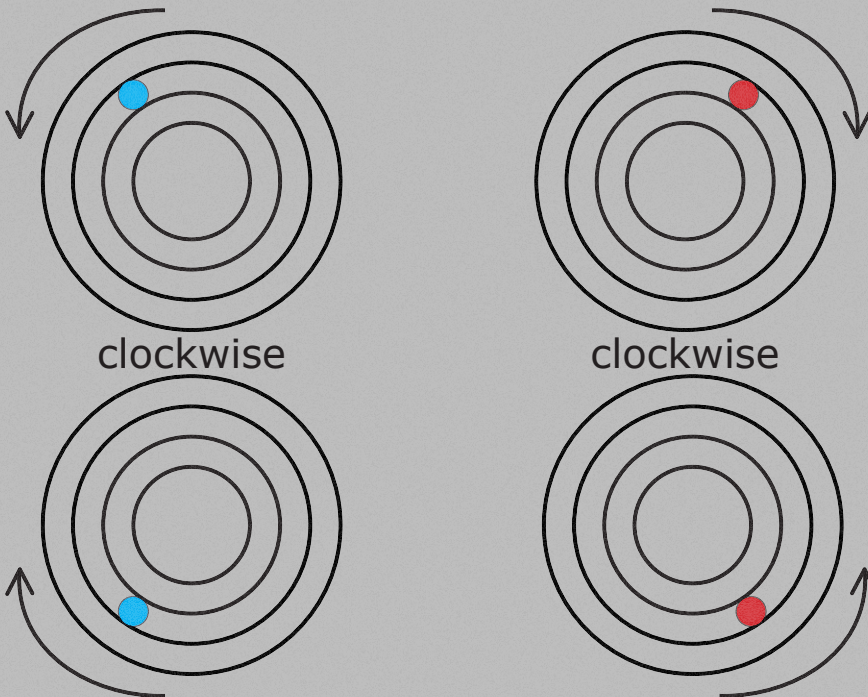


1.2: TOWER

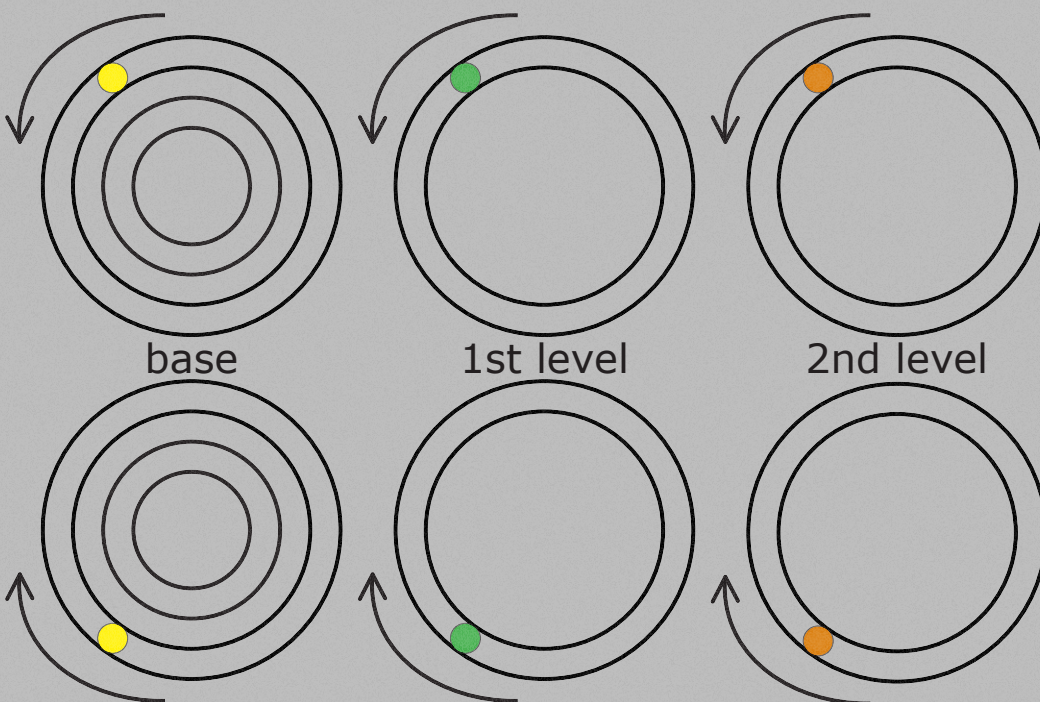


2: HOW TO PLAY

2.1: BASE LEVEL ONLY (SITTING AT TABLE)



2.2: FULL TOWER (STANDING AT TABLE)

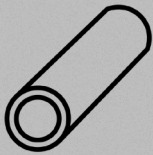


3: DO IT YOURSELF

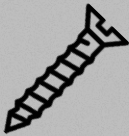
3.1: MATERIALS



1250x1250x15 plywood board (film faced)

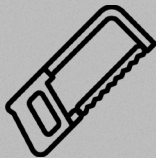


L1000 D100 PVC pipe

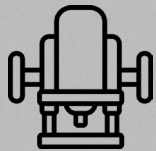


3.5 x L25 screws (T15)

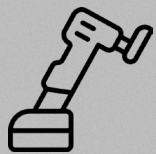
3.2: HANDTOOLS



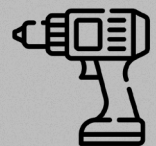
hacksaw



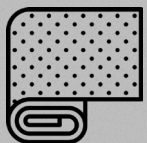
handheld router (table mounted)



multitool

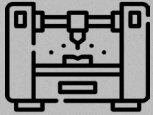


cordless drill (or screwdriver)



some sandpaper

3.3: MACHINES



CNC router

overzicht van fablabs op: <https://www.fablabs.be>

3.4: SOFTWARE & FILES

Estlcam free to download on: www.estlcam.com

Estlcam tool library can be found on: instructables.com

DXF file can be found on: instructables.com



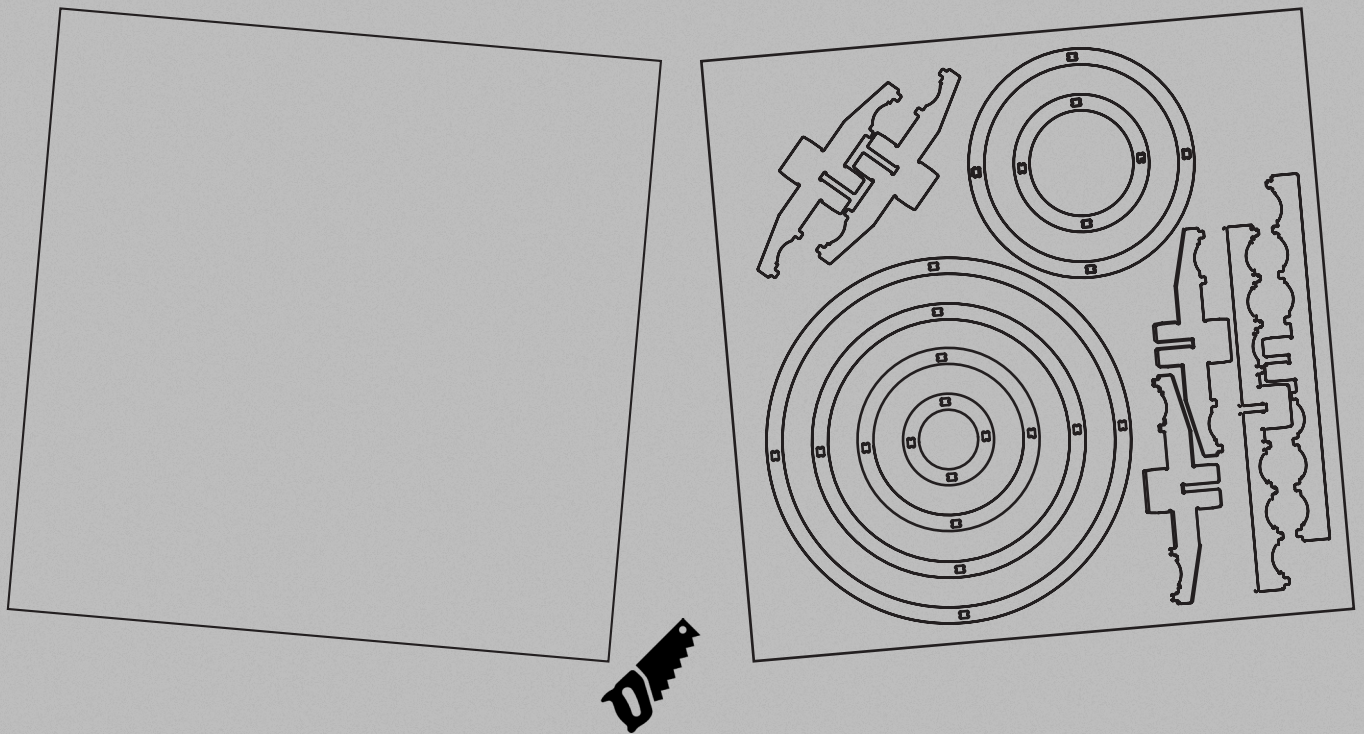
3.5: PREPARING THE MATERIALS

Standard plywood boards often come 2500x1250. Cut the board in half to get two pieces of 1250x1250 each.

*You only need one half to make a full Juggling Tower.

Cut the PVC pipe into lengths of 150. You should be able to get 6 pieces from one meter-long pipe.

*You need 2 pieces to make a full Juggling Tower.



3.6: EXPORTING TO CNC

Upload the DXF file to Estlcam, set toolpaths and cutting depths, add tabs to secure the workpiece, and choose the 6mm router bit with appropriate speed and feedrate.

Estlcam software: <https://www.estlcam.de/index.php>

3.7: RUNNING THE MACHINE

Most machines require some additional steps before you can start the routing operation. These steps may include:

- fixing the workpiece to the router table. Use a sacrificial board underneath your workpiece to prevent damaging the machine.
- setting the zero point
- measuring the tool length



3.8: REMOVING THE TABS

Because we used tabs to keep everything in place, the workpiece is still attached to the board. You can use a multitool or jigsaw to cut the pieces loose.



3.9: CLEANING UP THE EDGES

The pieces are now free from the board. However still have some bumps where the tabs used to be. To get a smooth edge, you can use a handheld or table router with a flush trim bit.



3.10: ADDING ROUNDED EDGES

To guarantee smooth rolling of the ball along the track, you can add a rounded edge on each ring. This also prevents splinters when using the Juggling Tower.



3.11: SANDING THE PARTS

After all the parts are done, you probably still have a couple of loose wood fibres. You can simply smooth the surface of the Juggling Tower with a piece of sandpaper or a sanding machine.



