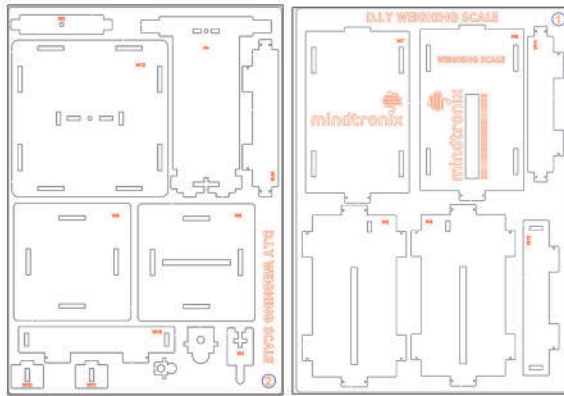


# DIY Weighing Scale - Parts list



MDF set X1



Screw driver X1



Rubber bands X10



Screws X5



Nuts X5



Magnet X1



Foam stoppers X2



Spring 4mm (Yellow)



Spring 6mm (Green)



Spring 8mm (Red)

Spare



Spring 4mm (Yellow)



Screws X5



Nuts X5

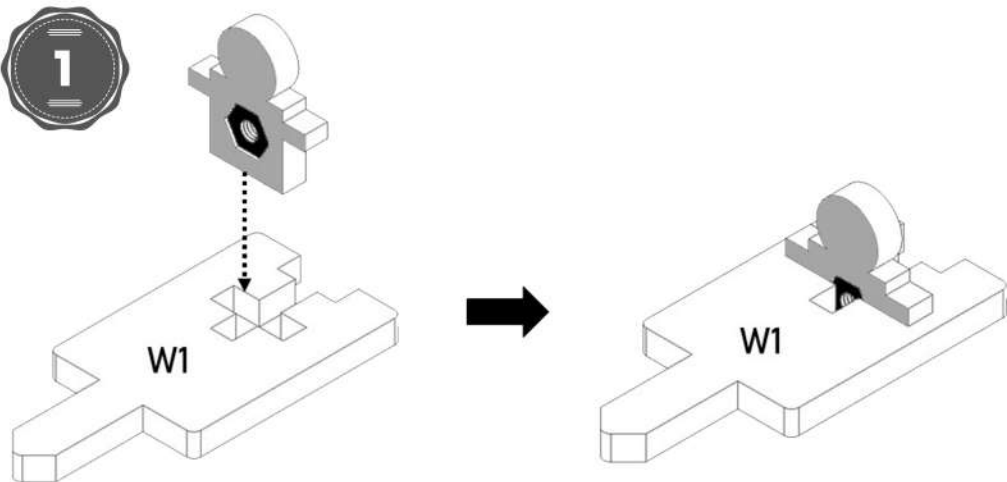


Rubber bands X10

\*Use Magnet to keep screws and nuts from losing



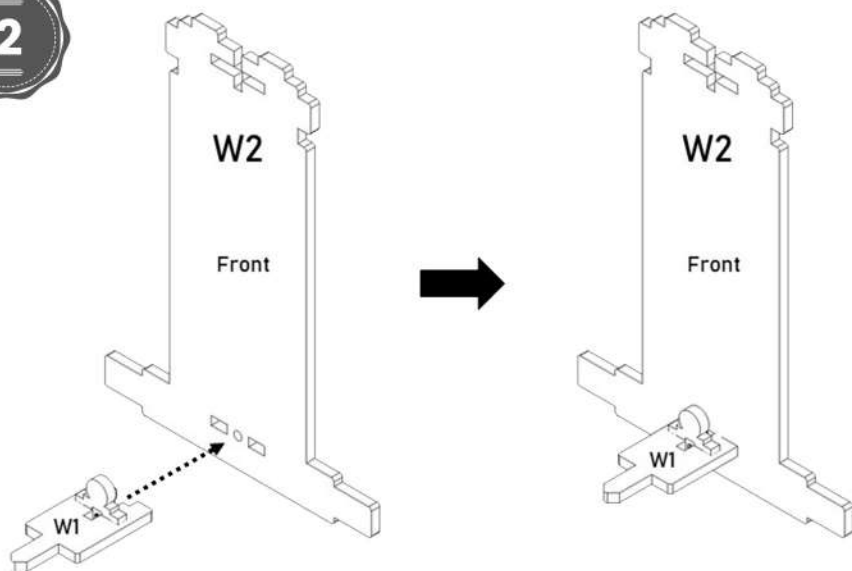
1



Insert nut connector in W1 slot



2



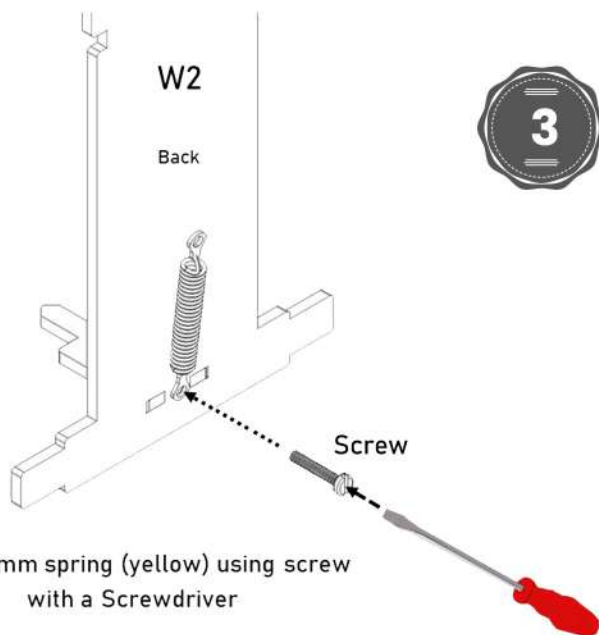
Fix W1 block to W2 block

Spring view



W2

Back



3



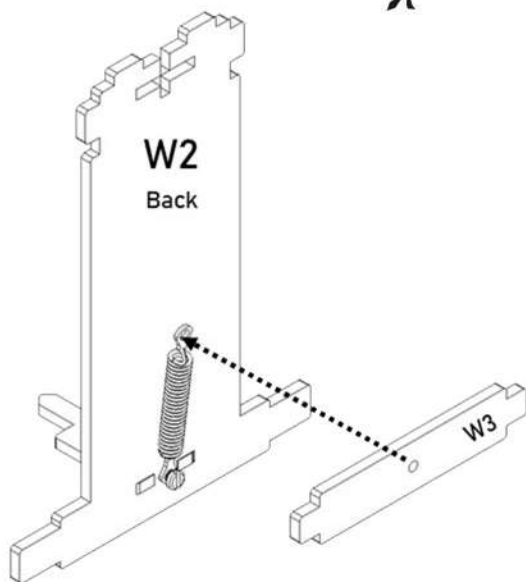
**DO NOT  
STRETCH  
THE SPRING**

Fix the 4mm spring (yellow) using screw  
with a Screwdriver



W2

Back



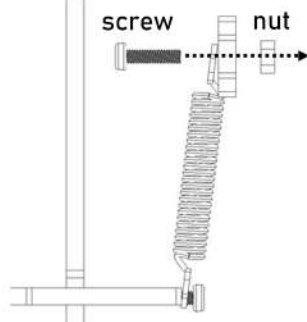
Connect W3 to the spring

Side view

W2

screw

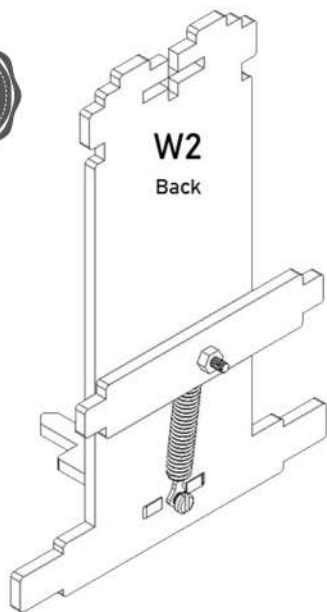
nut



Fix W3 to spring using screw & nut

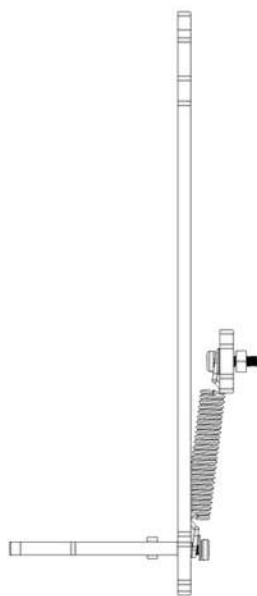
4

5



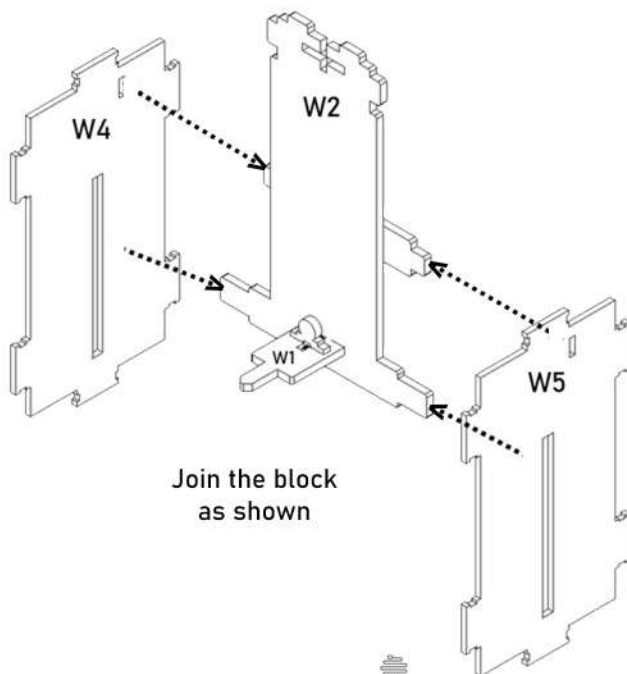
W2  
Back

Back view

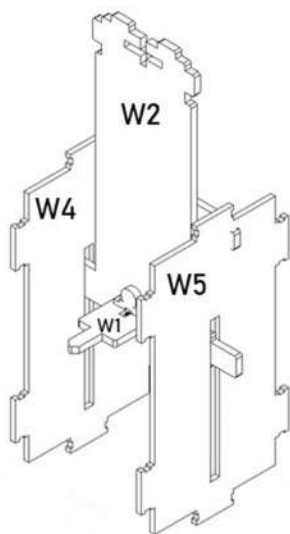


Side view

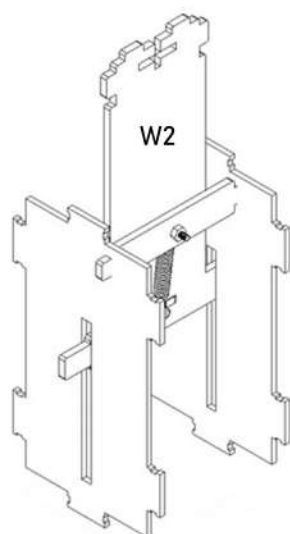
6



Join the block  
as shown



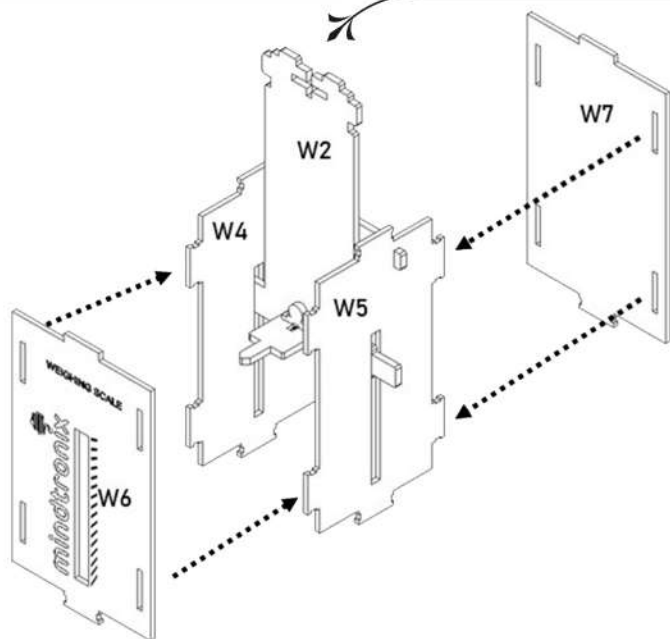
Front view



Back view



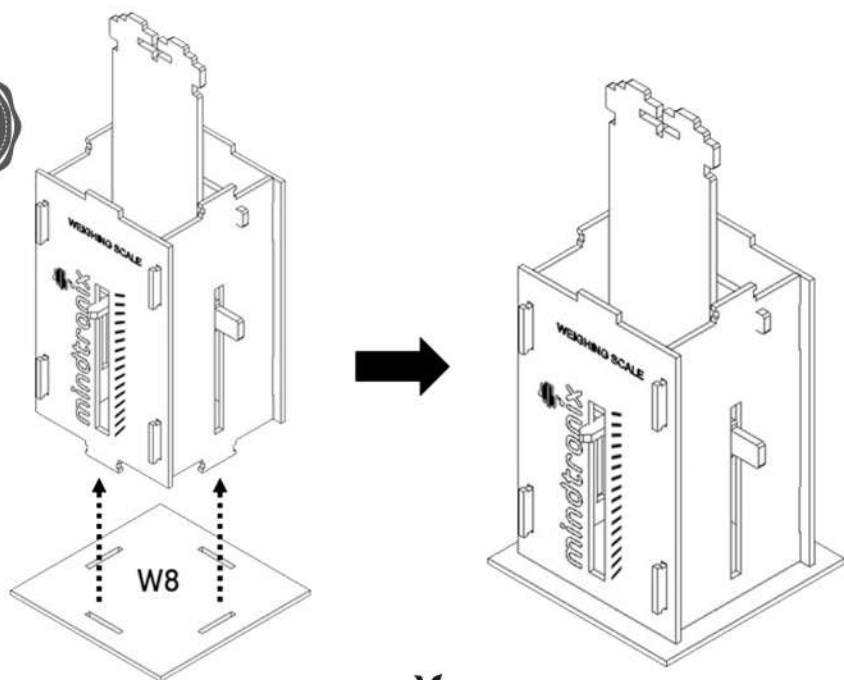
After assembling



Fix the front (W6) and back (W7) block

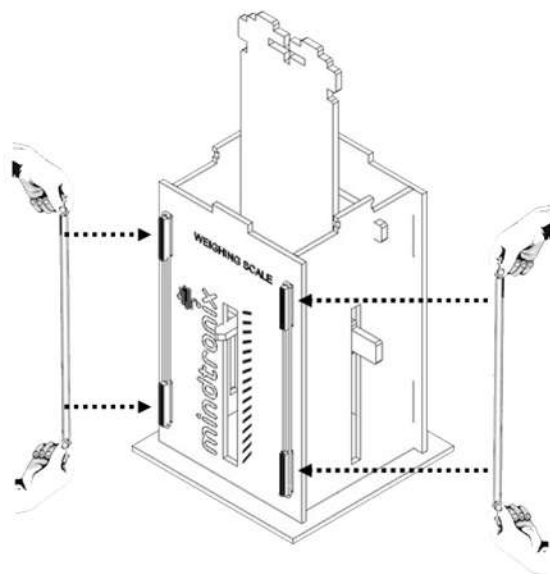


9



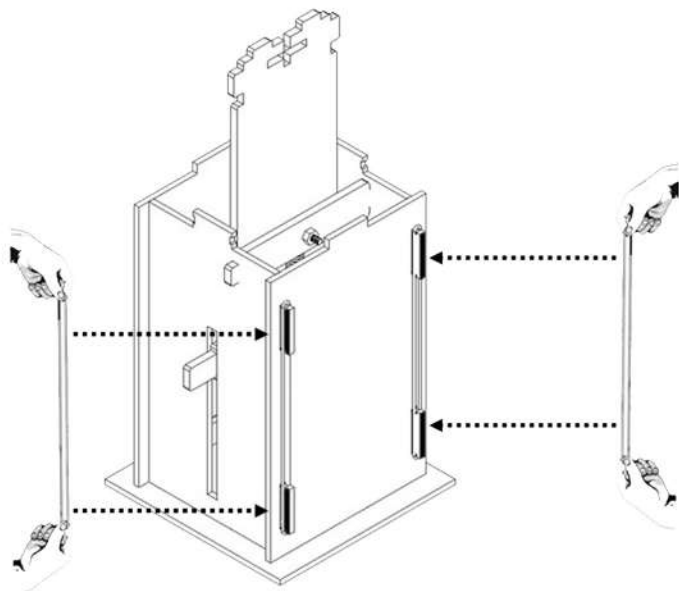
Front

10



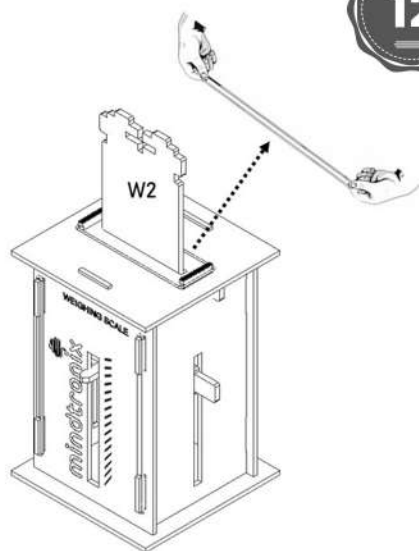
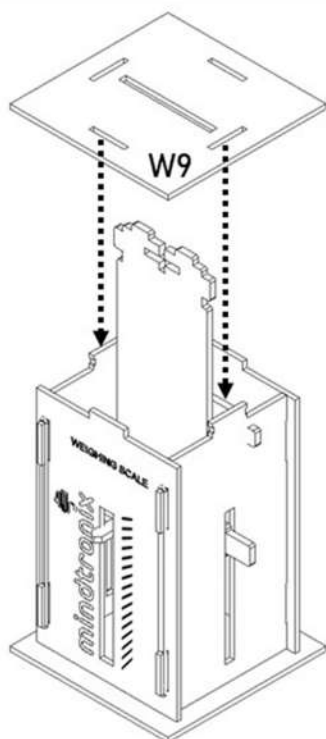
Lock the joints using rubber bands

Back



Lock the joints using rubber bands

11

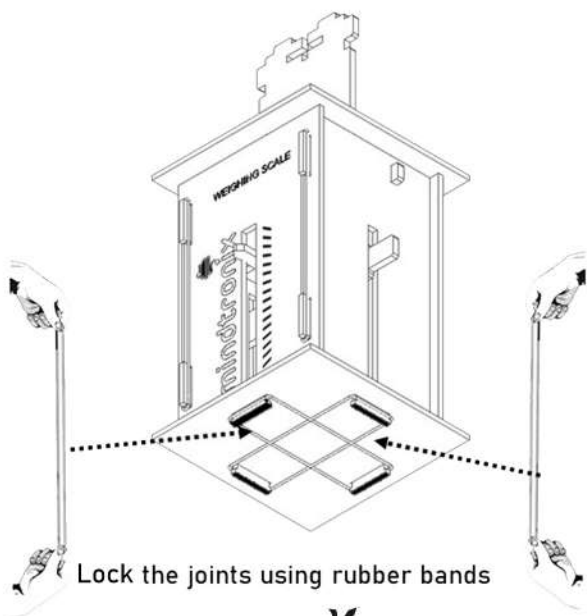


Lock the joints using rubber bands

12

Bottom

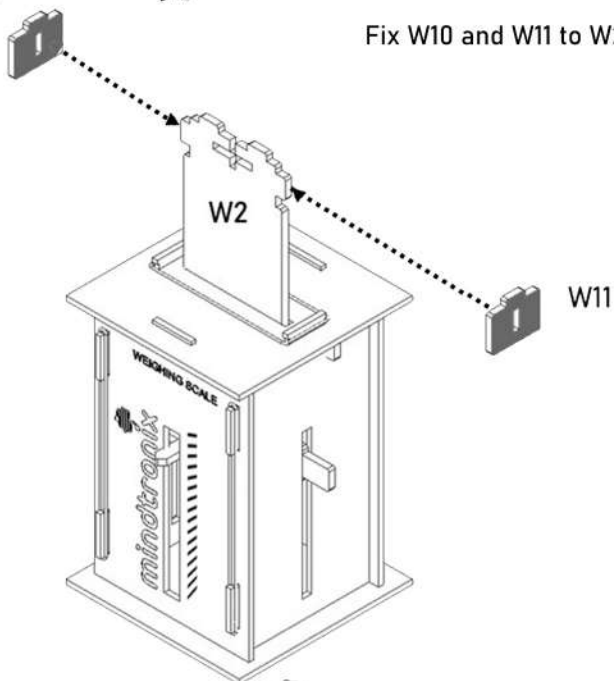
13



W10

Fix W10 and W11 to W2

14

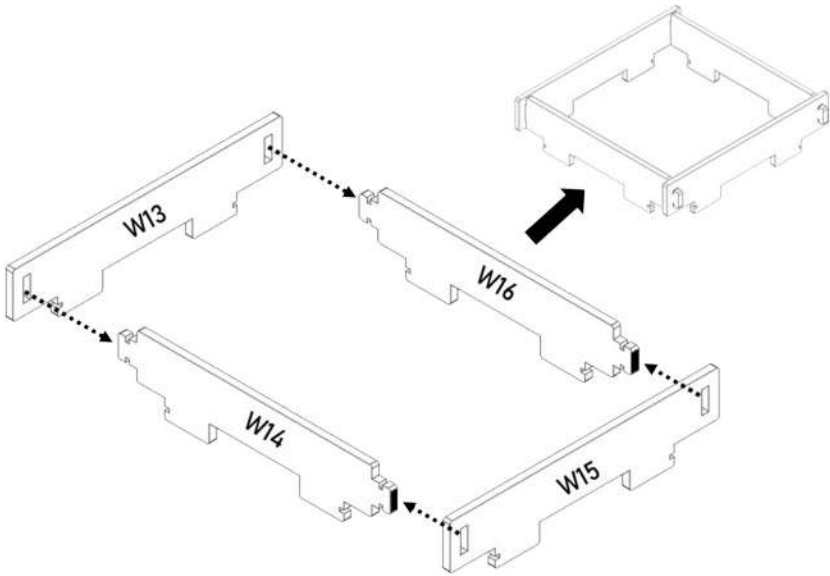


mindtronix

8



15

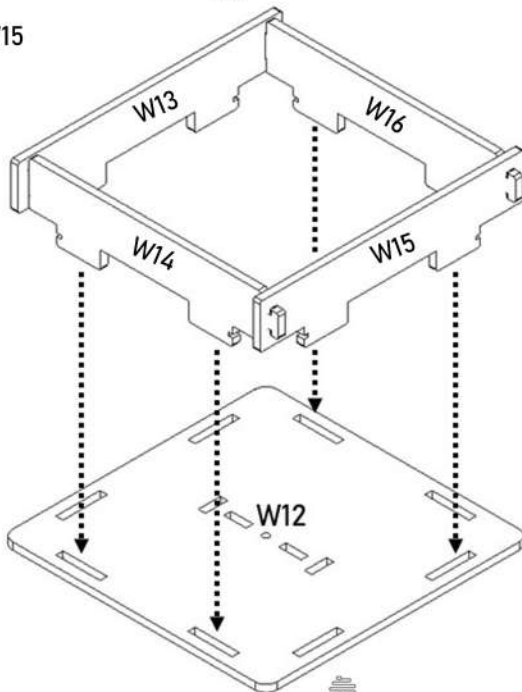


Connect the blocks

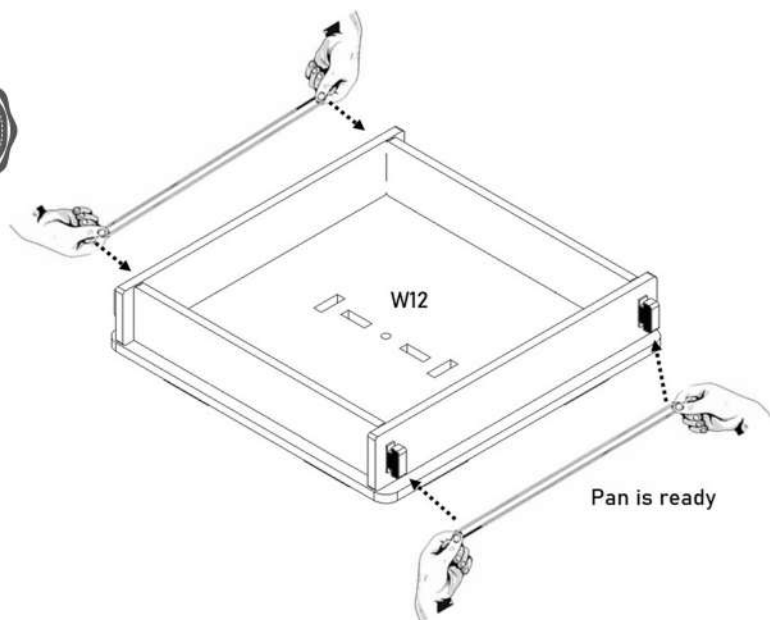


16

Insert W13, W14, W15  
W16 on S12

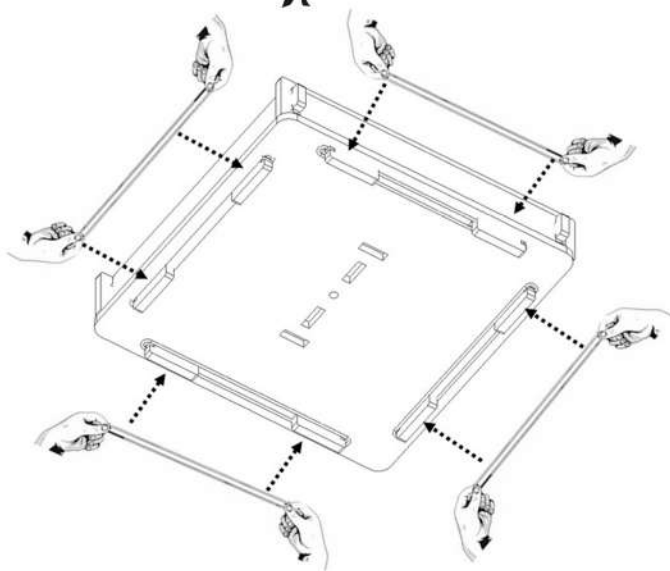


17

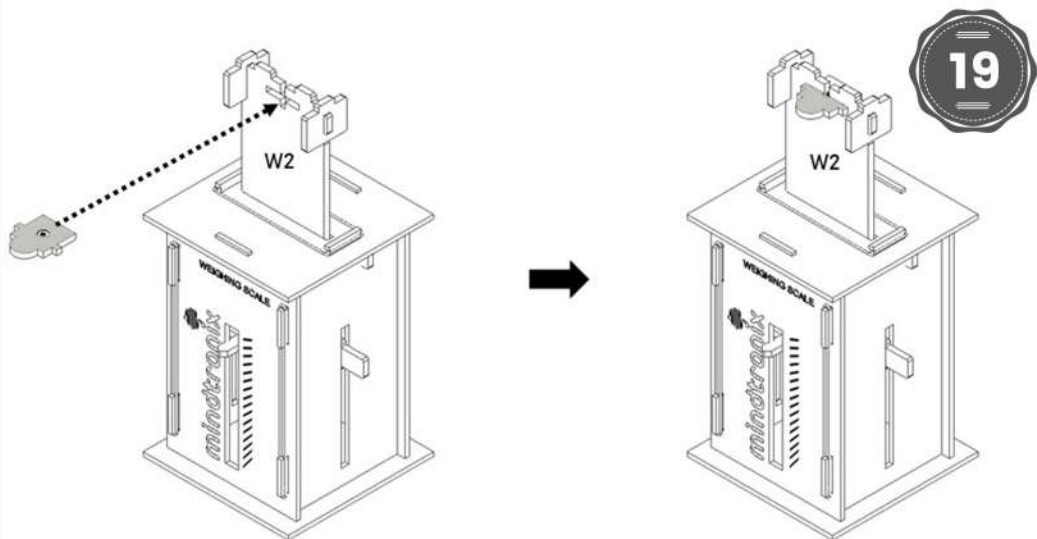


Lock the joints using rubber bands

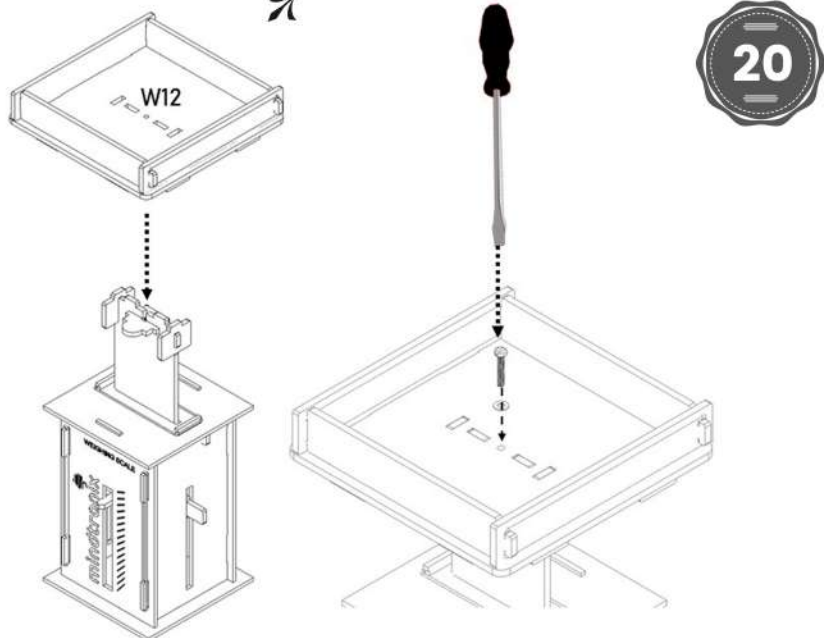
18



Lock the joints in the bottom using rubber bands

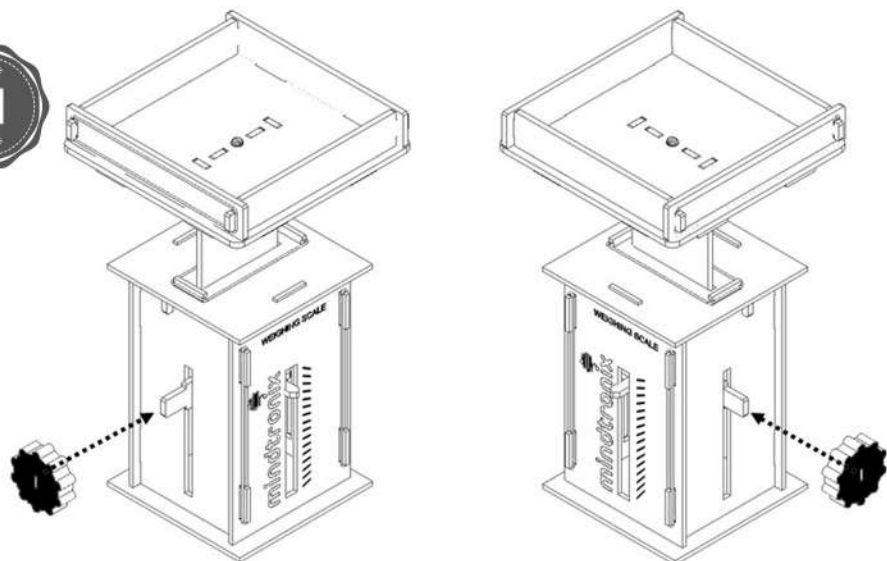


Fix the nut connector to W2



Place the pan on W2 and fix it using screw and washer with Screwdriver

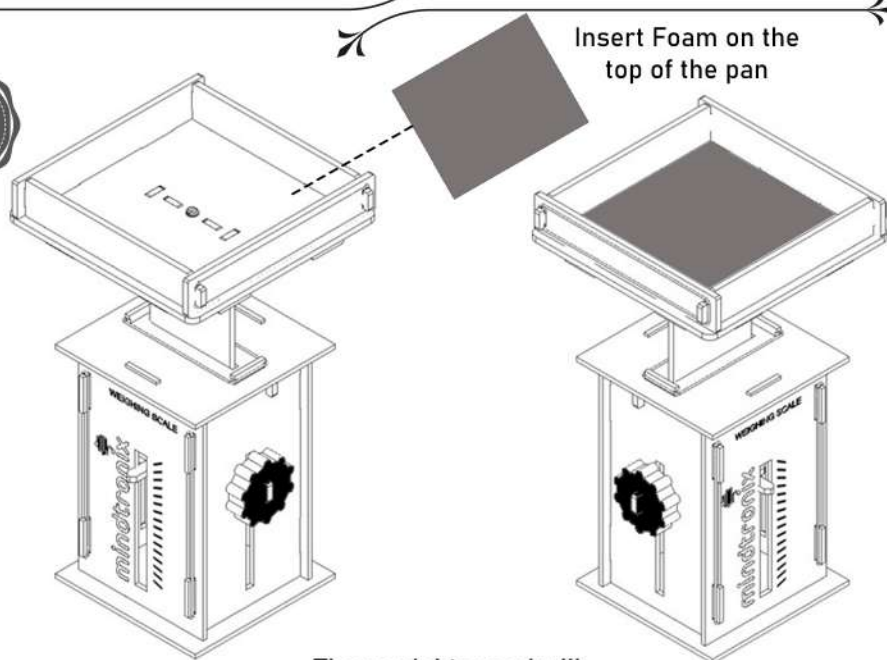
21



Fix the foam stoppers on the both sides

\*Do not tighten the stoppers too hard, it might affect the motion of spring

22



Insert Foam on the top of the pan

The model is ready...!!!  
Let's test it...!!!!

# DIY Weighing scale

## AIM

To build and understand the working of a Weighing scale

## INTRODUCTION

How many times do you weigh things in a day? Food/Groceries/Parcels and many more. We use different types of balances in our daily life. Let's build a Spring "Weighing scale"



## HOW TO CALIBRATE

- Build the model using the building instructions.
- Take a known weight of 100 grams (E.g., Biscuit packet).
- Place it on the pan of the Weighing scale
- Mark the reading on the scale using a pencil.
- Now increase the known weights and mark on the scale using pencil
- Now let's test unknown weights and calculate their respective weights.
- Try the above process with 6mm & 8mm springs and observe the reading.

(Green) (Red)

**Note:** This Weighing scale is only for educational and understanding purpose not a precise weighing scale

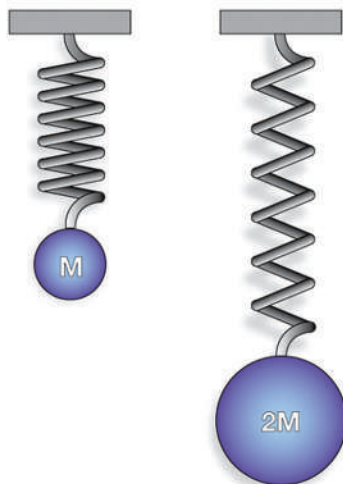
## THEORY

A weighing scale is a device to measure weight

A spring scale uses a spring of known stiffness to determine weight.

Suspending a certain weight will extend the spring by a certain amount depending on the spring's stiffness (or spring constant).

The heavier the object, the more the spring stretches, as described in **Hooke's law**.



**Test the Weighing scale with different springs  
and observe the change in readings as per the spring length**

