

In The Balance

Topic/Learning objectives of exhibit:

Leavers, proportions, equalities

List of Materials Required:

- Scale Balance

There are multiple options to choose from:

- 3D print and build a scale balance (you can find the files [here](#));



- Make a scale balance using recycled materials.



- use a commercial scale balance of any type.



- Unitary Weights one of which should be heavier or lighter.

Step-by-step Construction

Estimated Time: 5 ~ 6h

<p>Step 1 (Skip if you have a pre-made scale)</p>	<p>Print Individual Pieces of Scale and weights (10 hours)</p>	
<p>Step 2 (Skip if you have a pre-made scale)</p>	<p>Assemble Pieces using 6 nails (1.5 mm diameter) as axis (20')</p>	
<p>Step 3</p>	<p>Calibrate the scale using pieces of tape until there is no preference for a plate to be down</p>	

Assembly

Estimated Time: 1'

Place the scales in front of the Exhibit board with the weights next to it.

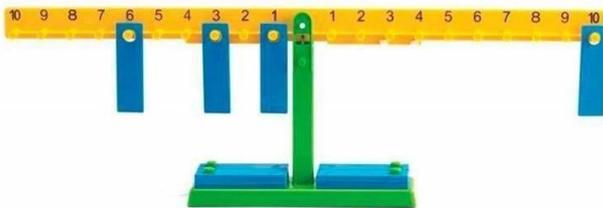
Alternatives

Instead of using a graduated plate weighing scale for the first problem, any plate scale can be used. See the examples of the coat hanger as a substitute for the beam.

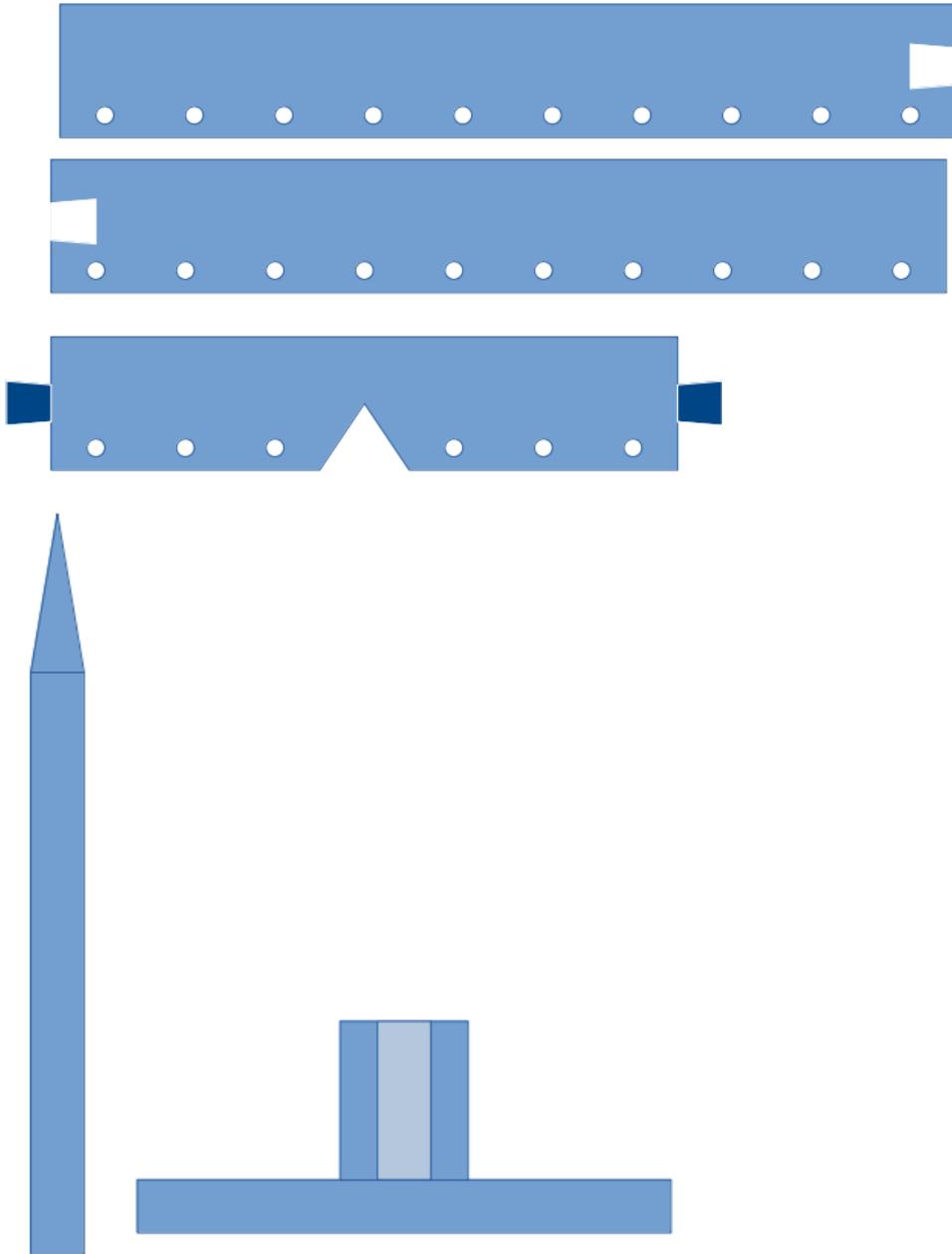
Equally, it is possible to build a graduated scale and hook weights into the beam. See the example below.

Roman Scale

A Roman scale, 25 cm on each side of the support point, with equidistant 12 marks on each side.



This model can also be replicated using the following cut-out.



The weights might be constructed using everyday hardware store items like bolts, nuts and screws.



For connecting pieces to the scales themselves, one could use hooks and other household appliances.

