

Load.. Aim ..Fire..... Shoot the ball at your target

Contents

- P1 Content (this page)
- P2 Parts List
- P3 Making 1/3
- P4 Making 2/3
- P5 Making 3/3
- P6 Photos
- P7 Printout

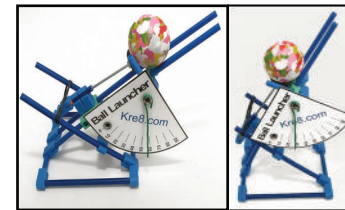
Activities

- 1) Assemble the model by following the instructions.
- 2) Test the model by resting the 'ping pong ball' on the rods - *you may need to adjust the 'ball rest' so the firing pin best hits the ball.*
- 3) *device a competition such as hit a target on a wall, get ball through a hole or in a basket etc.*
- 4) Record your test results so you can then predict where the ball will land (angle distance and amount rubber band needs is pulled).
- 5) You could design a way of calibrating how much the rubber band is stretched.

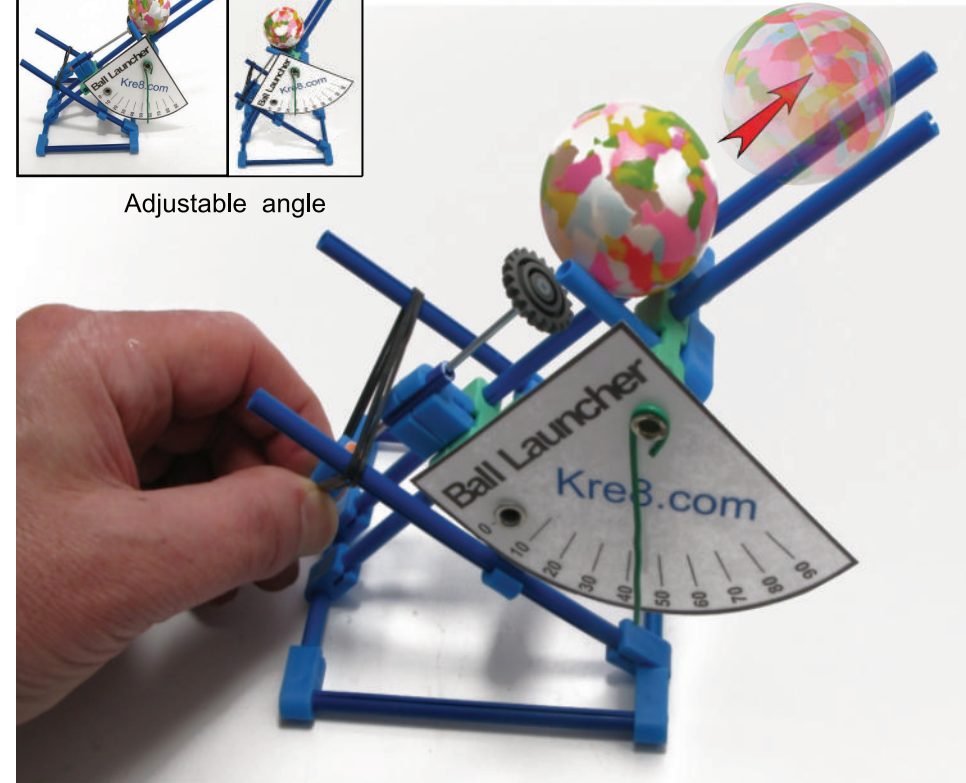
Features

Maximum height is **210 mm** depending on launch angle required to fire the 'ping pong ball'.

The protractor shows the firing angle. The 'pong ball' is guided by the two blue slit rods.



Adjustable angle



Key Words / Knowledge

Elastic powered, variable force, energy conversion, kinetic energy, testing, target, aiming, consistency, degrees, protractor, reading, degrees, projectile, safety.

Safety

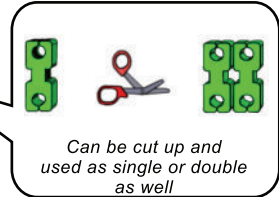
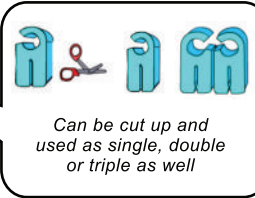
Test in a safe area where things will not fall down or get broken due to this activity. (a good testing place is an empty school hall or room). Target - can use a bucket (or even a waste paper bin) or perhaps use a wall so ball comes back to you.



1 x ping pong ball



Blue clip connector
(strip of 4)
5 x Clip connectors

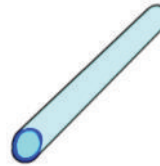


Green multi-block connector
(strip of 3)
2 x green multiblocks



5mm dia. slit rod

- 2 x 200mm long
- 2 x 100mm long
- 2 x 80mm long
- 2 x 120mm long
- 1 x 25mm long



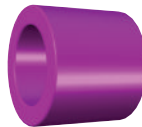
2 x Light blue tube
(cut up as required)



1 x 2mm dia x 75mm steel shaft



2 x rubber band 60mm



2 x spacers
(colour may vary)



1 x 20T gear



1 x 2-4mm adapter

5mm



1 x 5mm dia orange bendy tube

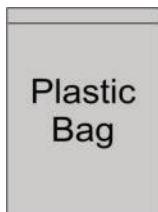


2 x 4-5mm steel adapter



Paper-clip

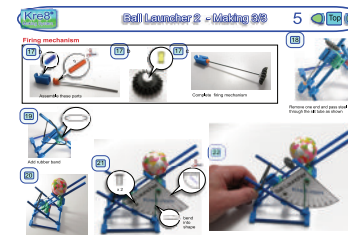
Abrasive paper



Plastic Bag



Safety and Other Information
PAPER INSERT



For making Instructions see web
www.kre8.com

Tools you also need



Snips or good scissors



Pliers to bend steel

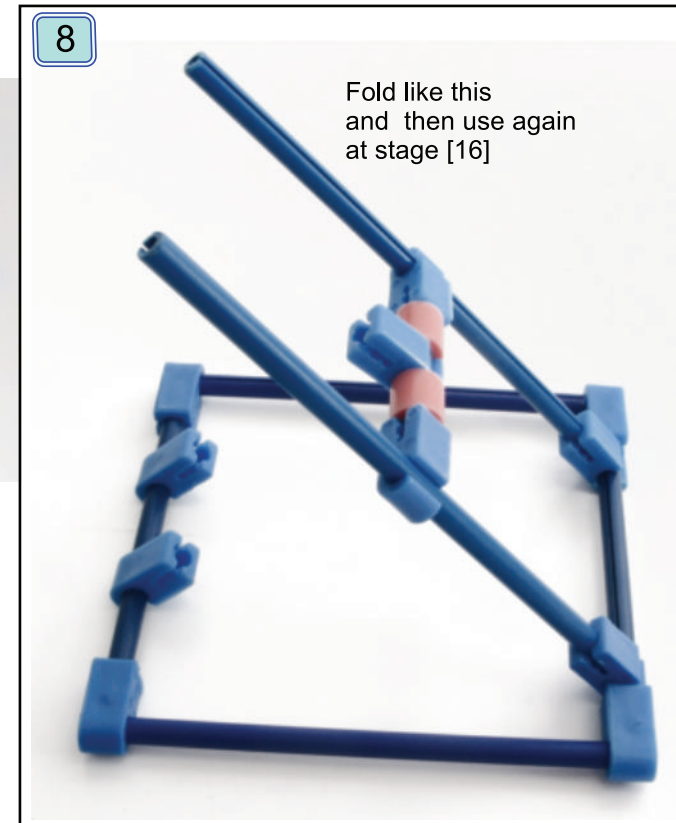
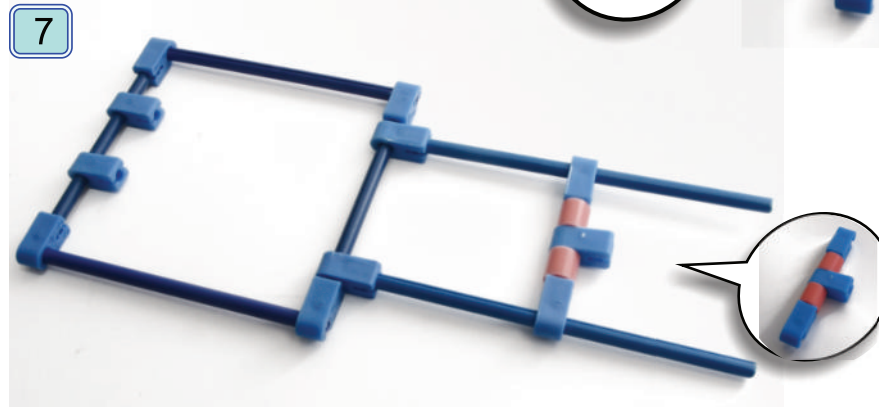
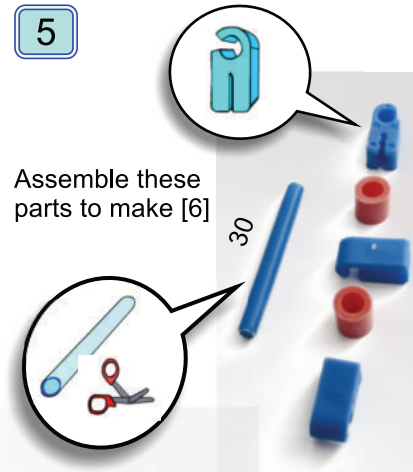
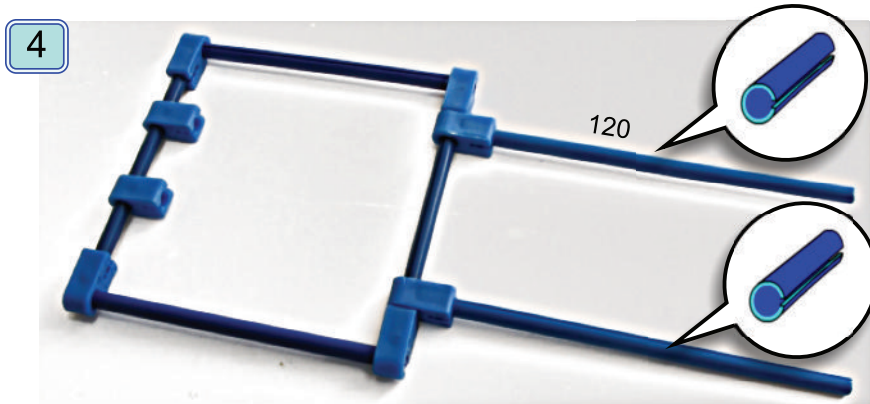
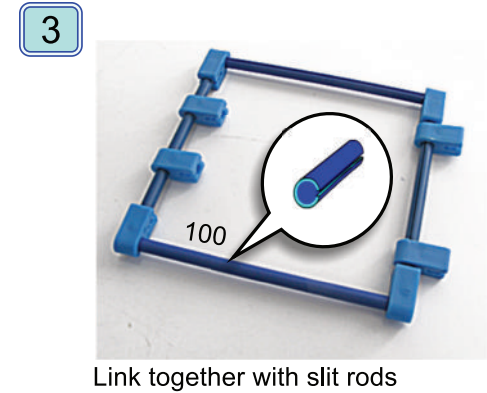
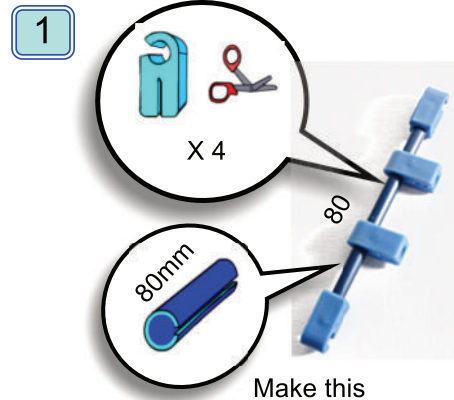


Rule (metric)

TO MAKE ALL SIZES IN MM
Use these 'step-by-step instructions' as a guide and adapt as you want.

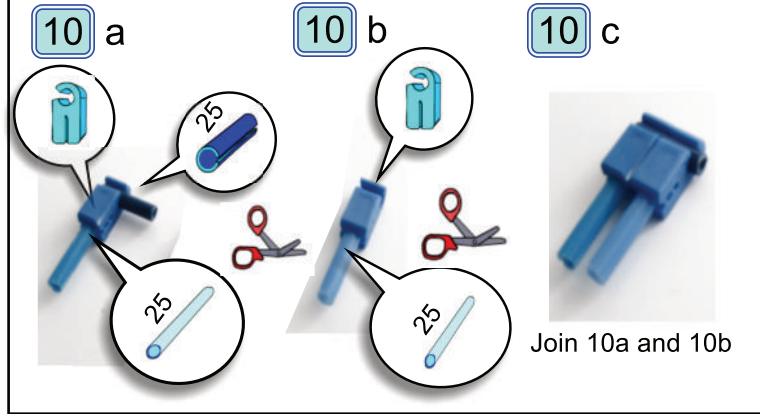
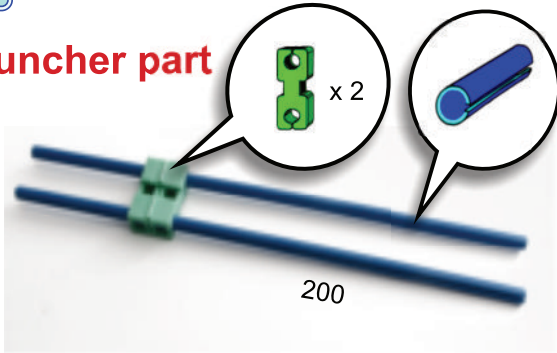
NOTES

- 1) **ONLY** cut up connectors as needed
- 2) Use metric ruler for measuring
- 3) For **EASY assembly** -
 - a) Smooth and round the end of the rods with abrasive paper then
 - b) **Push and twist** the rods into place.

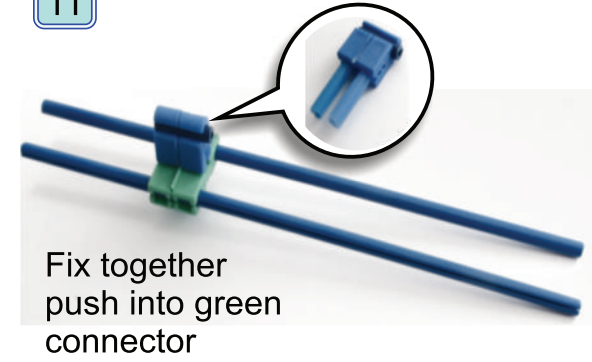


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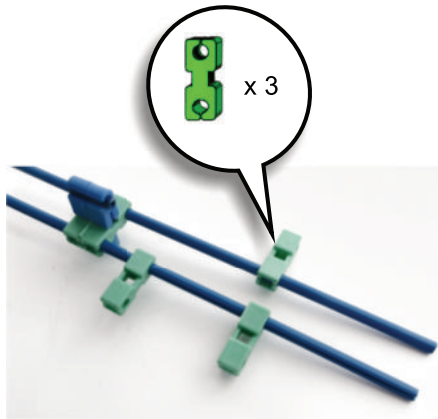
Launcher part



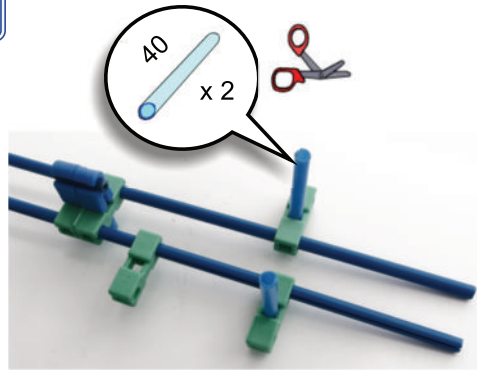
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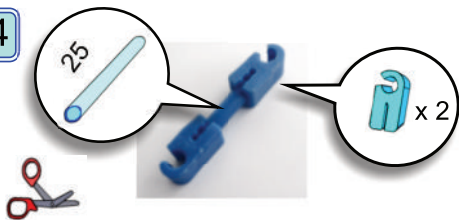
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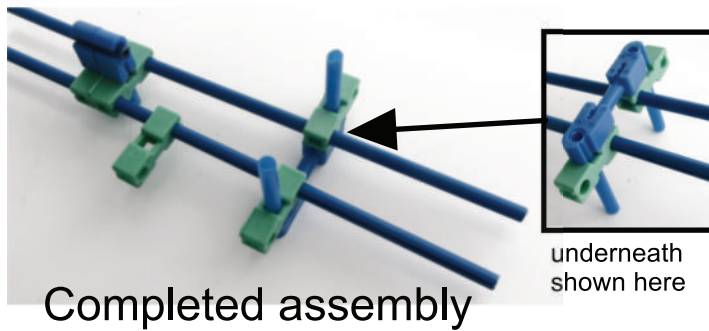
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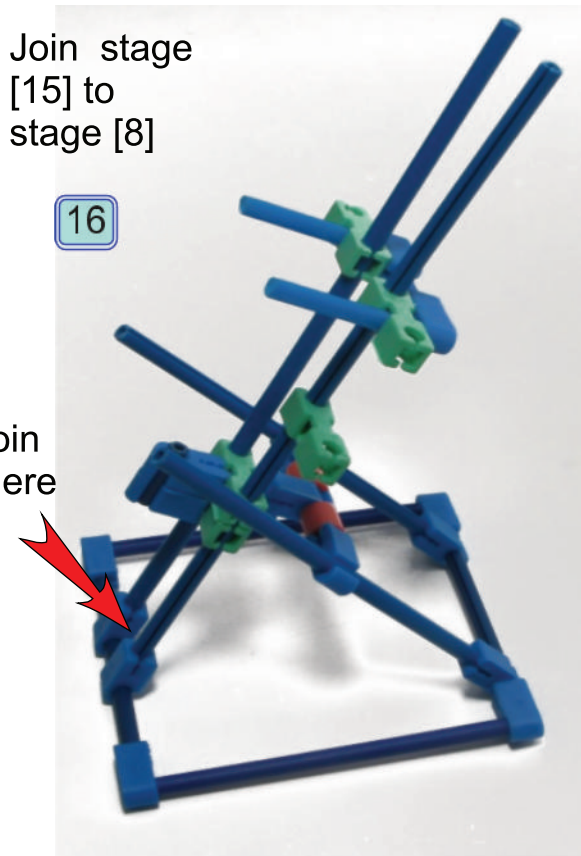
15



Join stage [15] to stage [8]

16

join here



Firing mechanism

17 b

Assemble these parts

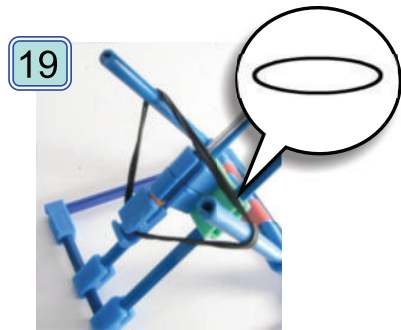
17 b

17 c

Complete firing mechanism



Remove one end and pass steel rod through the slit tube as shown



Add rubber band



Adjust so ball held properly

21

x 2

Ball Launcher
Kre8.com

bend into shape

Optional - Add inclinometer





Below are 6 inclinometers - One per kit needed - Laminate then cut out

