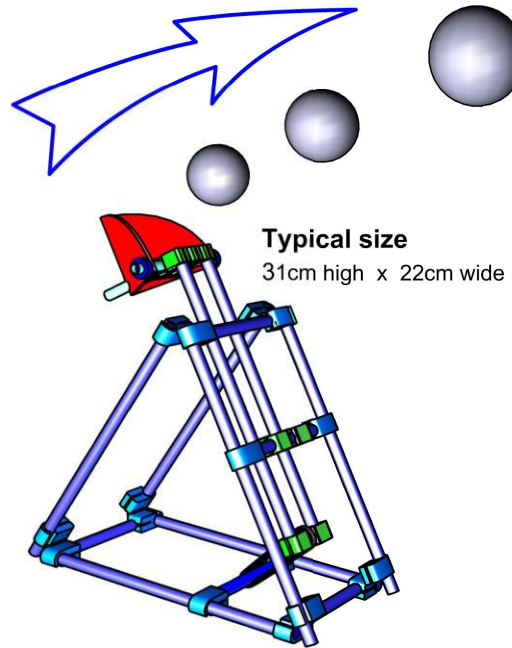
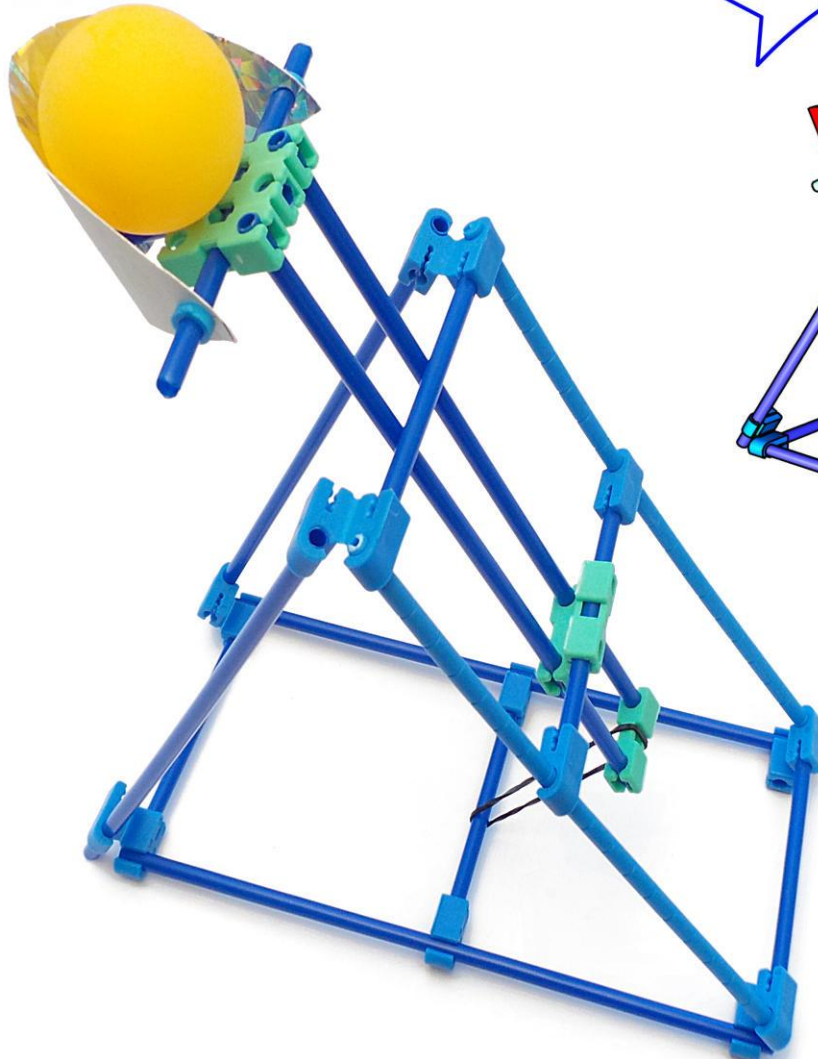


Introduction



Tasks

Make a mangonel catapult that can throw a table tennis ball. Great for a fun throwing competition that can be held in a classroom.

Competition

Start by placing a box to catch the balls a distance of 3 metres away from the mangonel and see if you can get the table tennis ball into it. You can make up your own rules.

Keywords

Movement, triangulation, force, stored power, potential energy trajectory, competition, testing, accuracy, stability, elastic power.

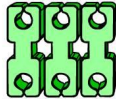
Extra Challenges

- 1) Devise a way to fire it remotely by pulling a piece of string.
- 2) Design a fair way to score and then hold a competition.
- 3) Can you sketch then if time make a way to automatically load the balls.

Illustrated below are the parts used to make the model



4 x Kre8 clip connectors



2 x Kre8 green clip connectors



12 x Kre8 dark blue tubes x 20cm



6 x Kre8 blue collars



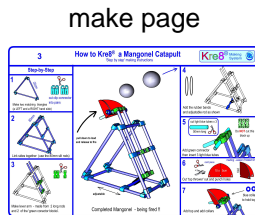
1 x ping pong ball



2 x Kre8 5mm snap rods



2 x elastic bands 60mm long



1 x paper insert



1 x coloured card
A5 (cut in half) size



Abrasive paper

1 x
abrasive paper

Tools

Snips

Use to cut the Kre8 connectors, plastic sheet and thin blue tubing. The serrated blade type are the best. (Kre8 can supply if needed)



Emery Cloth

Use 'emery cloth' or other **Abrasive paper** to round and smooth the slit rod or blue tube ends to make assembly easier.

Pencil and rule

Use to mark lengths of blue tube or slit rods before cutting. Can also be used on plastic sheet before shapes are cut out.



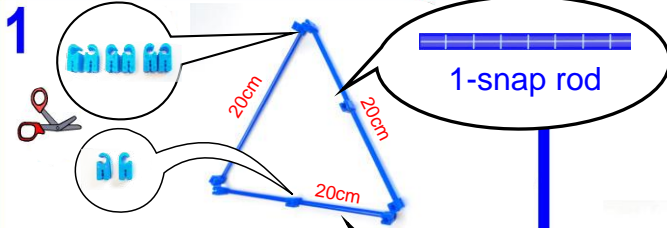
Hole Punch (5 or 6mm holes)

Use to punch hole in card used for thrower

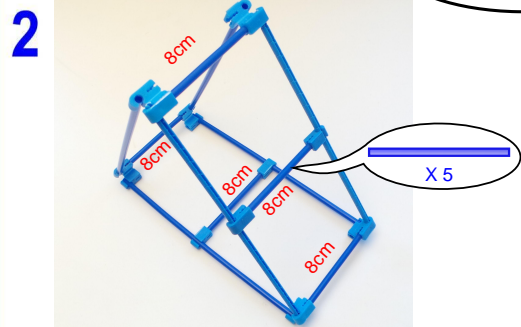


Tip Watch the accompanying video for help

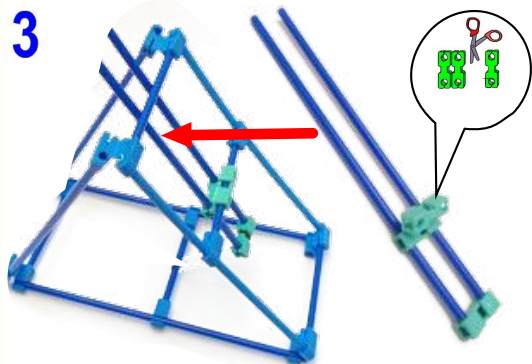
Step-by-Step



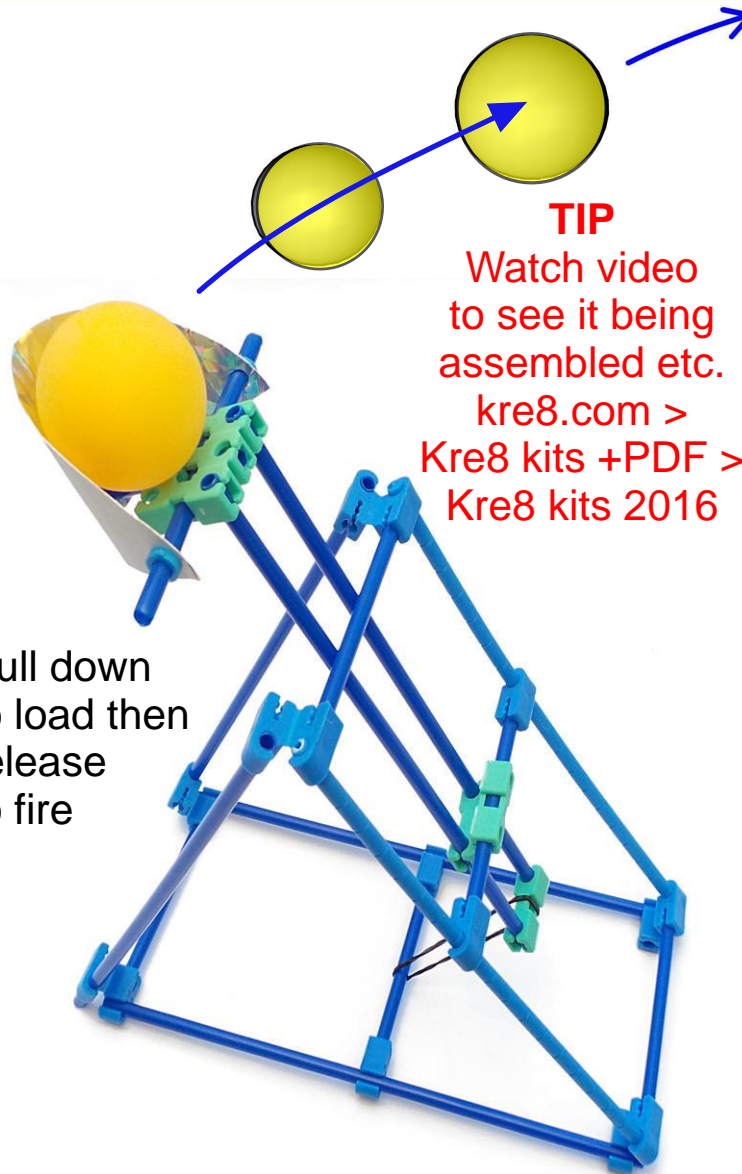
Make two matching triangles
(a LEFT and a RIGHT hand side)



Link sides together (use the 80mm slit rods)



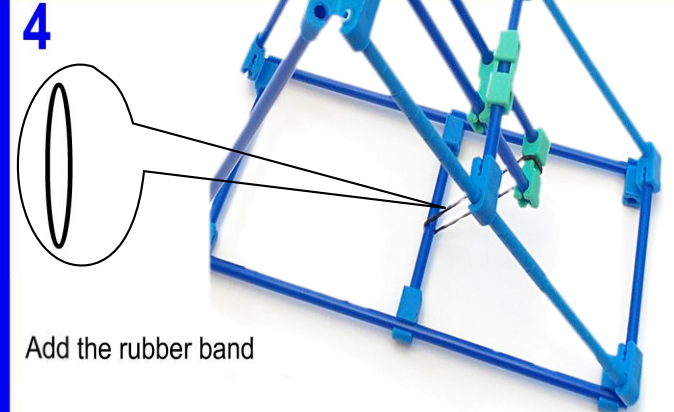
Make lever arm - made from 2 long rods



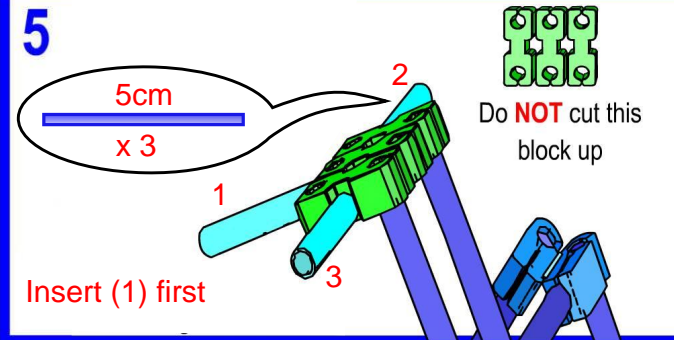
Pull down
to load then
release
to fire

Completed Mangonel - being fired !!

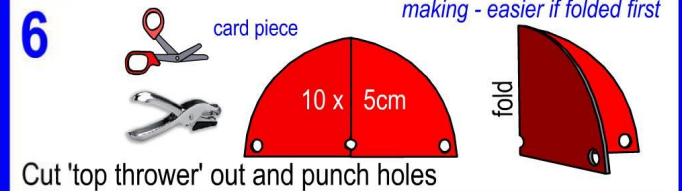
TIP
Watch video
to see it being
assembled etc.
kre8.com >
Kre8 kits +PDF >
Kre8 kits 2016



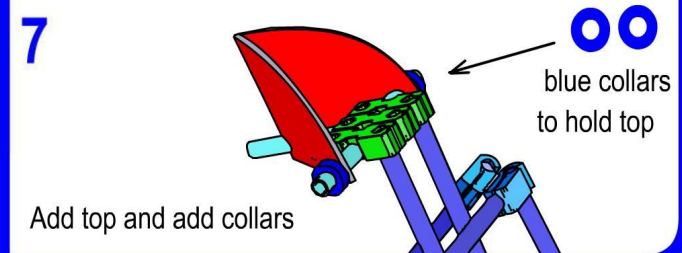
Add the rubber band



Insert (1) first



Cut 'top thrower' out and punch holes



Add top and add collars

