

## Contents

- P 1 Introduction
- P 2 Parts List
- P 3 Making 1
- P 4 Making 2
- P 5 Making 3
- P 6 Card parts 1
- P 7 Card parts 2

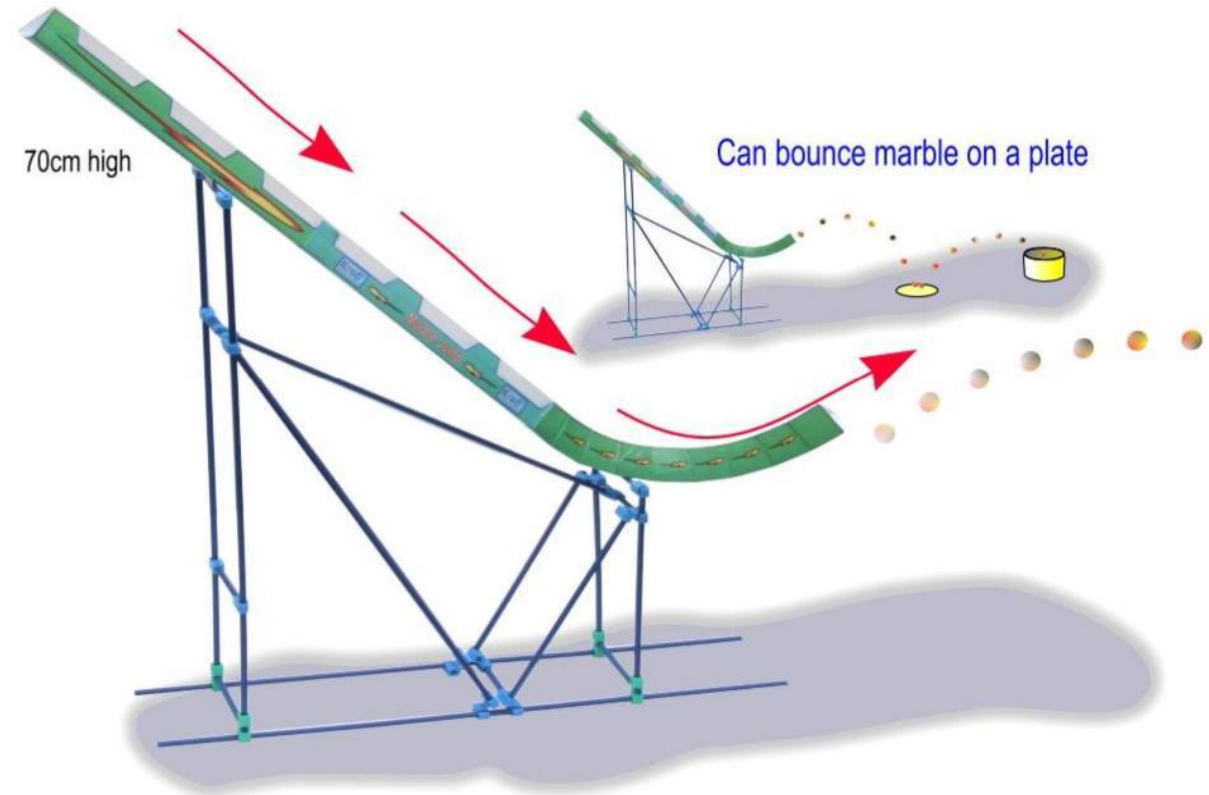
## Keywords

Structures assembly, triangulation, stability, potential and kinetic energy, rolling motion, overcoming friction, parabolic curve.

## Tasks

- 1) Assemble the marble jump using instructions vary it to match your own needs
- 2) Test out and adjust to see how far you can get a marble to jump.

**NOTE-** The marble run printouts are available on this website.

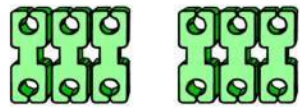


## Extra Challenges

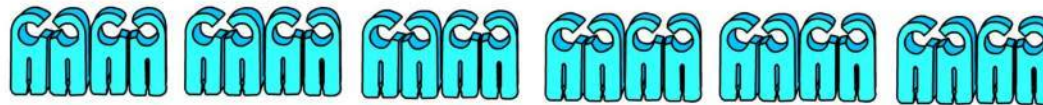
- a) Organise a competition with others
- b) Bounce the marble on a hard surface (as shown above)
- c) Use it to make a game

Trim all sharp edges after cutting

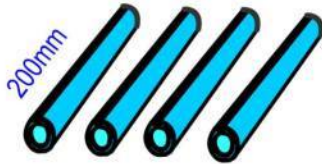
**DON'T** cut all the blue connectors up you need some uncut - best to cut only as needed



2 x Multiblocks (green)



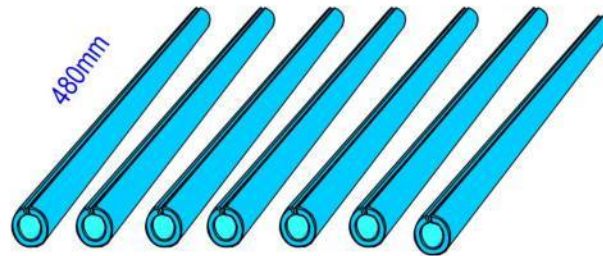
6 x Clip connectors (blue)



4 x blue slit rod

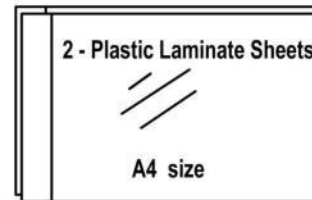


7 x blue slit rods



8 x blue slit rod  
(cut one to 350mm long and two 400mm long)

**Making Instructions**  
Download these from the web  
[www.kre8.com](http://www.kre8.com)



**Abrasive paper**

## Tools

### Snips (or wire cutters and string sharp scissors)

Use to cut Kre8 connector hinges, plastic sheet, light blue tubing (the serrated blades are better than smooth blades).



### Saw

or something to cut some of the blue slit rods - could be wire cutters, kre8 tube cutter or side cutters etc



### Emery Cloth

Assembly is easier if you use fine 'emery cloth' or other 'abrasive paper' to round and smooth the slit rod or blue tube ends.



### Pencil and Rule

Use to mark lengths of blue tube or slit rods before cutting. (FREE rule at bottom of page)



### Clear tape on a dispenser

**Plate** or similar for the marble to land on and bounce from into the target of your choice.

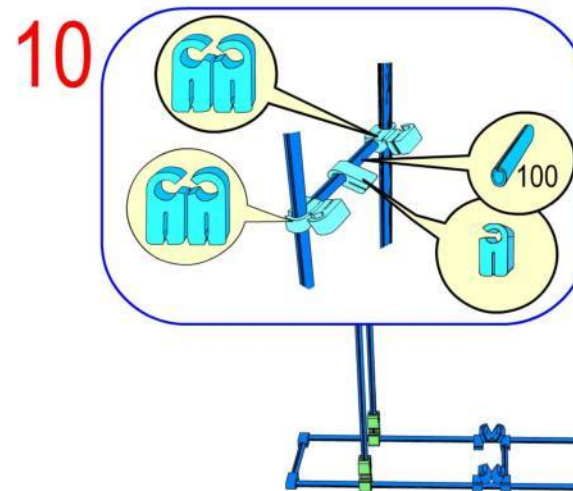
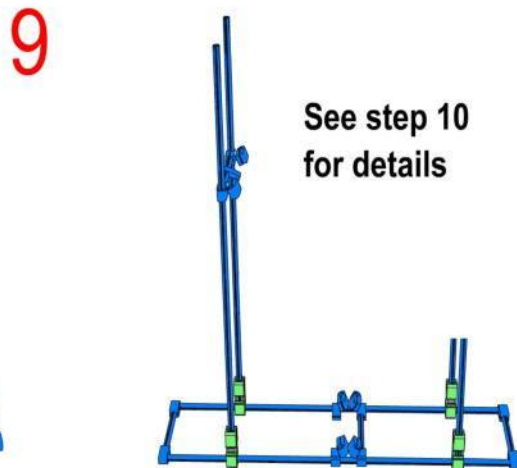
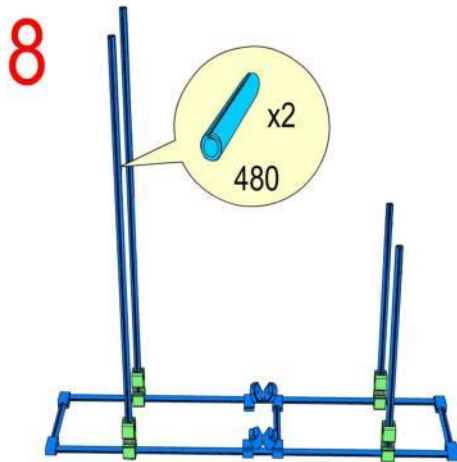
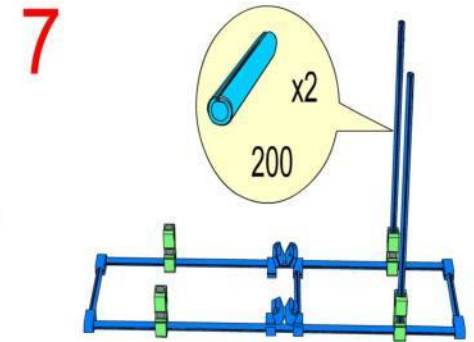
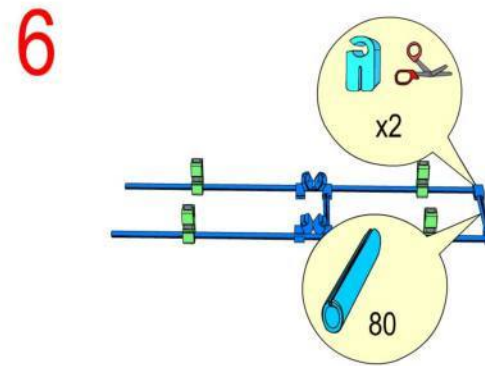
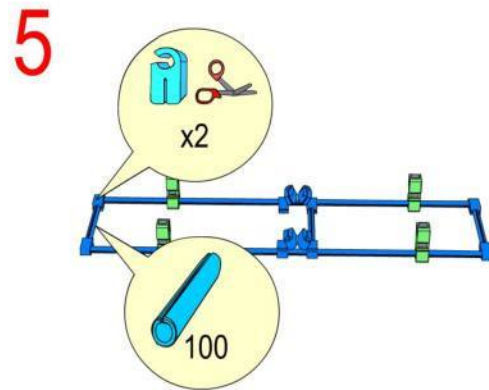
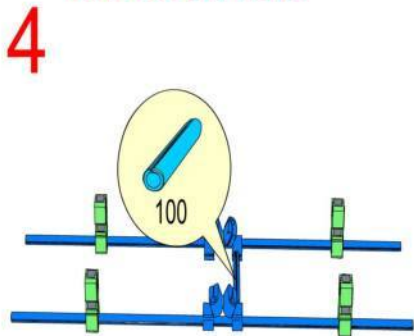
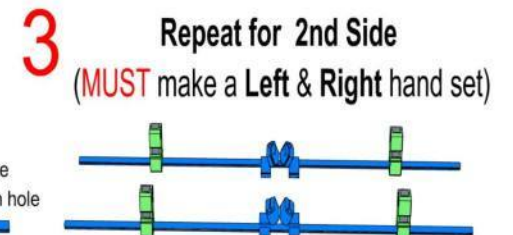
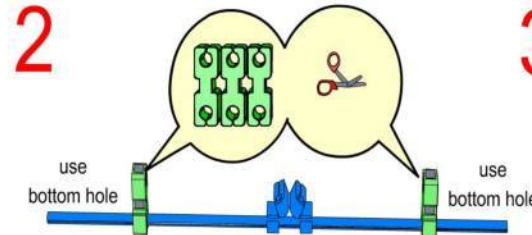
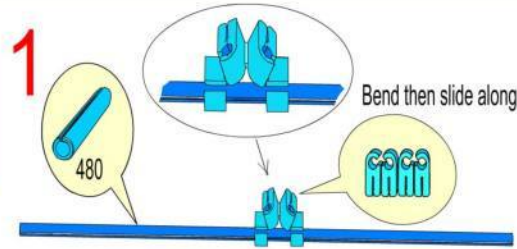
## Plastic Laminator

PS NOT needed if supplied as a kit  
standard size A4 size - borrow from office or library  
To laminated the paper run - ( or glue paper onto card)

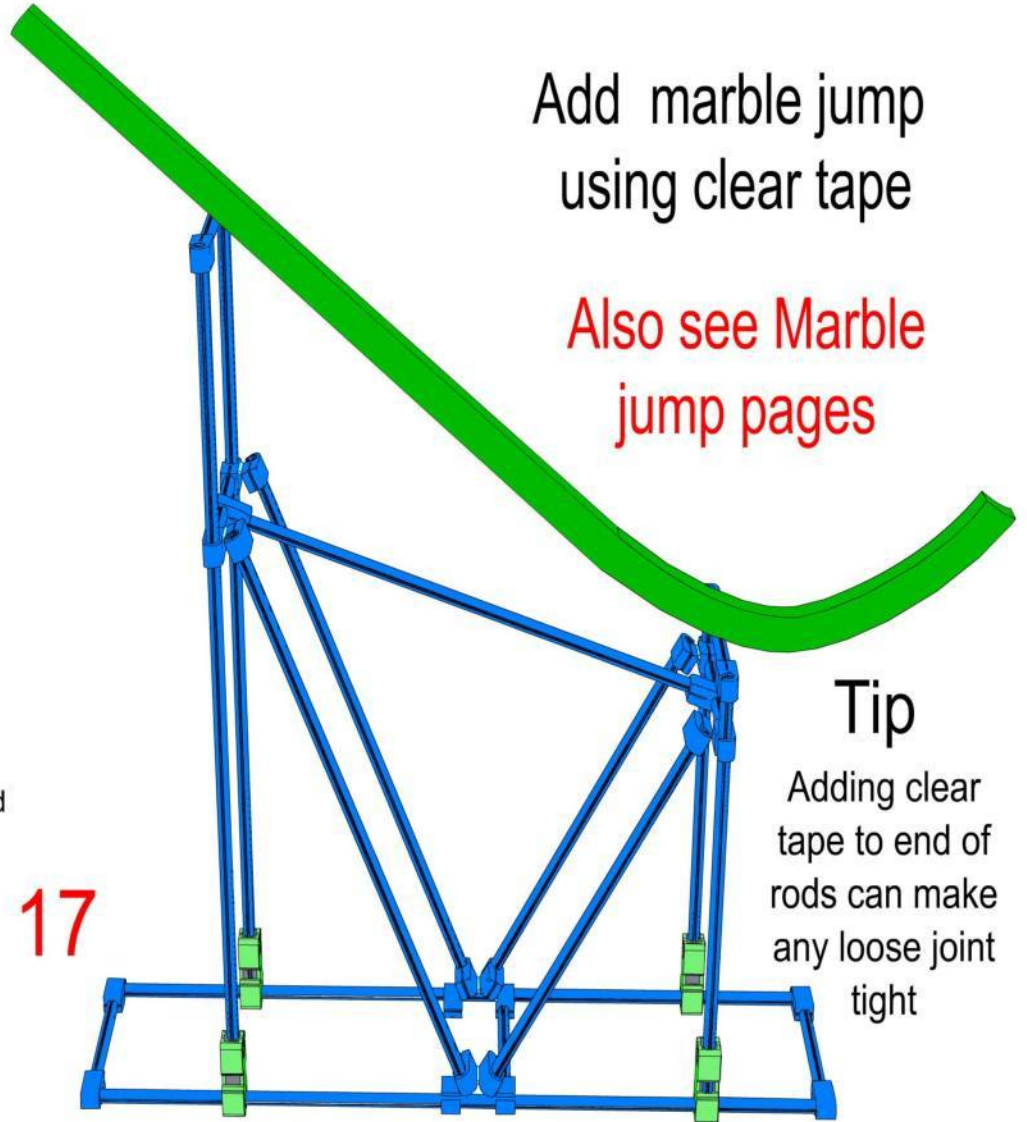
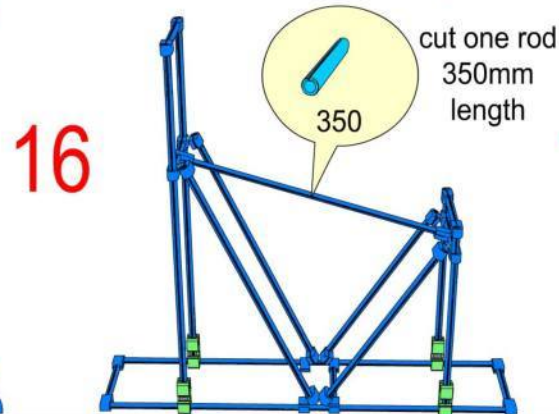
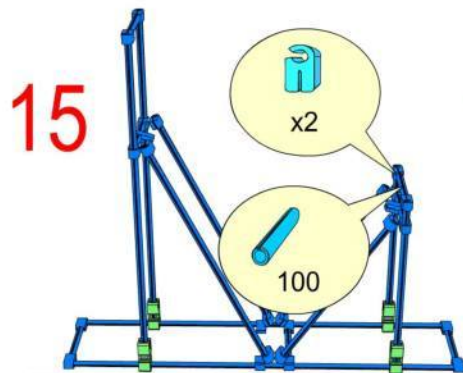
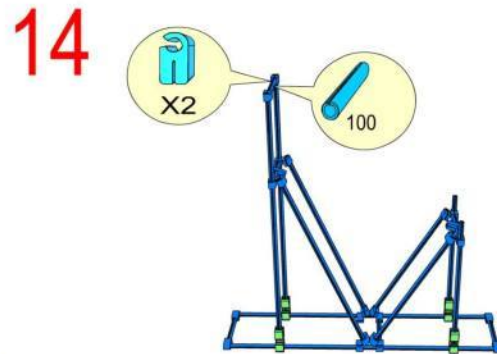
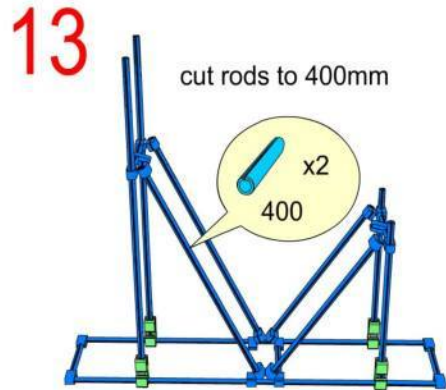
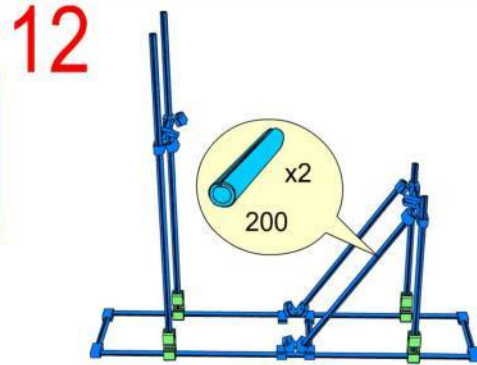
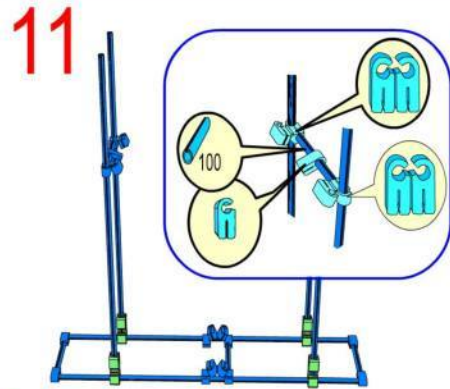
The rods are easier to insert into the connectors if twisted as they are pushed into place.  
Younger students should 'round off' and smooth the tube and rod ends.

**Note** - To make assembly easier - smooth and round the ends with **abrasive paper** before pushing into the connectors.

Sizes in mm



You need to 'hinge' the **pairs of blue connectors** and arrange them so they face the correct way as shown.



Add marble jump using clear tape

Also see Marble jump pages

Tip

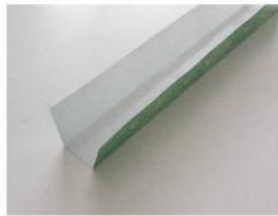
Adding clear tape to end of rods can make any loose joint tight

### (1) Making the Curved Part

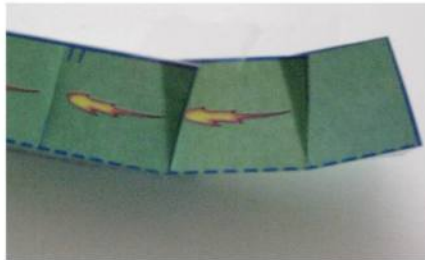
Cut out strip



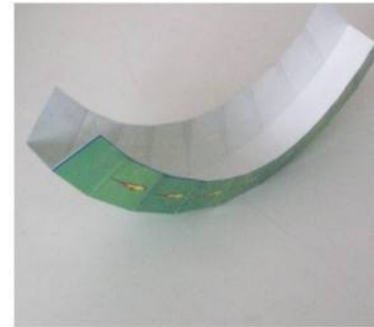
Score and fold



Cut slits and bend to marks then add 'clear tape' to hold



Finish taping

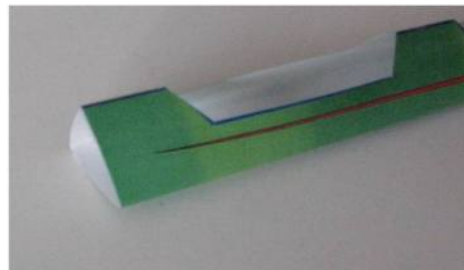


Extra if wanted close top as shown

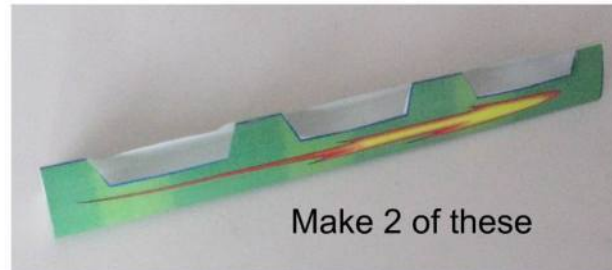


### (2) Making the Straight Part

Cut out strip (+ white parts)



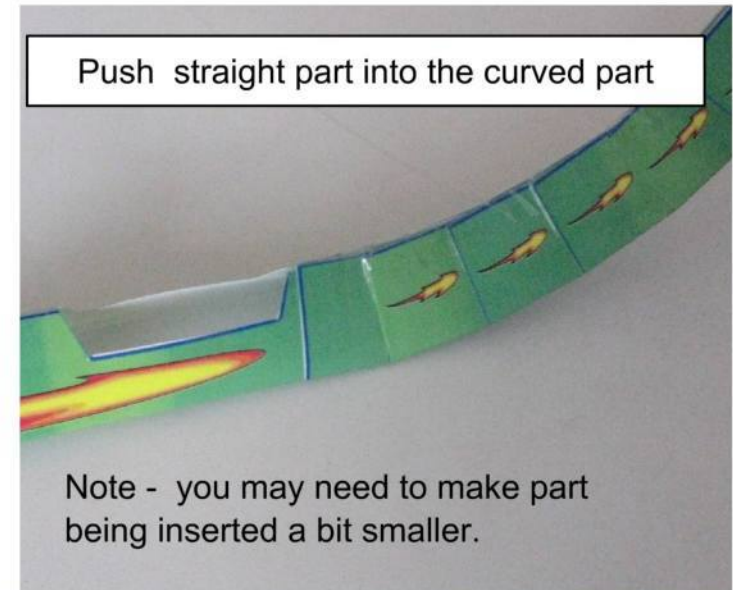
Fold up and tape up



Make 2 of these

### (3) Join parts together

Push straight part into the curved part



Note - you may need to make part being inserted a bit smaller.

Supplied laminated in supplied kits

Can be cut out

Can be cut out

Can be cut out

- 1) Cut out the outline shape (including window parts)
- \*optional - plastic laminate card pieces then trim plastic laminate to edges
- 2) Score along dashed lines
- 3) Fold along these lines
- 4) Join top edges with clear tape to form a triangular tube

score along this line so it bends easy

**Kre8® Marble Jump - Start**

score along this line so it bends easy

Can be cut out

Can be cut out

Can be cut out

Can be cut out

Can be cut out

Can be cut out



**Marble Jump**



score along this line so it bends easy

**Kre8® Marble Jump - middle section**

score along this line so it bends easy



**Marble Jump**

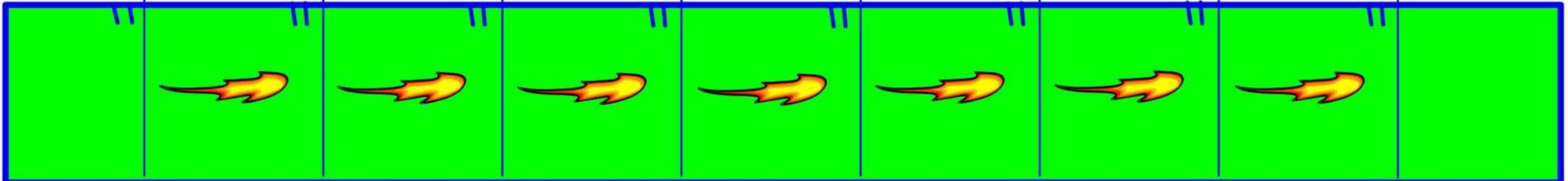


Can be cut out

Can be cut out

Can be cut out

NOTE - YOU ONLY NEED ONE OF THE THESE (SPARE BELOW - curved part 2)

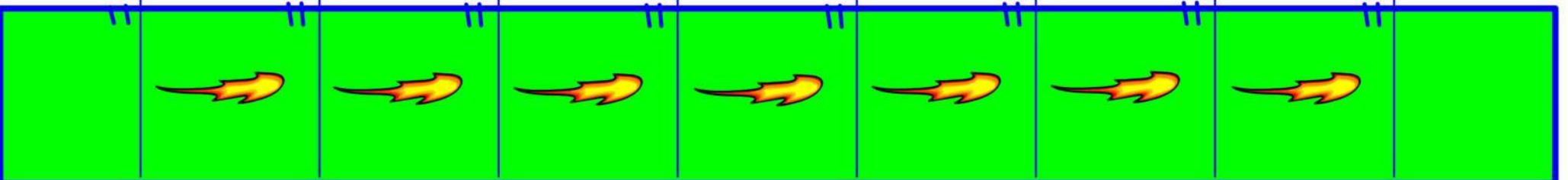
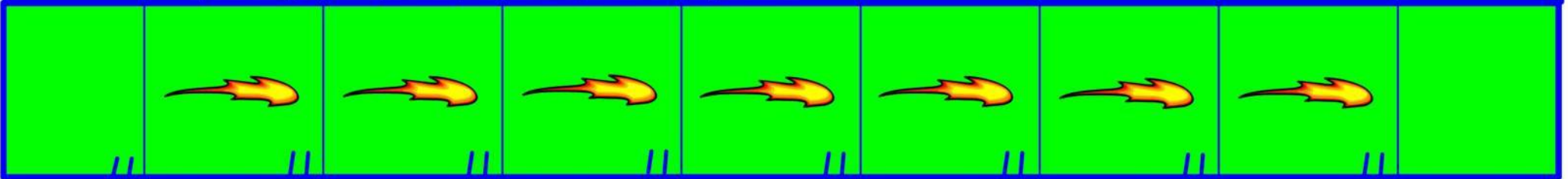


- 1) Cut outline shape \* \* Optional - plastic laminate after step (1)
- 2) Score well along dashed lines
- 3) Cut the slits along both sides
- 3) Fold along these lines dashed lines
- 4) Curve as wanted (probably best at second // mark) holding with clear tape as you go
- 5) After doing both sides join the tops with more tape to make a triangular tube.

score along this line so sides can bend up easy

## Kre8® Marble Jump - curved part

score along this line so sides can bend up easy



score along this line so sides can bend up easy

## Spare if wanted

score along this line so sides can bend up easy

