

## Contents

Introduction

Parts List

Arched bridge

Truss bridge

Suspension bridge

(Also see **YouTube** for more help)

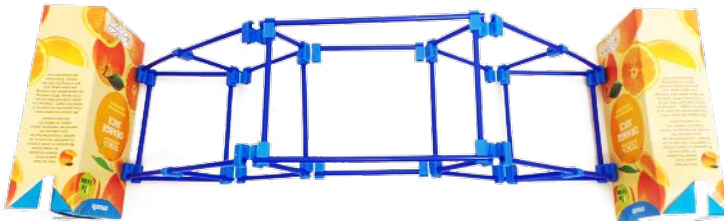
## Things you can achieve

**Knowledge** - Spanning a gap, rigidity, stiffness, enclosing a space, triangulation, mirror image, tension, compression, redundant part.

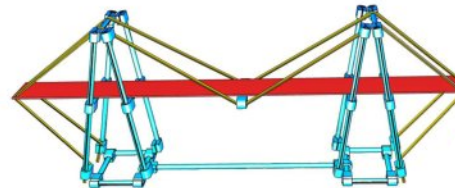
### Making

Assembly and constructions skills - testing then adjusting to get best results

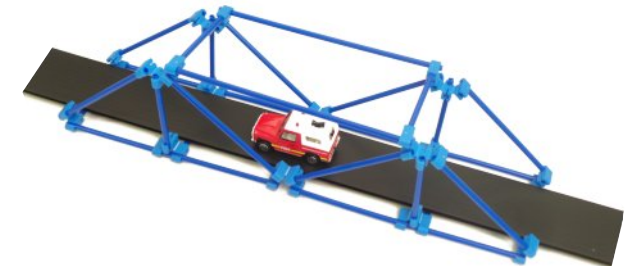
**Designing** - Make a bridge then use it as part of a townscape design or you could design a new bridge for a particular purpose.



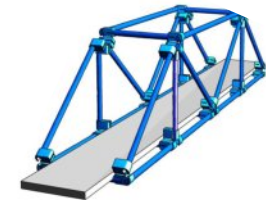
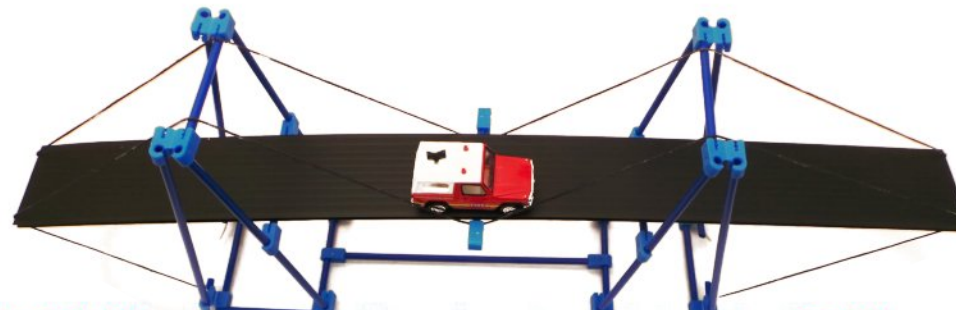
Arched Bridge

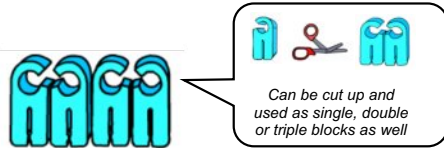


Suspension Bridge



Truss Bridge

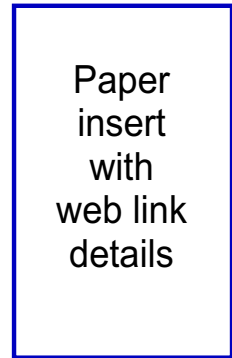




**18** x Kre8 clip connectors



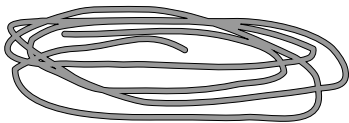
**30** x Kre8 dark blue tubes x 20cm



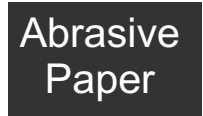
**1** x paper insert



**1** x Corrugated plastic sheet for road - 6cm wide x 50cm long



**1** x String - 2m long



**1** x Abrasive paper

### Tools you also need (not supplied)



rule



pencil



scissors or snips



tape

dispenser

### MAKING NOTES ALL SIZES METRIC

- 1) **ONLY** cut up connectors as needed
- 2) For **EASY** assembly -  
**Round** the end of the tubes with **abrasive paper** then **push and twist** rods into connectors.
- 3) **Protect** table from damage



# Kre8® Truss Bridge - Working Drawing

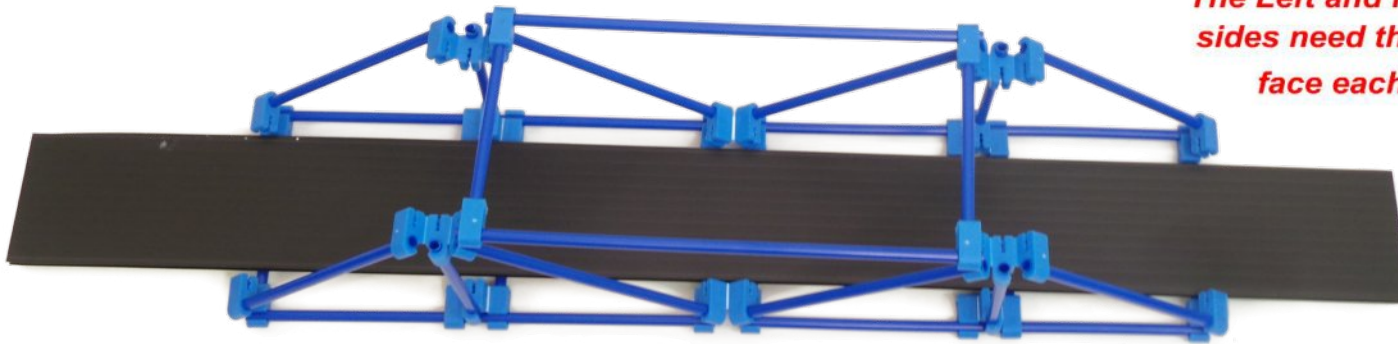
Tip - Visit [www.kre8.com](http://www.kre8.com) for movies zoomable pages and other support

Also on  
YouTube

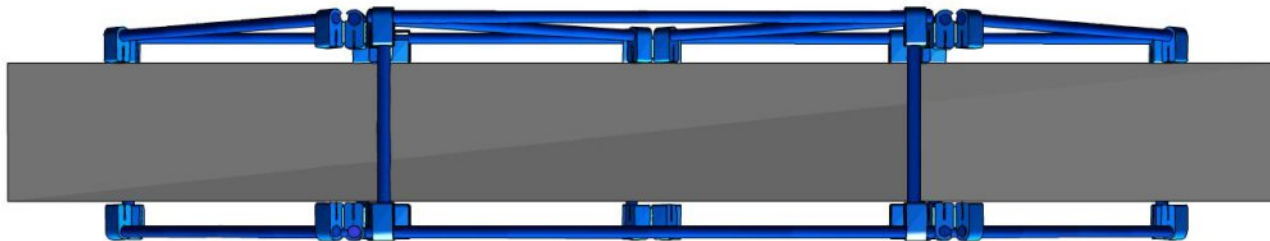
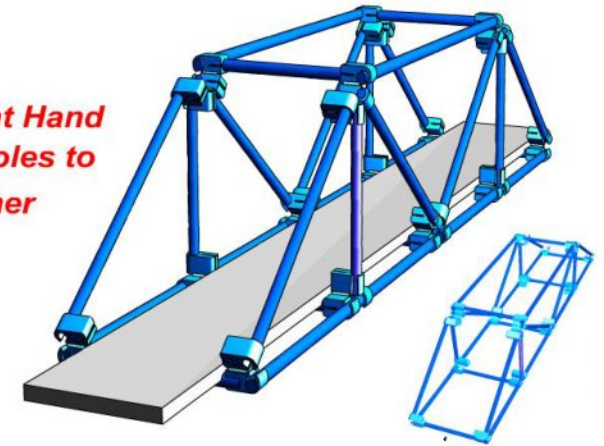
## Making

- (1) Start with the FRONT making sure all connector holes face away from you
- (2) Make BACK part but with connector holes facing towards the FRONT.
- (3) Join the front and back together using 10cm slit rods
- (4) Add the road strip - lay on top of the support rods

See next page for STEP by STEP

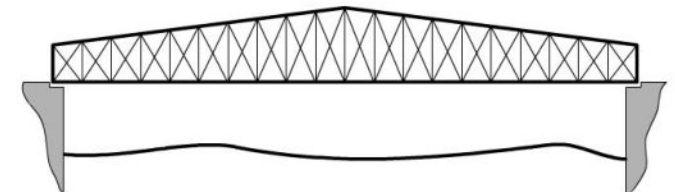


**NOTE**  
The Left and Right Hand  
sides need the holes to  
face each other

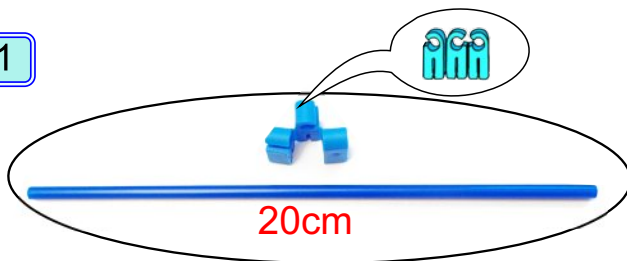


TOP VIEW

*Truss bridges can span quite long  
distances over roads or a river  
as shown below .*

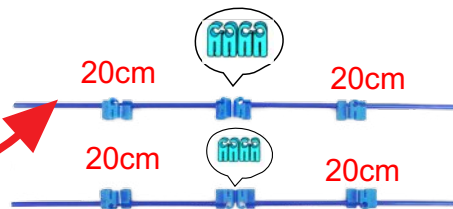


1



Start by sliding a **three blue connector block** along to centre of **20mm** long blue tube

2



repeat **4 times** THEN join in **centre** using **two 4 blue block connectors**

3



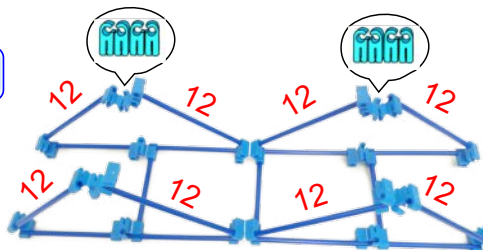
Link sides with three **8cm** tubes

4



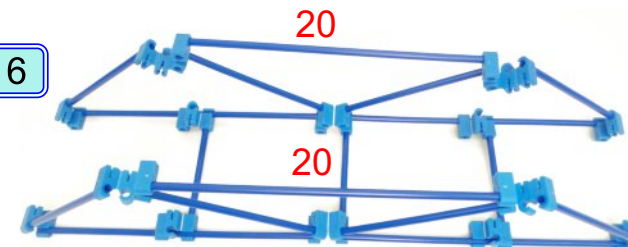
Add four **2 blue block connectors** at ends

5



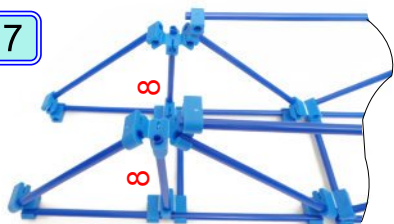
Add **four 4 blue block connectors** at ends

6

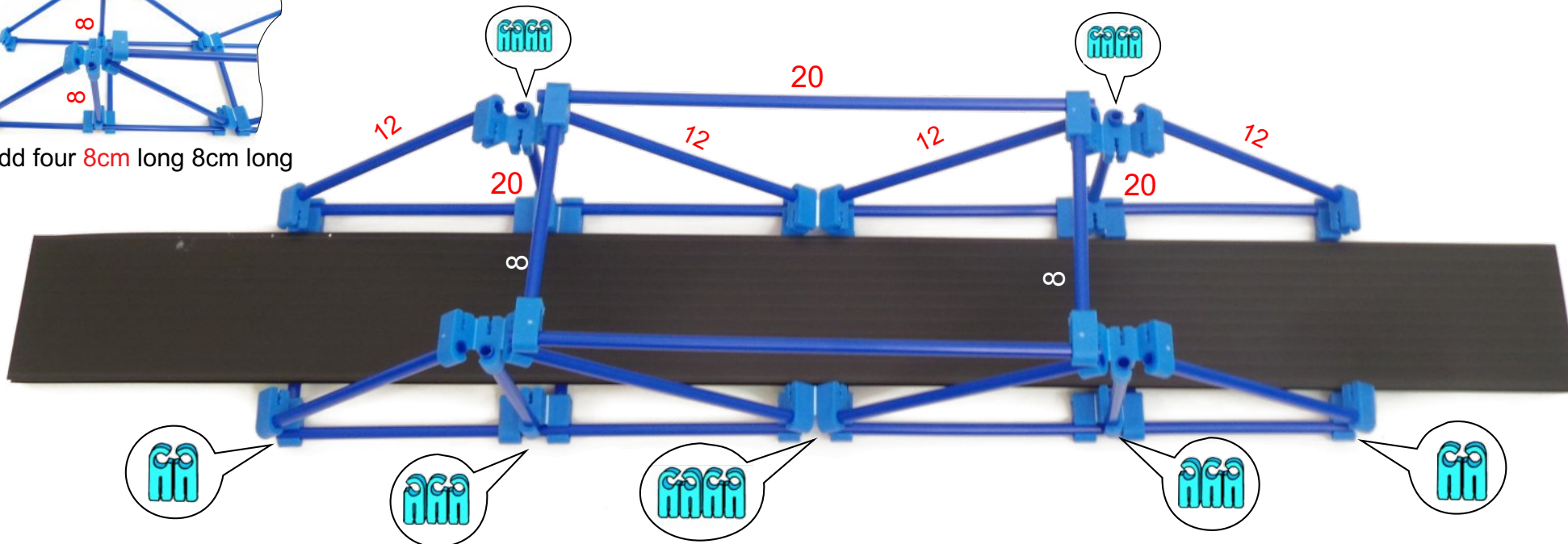


Add **two blue tubes 20cm** long

7



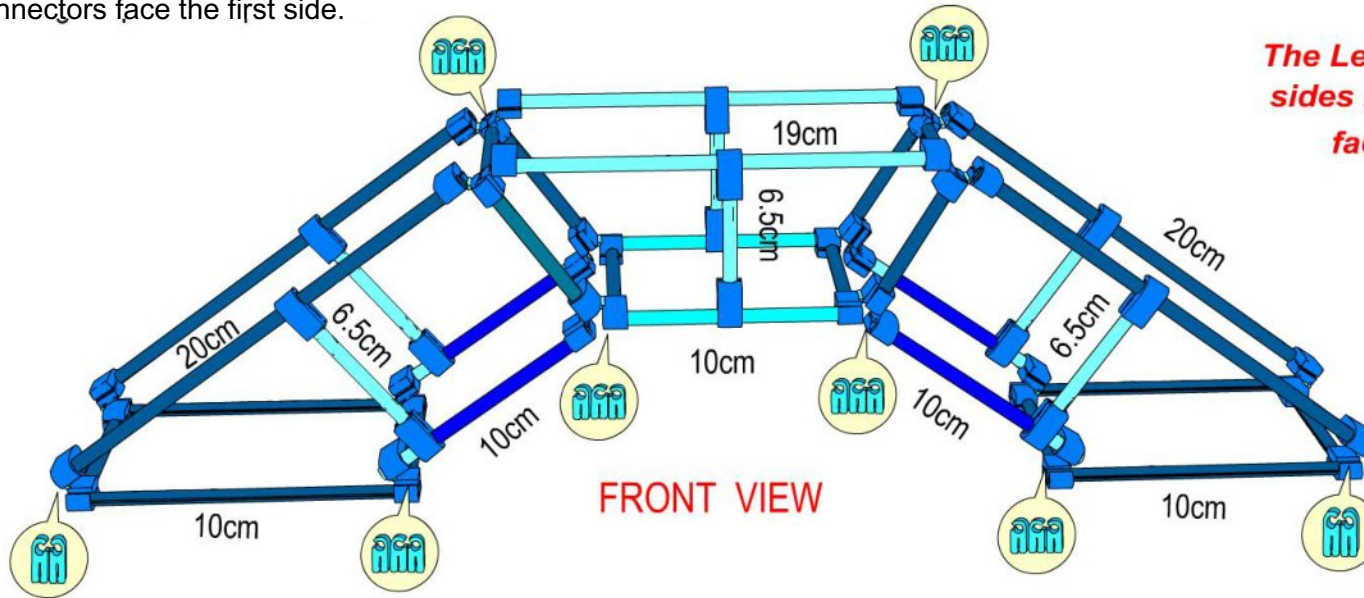
Add four **8cm** long 8cm long



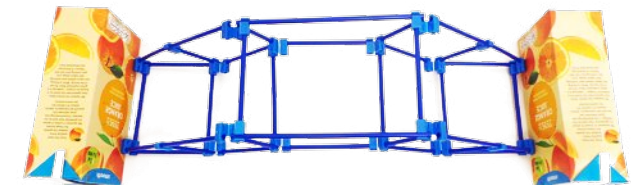
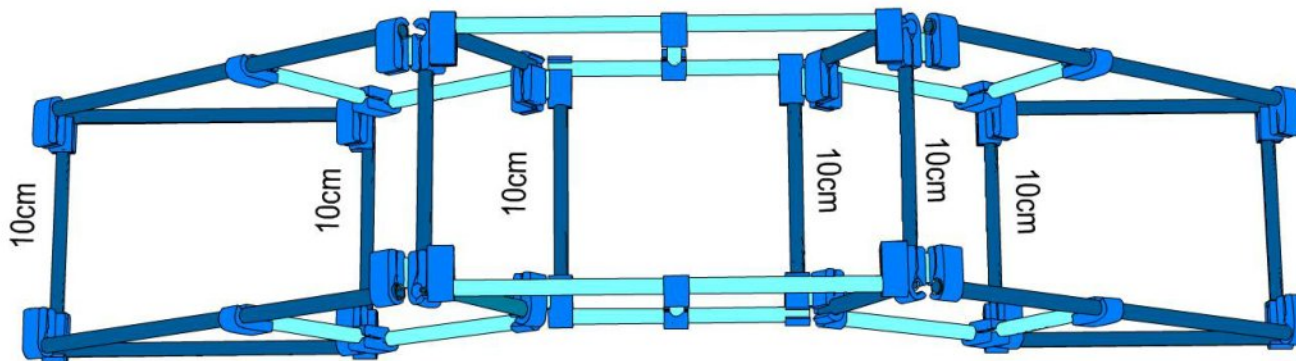
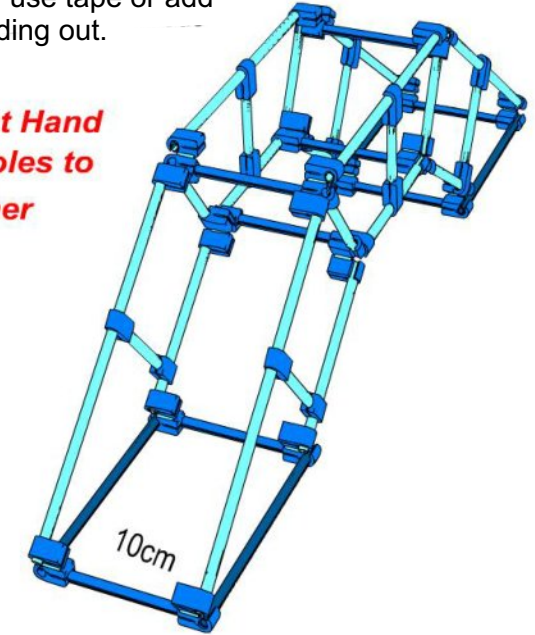
## Making

- (1) Start by making **one side with all connectors facing the same way**.  
Note - Tubes shorter than 20cm will need cutting to length.
- (2) Make the **other side** as a **MIRROR** image - making sure ALL connectors face the first side.

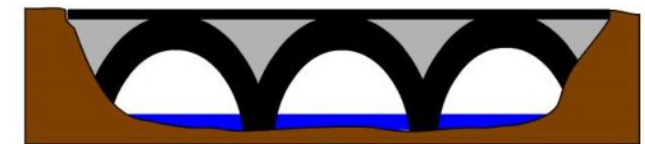
- (3) Join **both sides** using **10cm** long blue tube.
- (4) In use place fix ends on table. Could use tape or add weights at each end to stop ends spreading out.



**NOTE**  
The Left and Right Hand sides need the holes to face each other

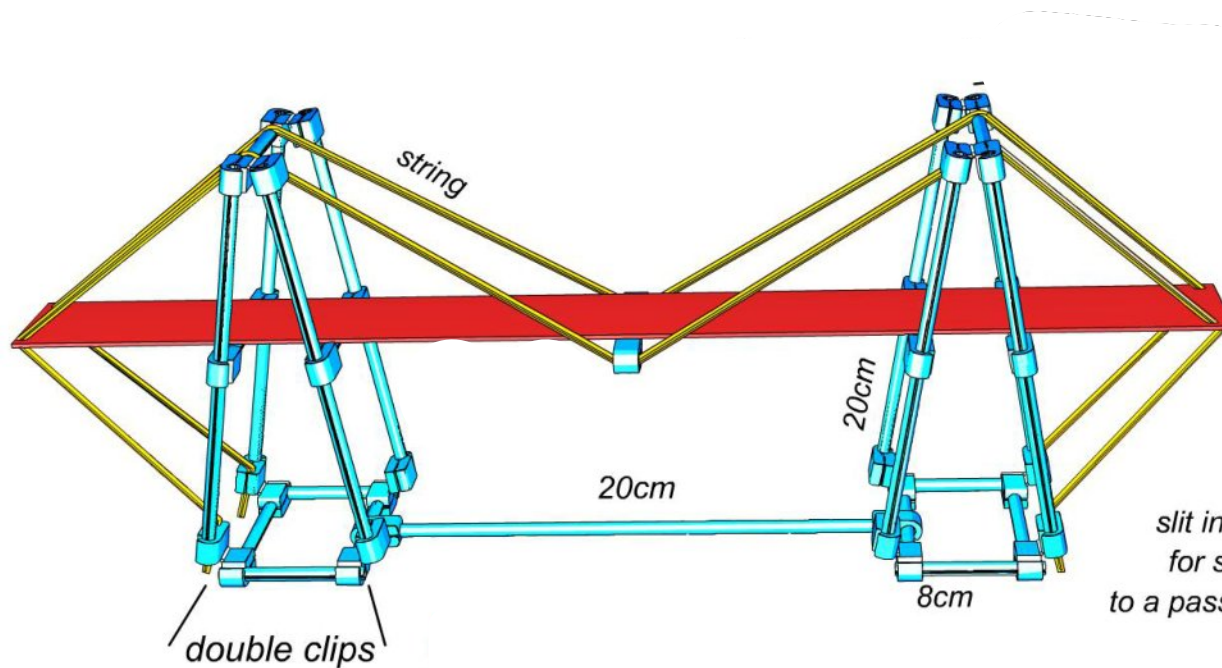


adding weights at end when testing

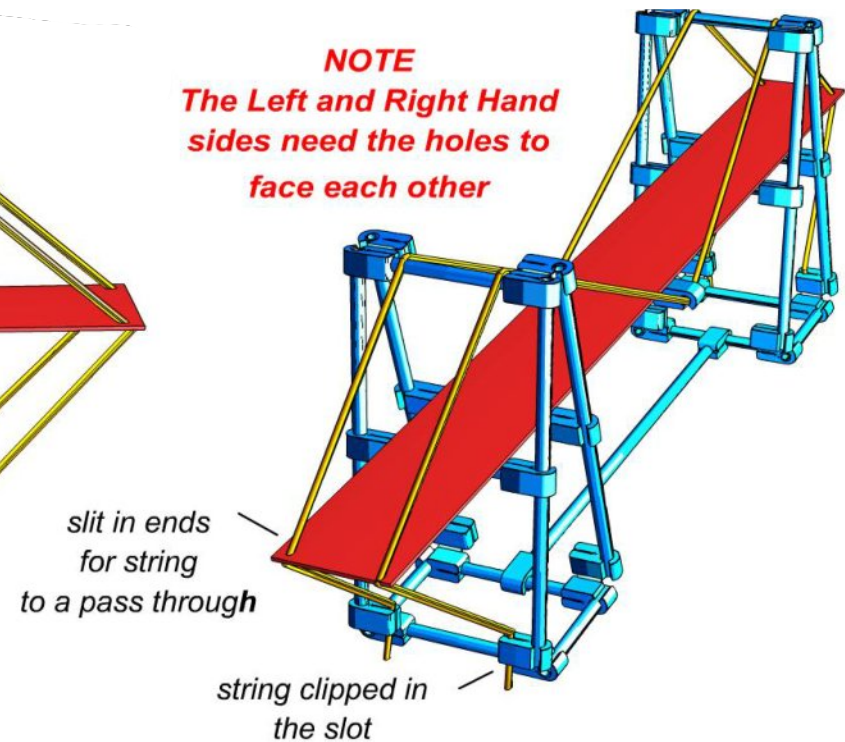


A 'three arched bridge' crossing a river

Also see next page for STEP BY STEP

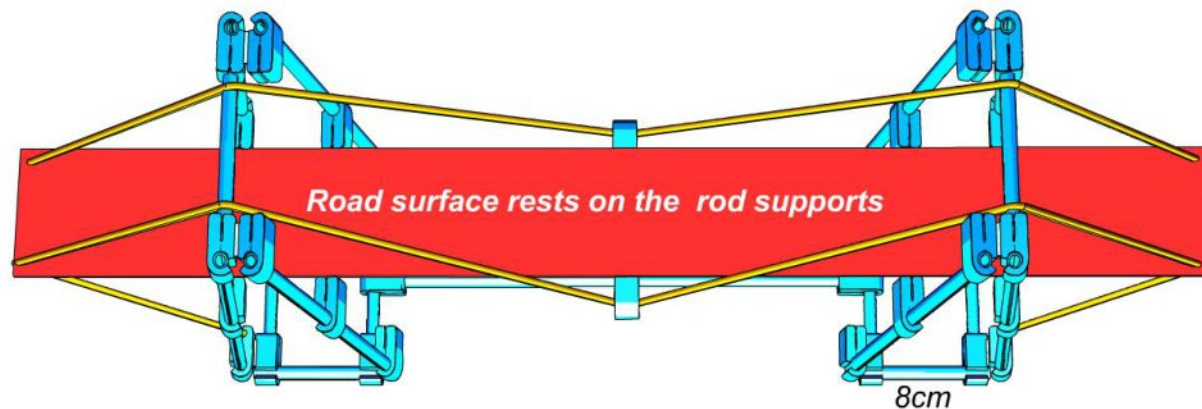


**NOTE**  
The Left and Right Hand  
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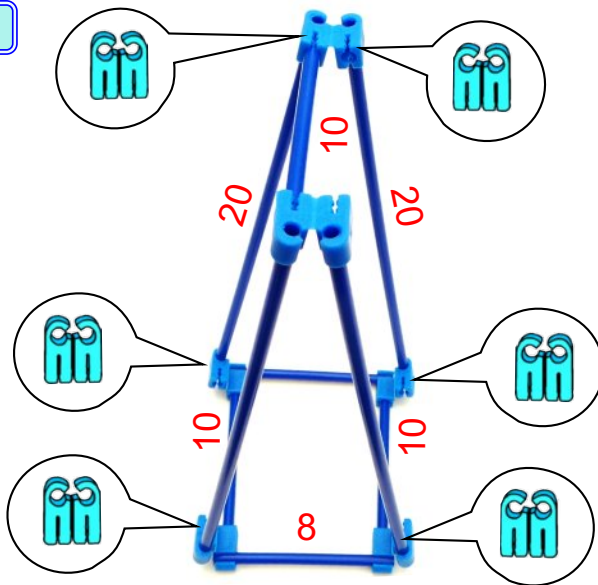


**To Assemble**

- 1) Make FRONT of a tower.
  - 2) Make BACK of a tower.
  - 3) JOIN FRONT and BACK together.
  - 4) REPEAT and for second tower.
  - 5) LINK towers bases together with rod
  - 6) Add road strip on the 'tower road supports'
  - 7) Make the 'centre road support' for the string.
  - 8) Add SUSPENSION string as shown.
- String ends can be fixed in the connector slots.

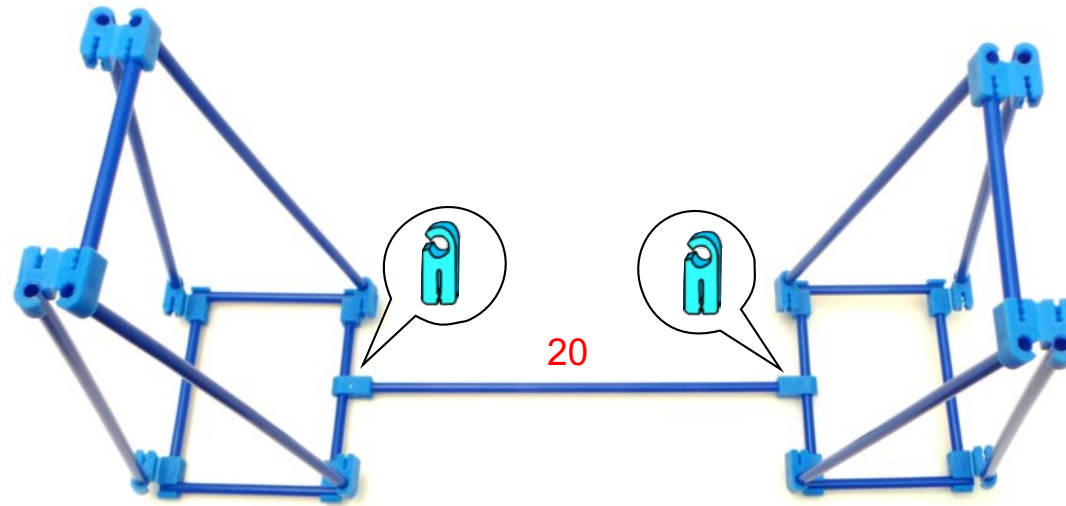


1



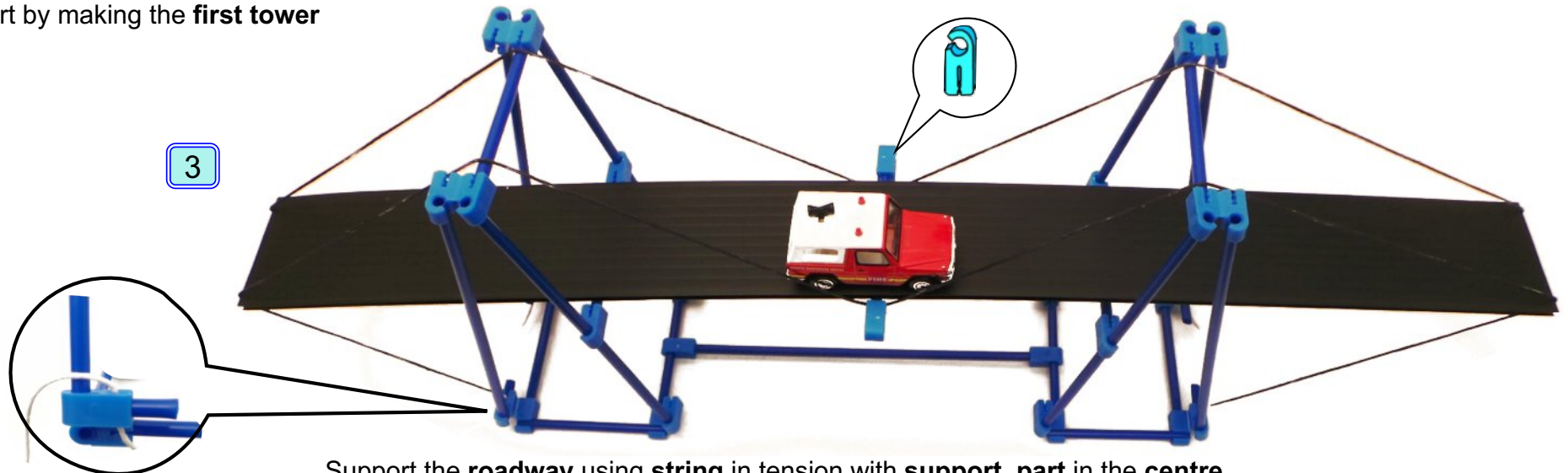
Start by making the **first tower**

2



Make a **second tower** then **link together** with **20cm** long tube

3



Support the **roadway** using **string** in tension with **support part** in the **centre**  
NOTE - the **string end** can be fixed at the **base of the tower** by placing string in the slit as shown then held by pushing in a small piece of tube to hold it in place.