

Name: _____

Date: _____

Can you build a truss bridge that spans a gap of 40cm? It must be able to support a weight of 500g at its centre. You could use construction kits or art straws for beams! How will you connect the beams to make trusses?

The suggestions below might help you...

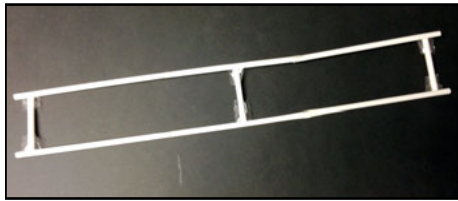


You could make a deck for your bridge by fixing several long beams together, side by side.

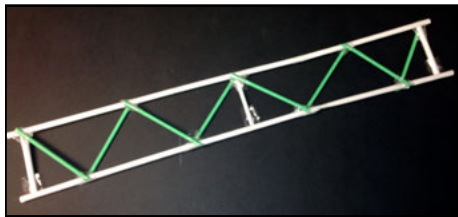
Make a 'ladder'. This is a good starting point for making a truss.

Choose a truss pattern, or design one of your own.

Add beams to your ladder according to your chosen truss pattern.



Gently twist and bend your finished truss section. Does it feel much stronger when you try and bend it in a certain way? This will help you decide how to attach the truss to the deck and strengthen your bridge.



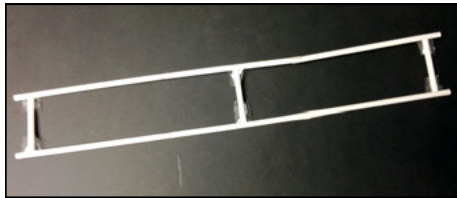
You could use several truss sections to make a really strong bridge!

Draw, label and/or describe your truss bridge design:

Name: _____

Date: _____

Can you build a truss bridge that spans a gap of 40cm? It must be able to support a weight of 500g at its centre, and include a smooth deck made of card which a toy car can travel across. Use art straws for beams, and connect them with sticky tape. How will you connect the beams to make trusses? The suggestions below might help you...



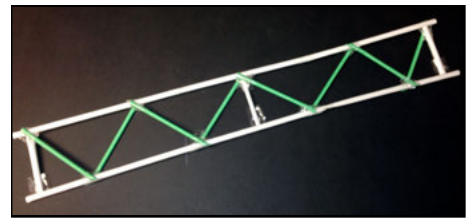
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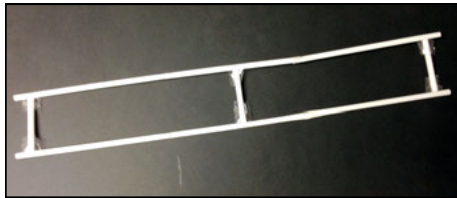


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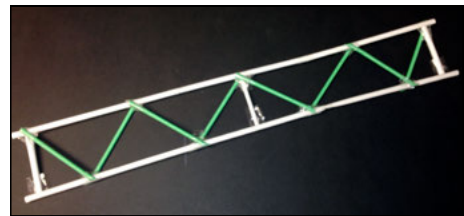


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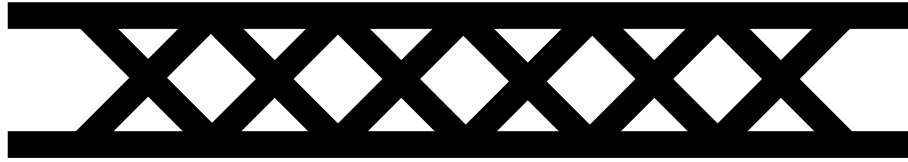
Draw, label and/or describe your truss bridge design:

Weight	Amount of bend

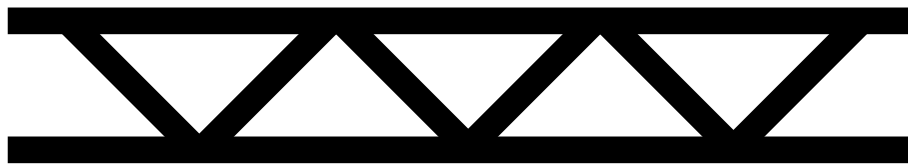
- Make two piles of books on your desk that are 40cm apart
- Place the bridge on the books so that it spans the gap
- Measure the distance from the desk up to the centre point of your bridge

How much does it bend each time you add more weight to it? How much weight will make your bridge break?

Truss Patterns



Lattice truss

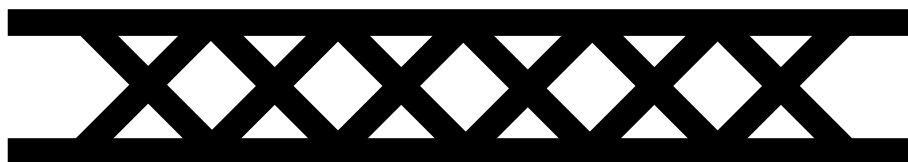


Warren truss

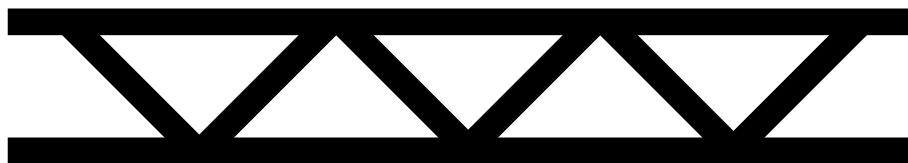


Pratt truss

Truss Patterns



Lattice truss



Warren truss



Pratt truss