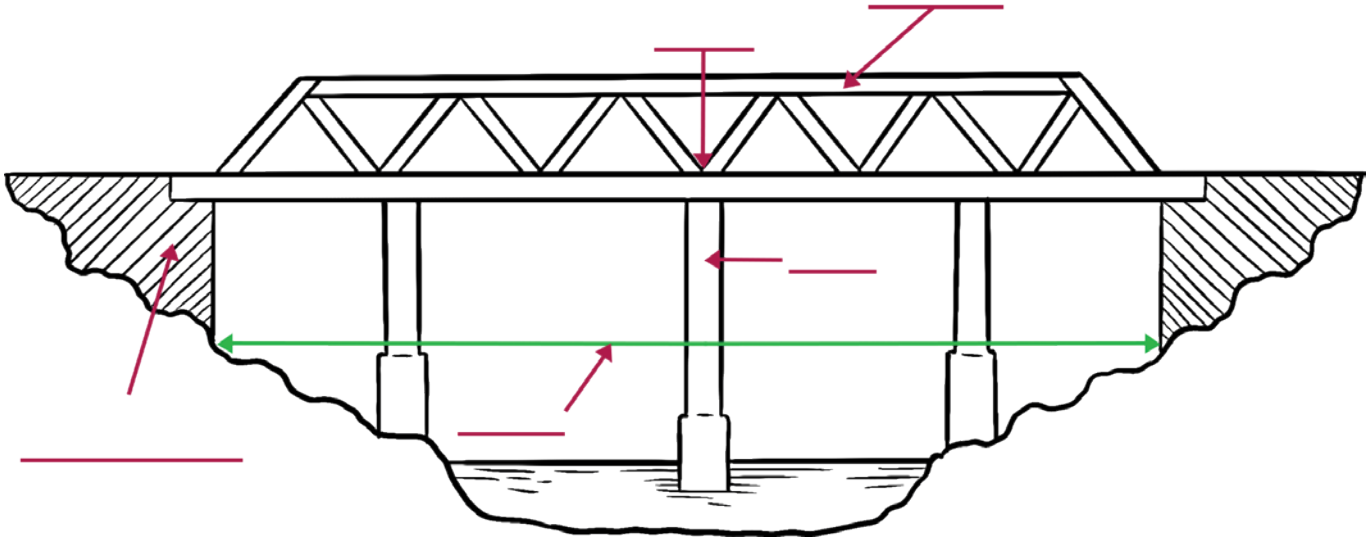
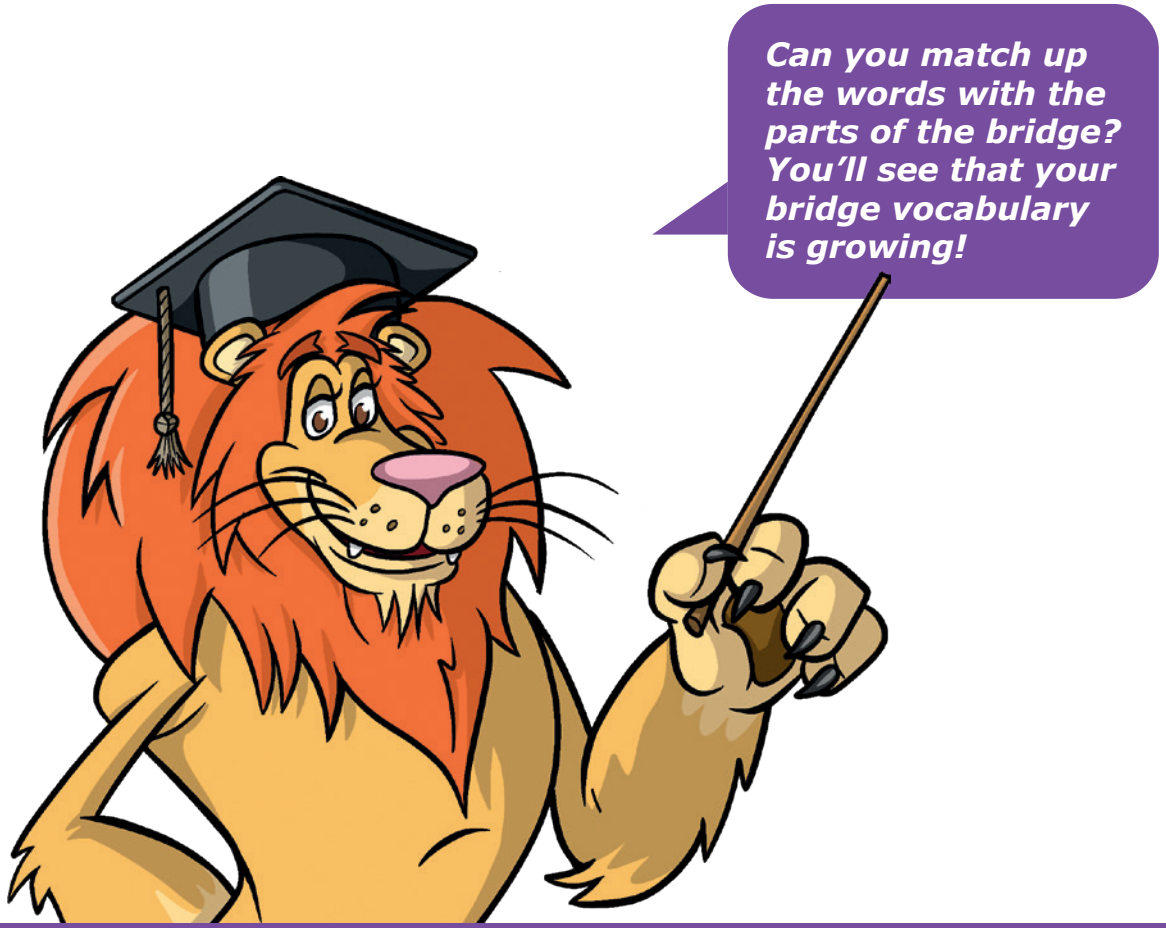
Truss bridge terminology

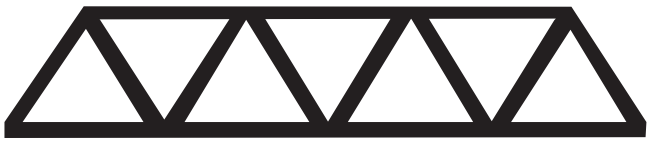
Label the parts of the bridge using the list of words below



Abutment **Span** **Truss** **Pier** **Deck**

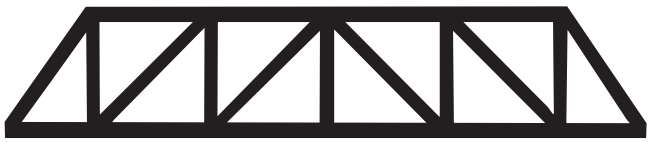


Describing truss bridges



Warren Truss

One of the most common types of truss. Made up of equilateral triangles. Patented in 1848 by its designer James Warren.



Howe Truss

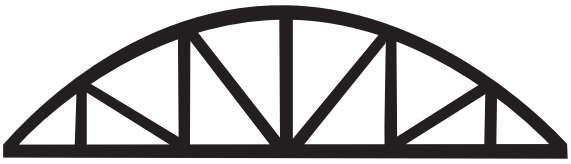
The diagonal members slope up towards the centre and are in compression. The vertical parts are in tension. Patented in 1840 by millwright William Howe.

Pratt Truss

The opposite of a Howe Truss. The diagonal members slope down towards the centre. The vertical parts are in compression. This type of truss can be used for spans up to about 75 metres and is very common in the US. Patented in 1844 by Thomas and Caleb Pratt.

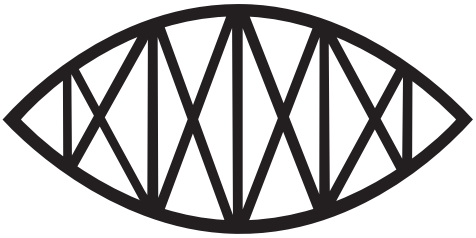
Baltimore Truss

This is based on the Pratt Truss but with additional bracing in the lower section of the truss to make it stronger. This type of truss was developed in the 1870s and is mainly used for train bridges which need to be very strong.



Bowstring Truss

This is the form of truss used on Rochester Old Bridge. Although it is a similar shape to an arch bridge it is doesn't work in the same way. See the similarities with the Pratt Truss. Patented in 1841 by Squire Whipple.

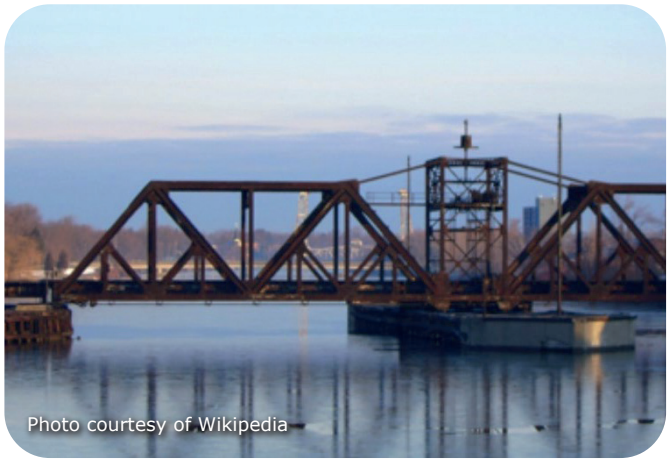


Lenticular Truss

The name of this bridge comes from its shape which is like a lens you might find in a telescope or the human eye. The most famous lenticular truss bridge is the Royal Albert Bridge near Plymouth which was designed by Isambard Kingdom Brunel and opened in 1859.

Truss Bridges are usually named after the person who designed them or the place where they originated. Study this handout and then see how many truss bridges you can find in your area!

What is this truss?



Ontario, Canada

Massachusetts, USA

Puente Tacuarembo, Uruguay

Sidcup, Kent

Challenge yourself to describe the trusses on these bridges.

HANDOUT

Truss bridge challenge order form

Team Members

ORDER FORM – Round 1

Each team has £100 to buy materials to build its bridge. Write your order below, making sure the total cost is no more than £100.

Maximum spend: **£100**

	Unit Price (£)	Number ordered	Cost (£)
Thick straw	£8		
Thin straw	£5		
Washi tape	£20		
		TOTAL:	

ORDER FORM – Round 2

Each team has £30 to buy extra materials to improve its bridge. Write your order below, making sure the total cost is no more than £30.

Maximum spend: **£30**

	Unit Price (£)	Number ordered	Cost (£)
Thick straw	£8		
Thin straw	£5		
Washi tape	£20		
		TOTAL:	