

Learning Objective

To understand how suspension bridges are able to span long distances.



Success Criteria	Self-Assessment
<ul style="list-style-type: none">• Explain how tension and compression forces are distributed by suspension bridges.	
<ul style="list-style-type: none">• Build a model suspension bridge that will support a given weight.	
<ul style="list-style-type: none">• Evaluate my design and suggest improvements.	

Can you design a model suspension bridge? It must have a smooth deck which a toy car can roll across. The picture below shows how a suspension bridge model can be made to span a gap between some chairs.

■ suspension cable ■ hangers (cable) ■ deck

What tools/equipment will you use? What will you need to measure? What materials will you use? How will you attach and fix your materials together? Make some notes before you start making your model:

TOP TIPS

- Measure the distance! How long will your deck need to be?
- Your bridge needs two suspension cables supporting either side of the deck.
- Make sure your two suspension cables are the same length and sag down the the same distance off the floor.
- Work together - decide who will do what and how you will help each other.
- Ask for help if you need to! Suspension bridges have complicated designs - it's going to be tricky to make this model!

Can you think of some other ways of testing your model suspension bridge? Write or draw your ideas, then get testing!

What went well?

What would you do differently next time to strengthen your bridge?