

Bridge challenge

The problem:

Using only two sheets of paper, build a strong bridge that will reach across a 6-inch gap. The bridge must be at least 3 inches wide.

The test:

How many pennies will your bridge hold before it collapses?

You need:

- paper
- scissors
- pennies
- a pencil
- two stacks of books of about the same height
- a ruler
- a Bridge Designer's Notebook sheet

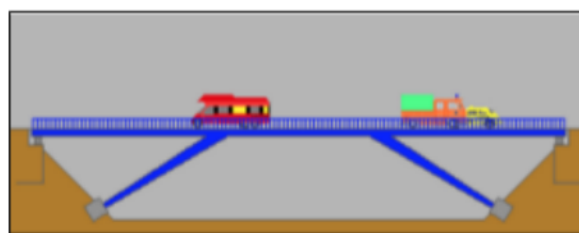
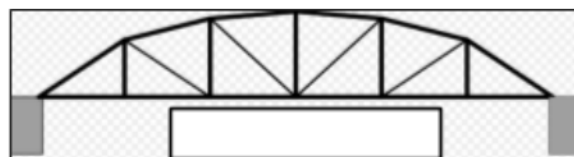
Here's what you do:

1 Place the stacks of books 6 inches apart, using your ruler to measure the gap.

2 Think about bridges that you have seen. Can you make something that has the same shape out of paper?

3 Experiment!

- Make a paper bridge across the gap between the books.
- Put pennies on your bridge, one by one. Watch what happens when pennies push downward.
- Keep adding pennies until the bridge collapses.
- Think about how you could change your bridge so it's better at fighting the downward push.
- Change your bridge and try again. Build at least three different designs.



4 Keep track of your experiments on your Bridge Designer's Notebook.