

MISSION 01 / QUEST CHAPTER 1

The folded bridge

A delivery has arrived. There is one small problem: the road ends at a river.



15-25 min **BUILD** + 3 min grown-up prep / T01

YOUR SUPPLIES

One sheet of ordinary paper cut to 24 x 14 cm; a scrap of paper for a folded traveller; two books of equal thickness; ruler; pencil. Keep the books flat on the floor. Optional: a very light toy car for a later test.

Grown-up gets it ready

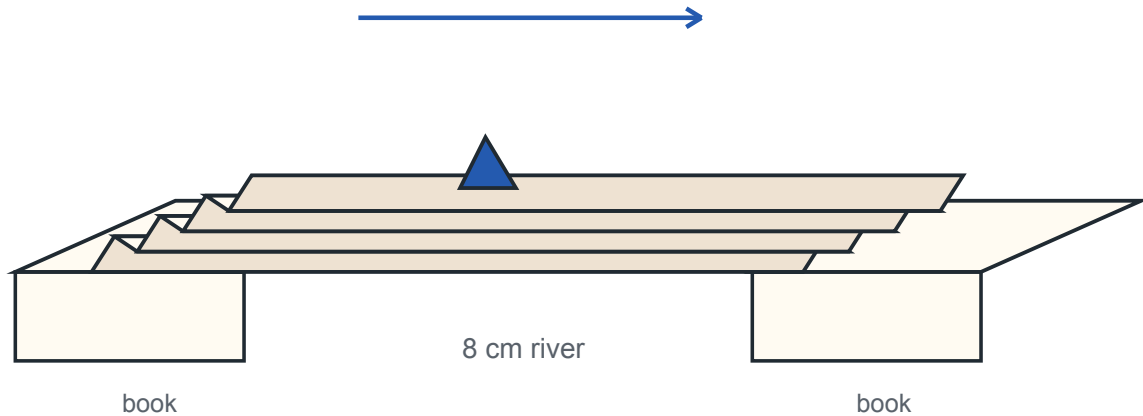
Cut the rectangle and fold a small scrap in half to make a standing paper traveller. Begin with this light load. Books are supports, not weights to pile on top.

Make it yours: choose your colours, name your creation and add paper decoration after the first working test.

MISSION 01 / THE FOLDED BRIDGE

Let's build it!

CREASES RUN FROM BOOK TO BOOK



- 1 **Make the river.** Put two flat books 8 cm apart. Lay the 24 cm length of your paper across the gap. Let at least 4 cm rest on each bank.
- 2 **Try the flat road.** Place your passenger in the middle. Notice what the paper does. Remove the passenger before changing the bridge; it does not have to collapse to count as a test.
- 3 **Make long ridges.** Across the 14 cm width, mark every 2 cm. Fold back and forth along those marks. Each crease runs the full 24 cm length, from one bank to the other.
- 4 **Open the accordion slightly.** Spread the folds into a shallow zigzag wide enough for your passenger. Keep some height in each ridge instead of flattening the sheet again.
- 5 **Test one crossing.** Rest both ends securely on the books. Place the passenger in the middle, then move it slowly across. If it sags, narrow the river to 6 cm or use a lighter passenger.
- 6 **Change one thing.** Keep the same bridge and passenger. Move the books 1 cm farther apart and retest. Stop when the middle bends too far; record the last gap that worked.

First try

The passenger stays on the bridge across the original 8 cm gap. If a paper passenger works but a car does not, you have a working bridge with a lighter load.

MISSION 01 / TEST + PLAY

Now make it an adventure.

YOUR FIRST GAME

Deliver three different paper parcels across the river, one at a time. Give each parcel a destination in your town.

STUCK? TRY A SMALL FIX

The bridge folds like a concertina across the river. Turn it a quarter-turn: the creases must connect the two banks, not run parallel to the river banks.

The ends slip off. Reduce the gap and leave more paper resting on each book. Keep the book tops level.

The car sinks between the ridges. Use a little flat card under the car to spread its weight, or start with the paper passenger. Do not add heavy objects.

LEVEL UP / TRY THE REMIX

Make a second bridge from the same size paper with 1 cm folds. Use the same gap and passenger. Which version do you choose for the next delivery?

WONDER TOGETHER

What changed when we folded the paper?

WHAT'S HAPPENING?

Folding changes the cross-section of the bridge. Ridges running across the gap can make the sheet resist bending more than a flat sheet.

A LITTLE MORE HELP

Adult starts the first two folds. Child presses the creases and chooses the passenger.

DO MORE YOURSELF

Measure the largest successful gap for both fold widths. Keep the paper and passenger the same.

Pack away. Store the bridge loosely folded. Flattened or torn paper is a reason to make a fresh bridge, not a failed builder.

I tried it! Draw a star on your Maker Passport on page 59, or beside this build's number on scrap paper.