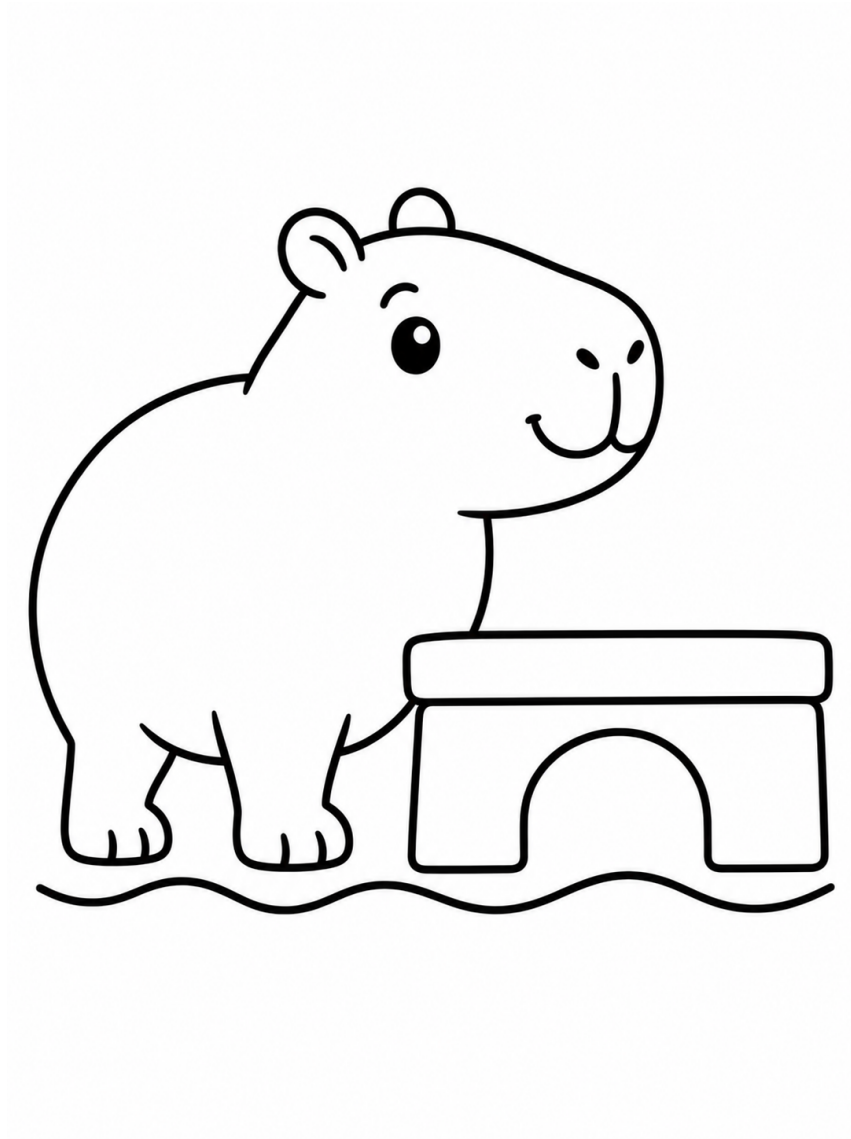


Hello, little bridge builder!

Color the scene. Point to the bridge.

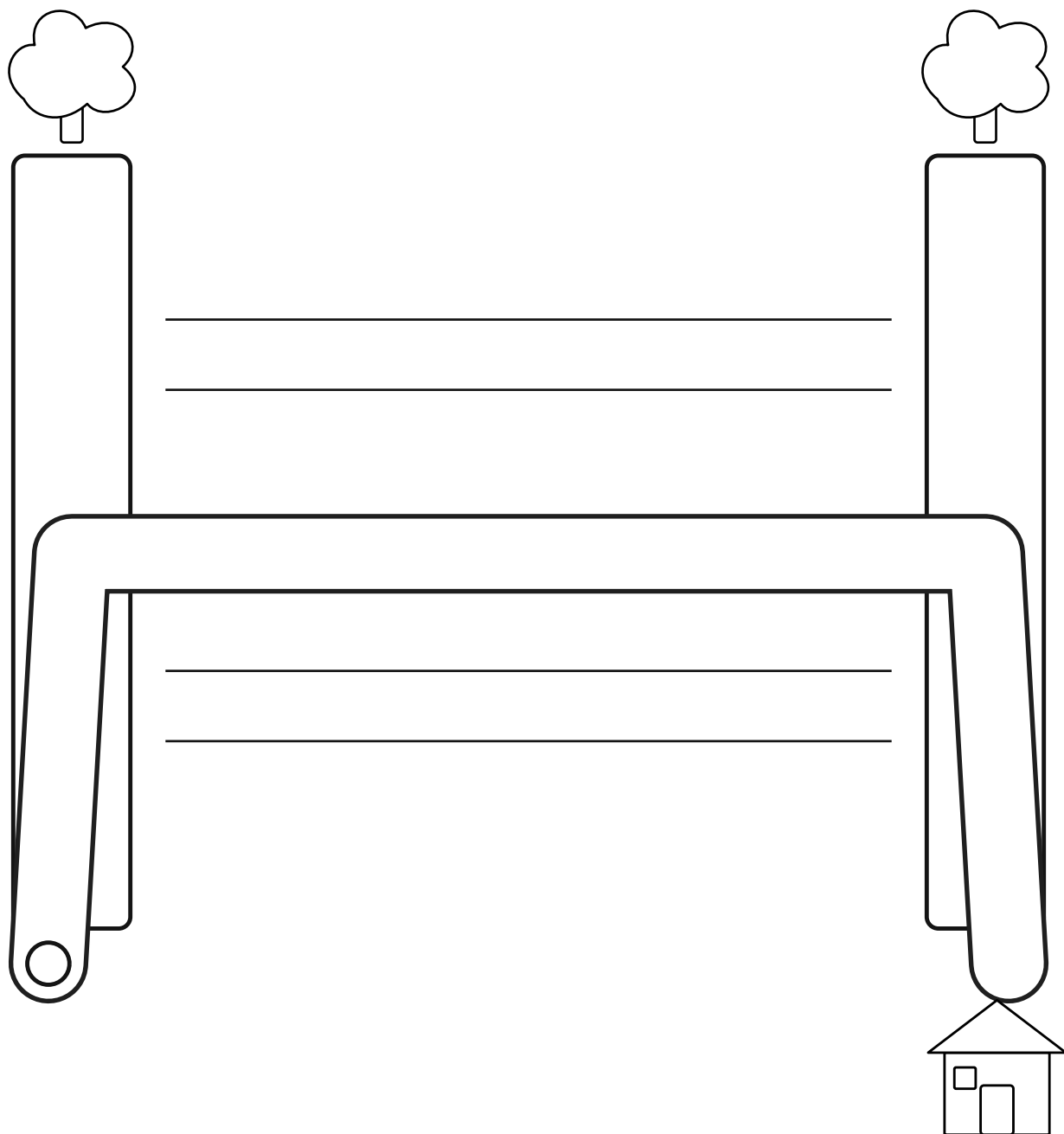


Who would you invite to cross with you?

Read aloud. The friendly scene is pretend; it is not a plan for a real bridge.

A path across the river

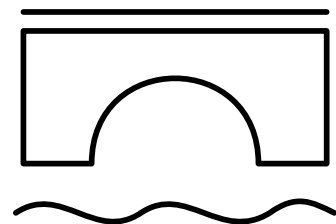
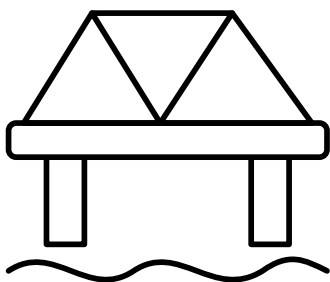
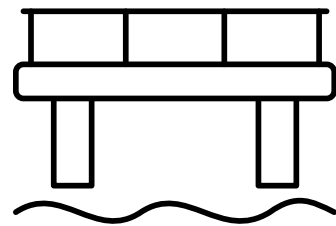
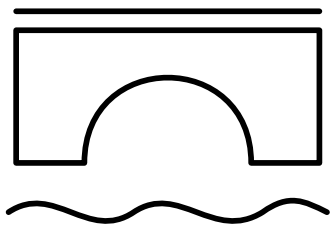
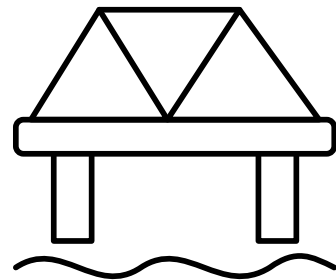
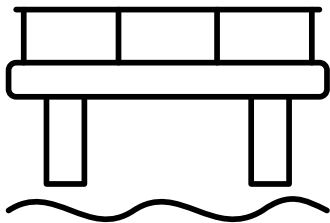
Follow the wide path with a finger, then a crayon.



A bridge can carry a path over water. Trace either way; no writing is needed.

Bridge picture pairs

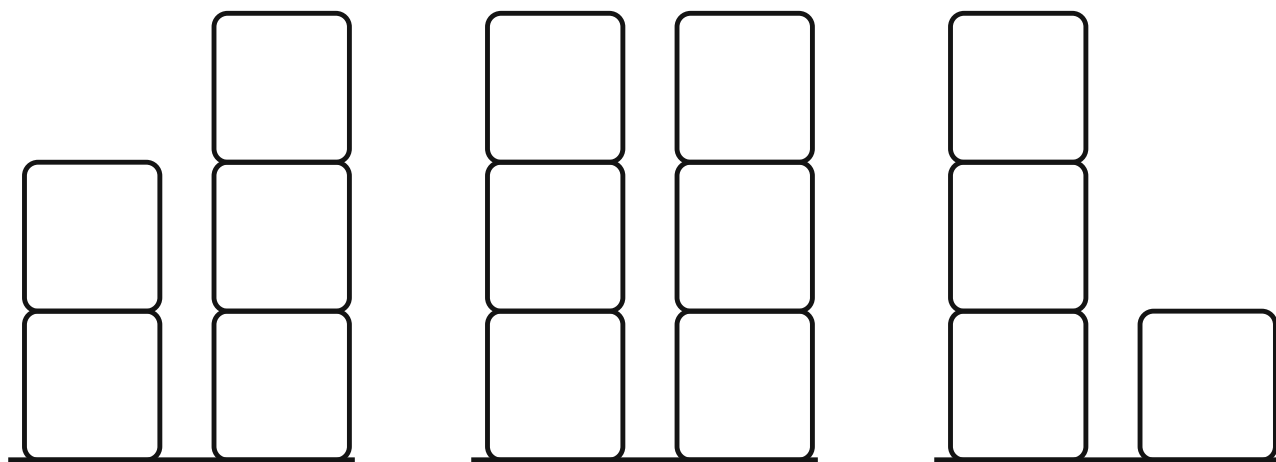
Point to each matching pair. You may join them.



The drawings show a beam bridge, an arch bridge, and a truss bridge.

Two towers, same height

Point to the pair with tops at the same height.

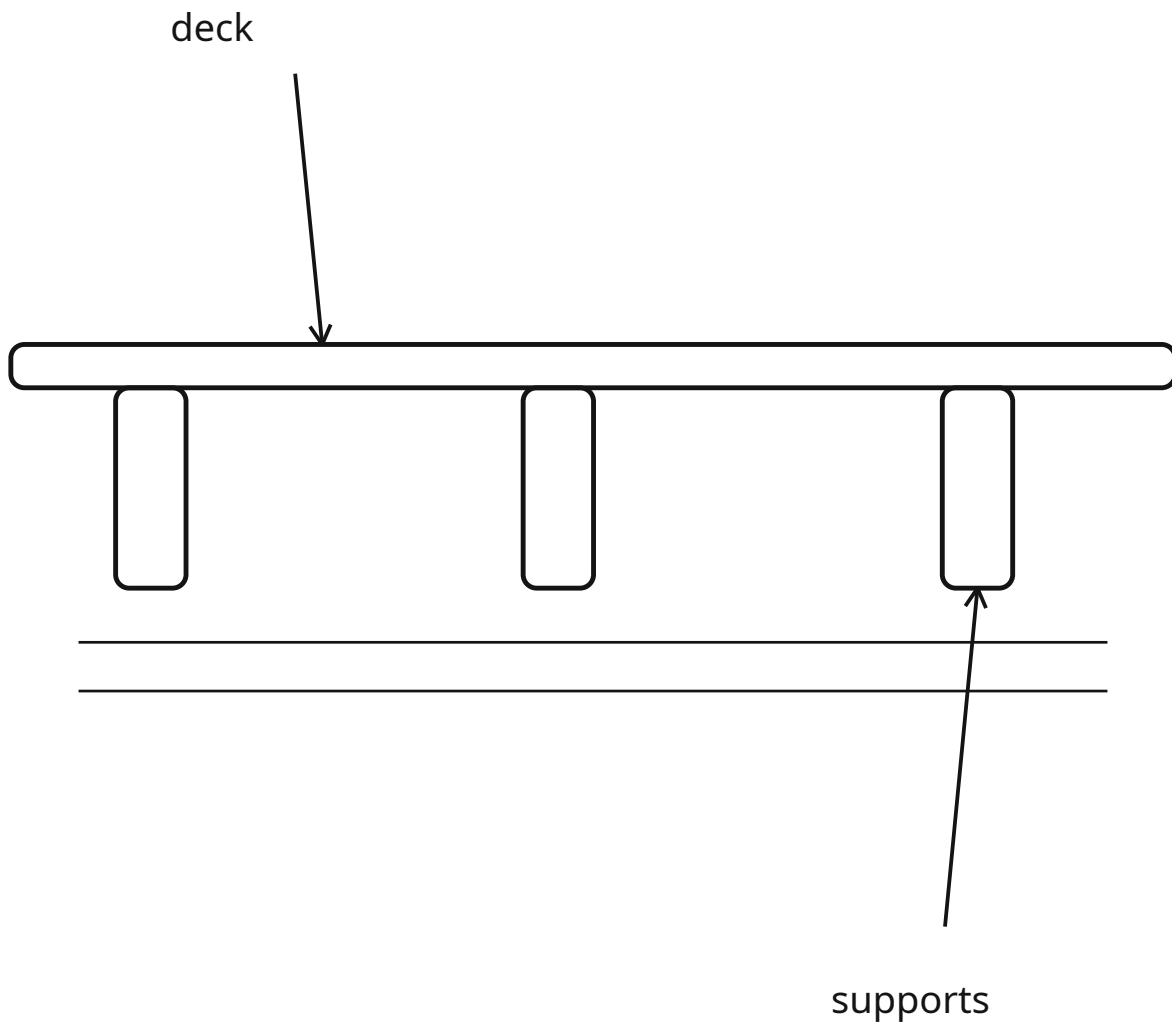


These are equal-size toy blocks. Trace across the matching tops.

This is a toy with a flat base and a level deck. Real bridge supports do not all have equal heights.

Find the bridge supports

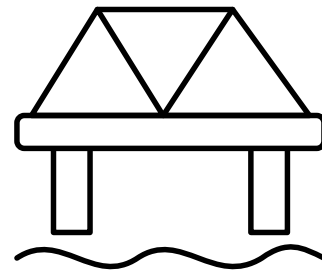
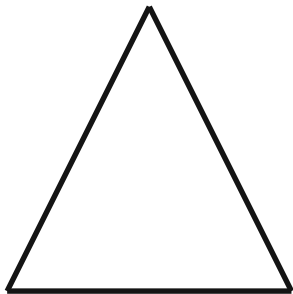
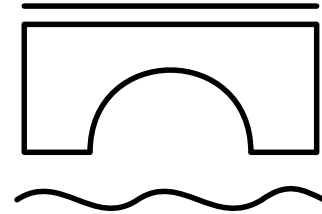
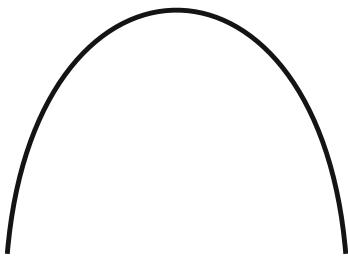
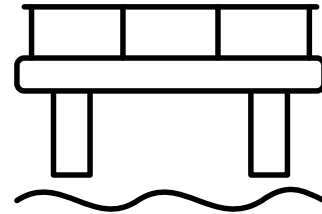
Color the deck one color. Color its supports another.



The deck is the part we cross. Supports help carry its weight down to the ground.

Straight, curved, triangular

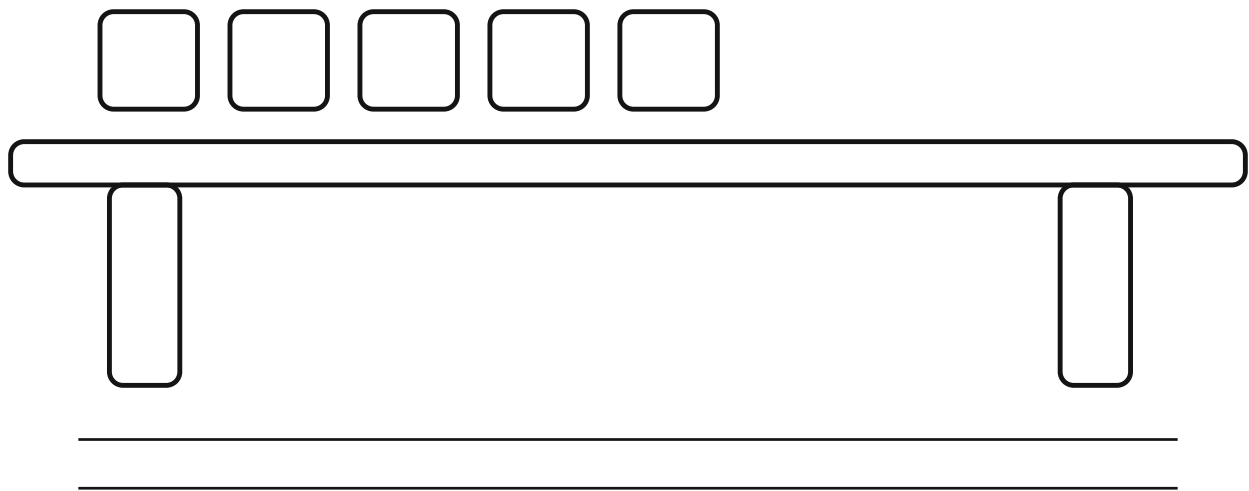
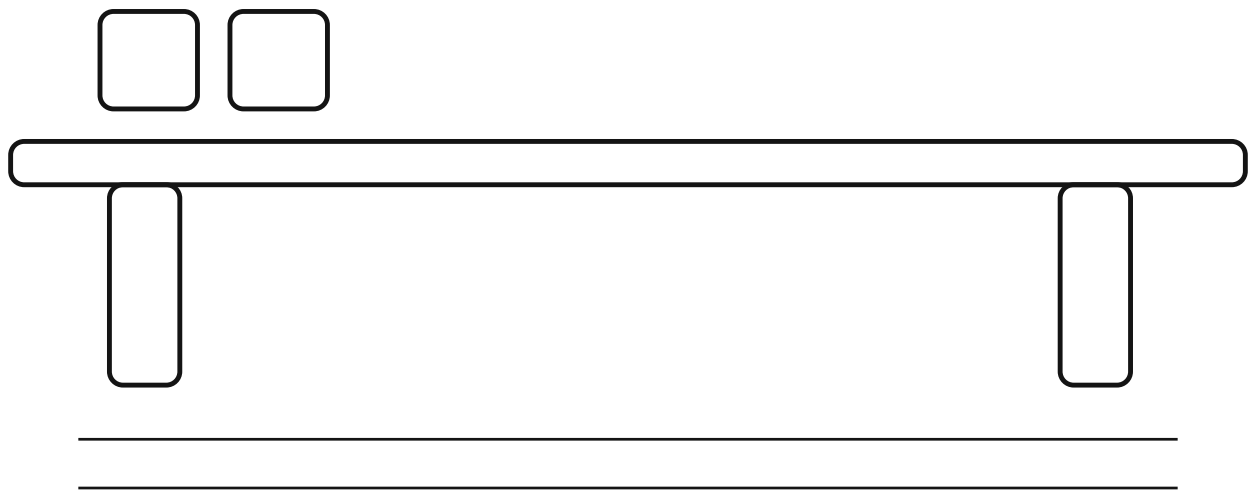
Trace each shape. Find it in the bridge beside it.



These are shapes to notice. One shape alone does not tell us how strong a bridge will be.

A lighter toy load

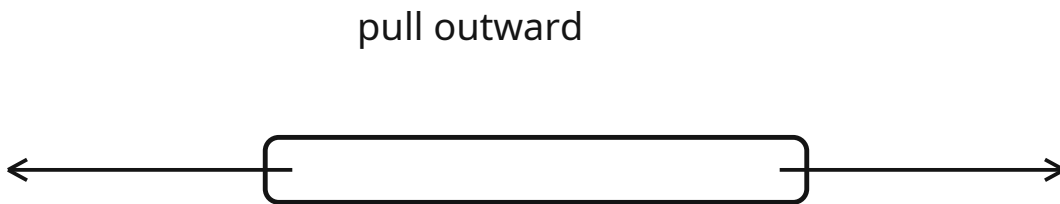
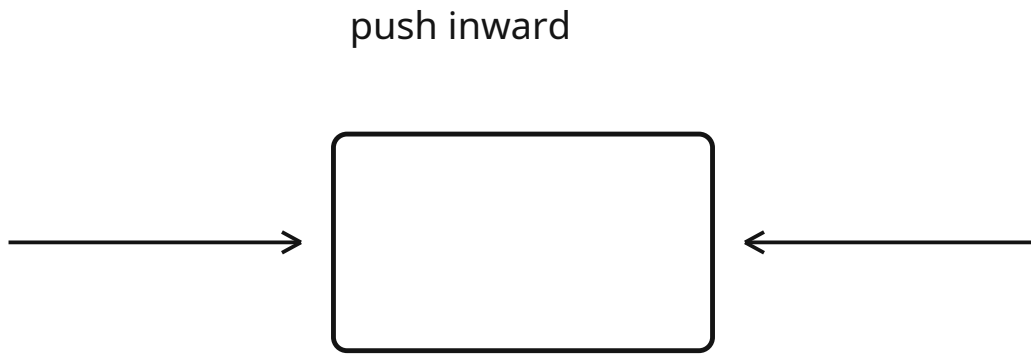
Each block weighs the same. Point to the lighter load.



Two equal blocks weigh less than five of the same blocks. A bigger drawing need not mean more weight.

Push and pull

Trace the arrows. Show a gentle push, then a pull.

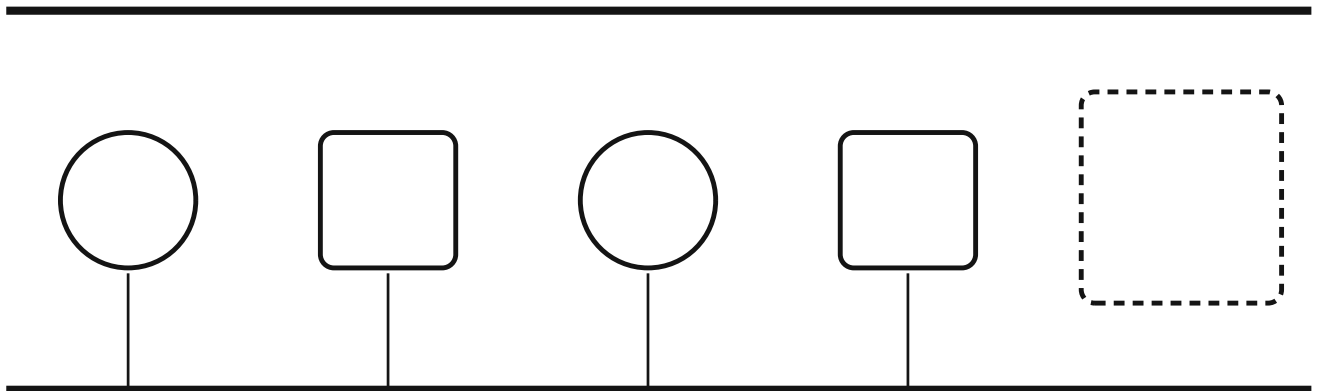


Squeezing and stretching can happen in bridge parts.

Use only pretend gestures. Engineers call these compression and tension.

A railing pattern

Say the shapes. Draw the shape that comes next.

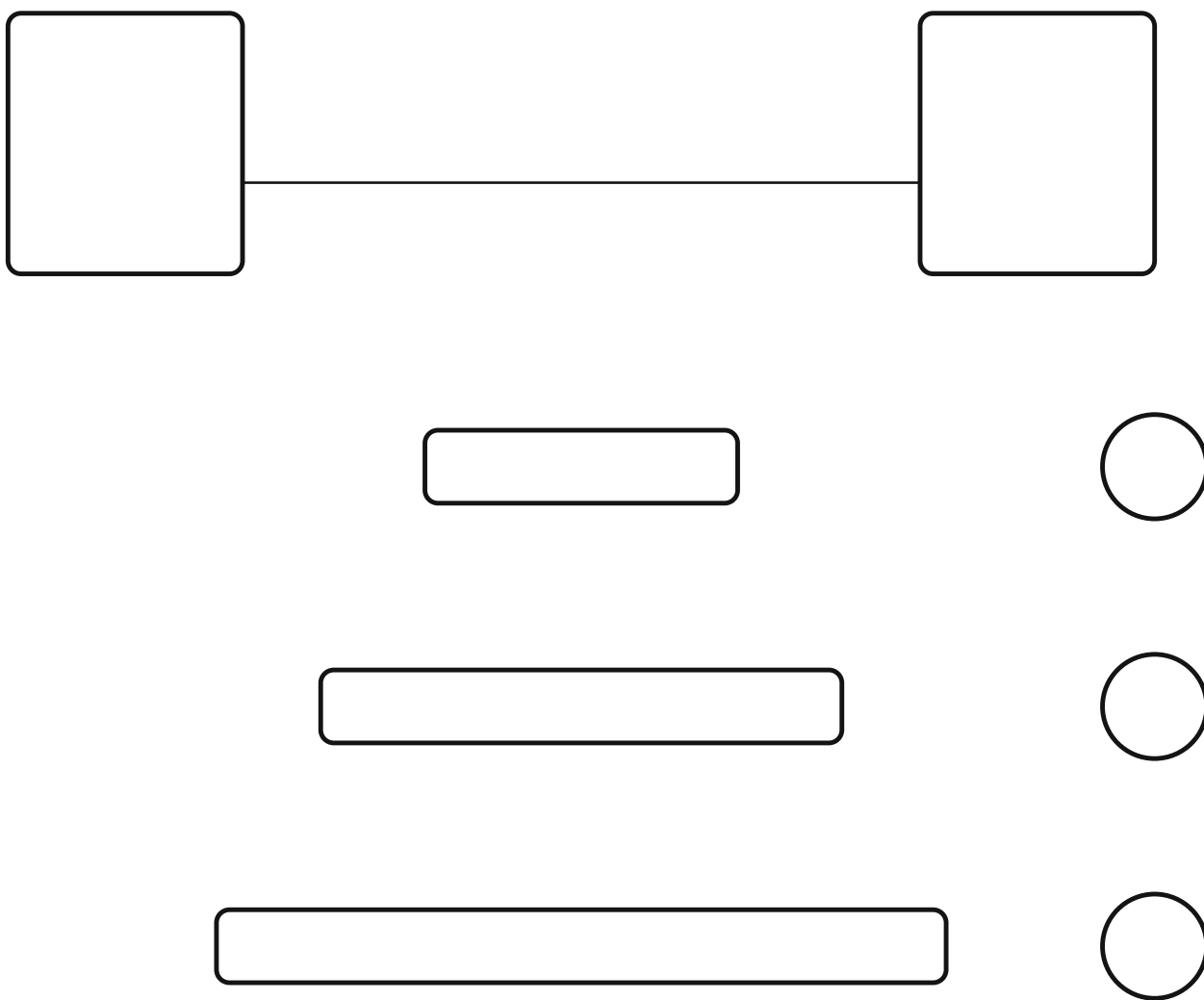


Circle, square, circle, square ...

A repeating decoration is an AB pattern. It is not a test of bridge strength.

Which deck can reach?

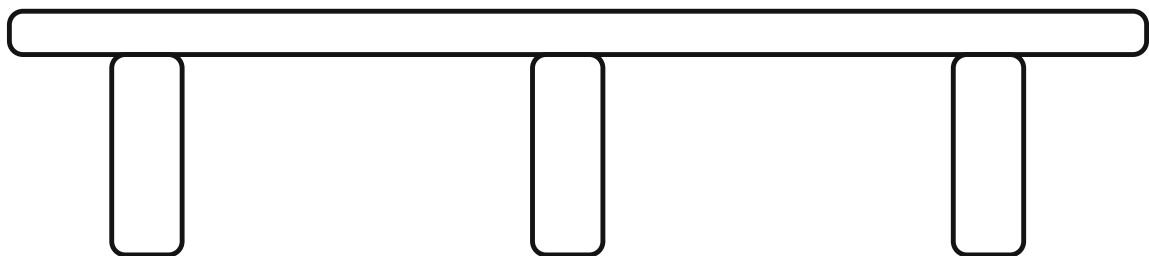
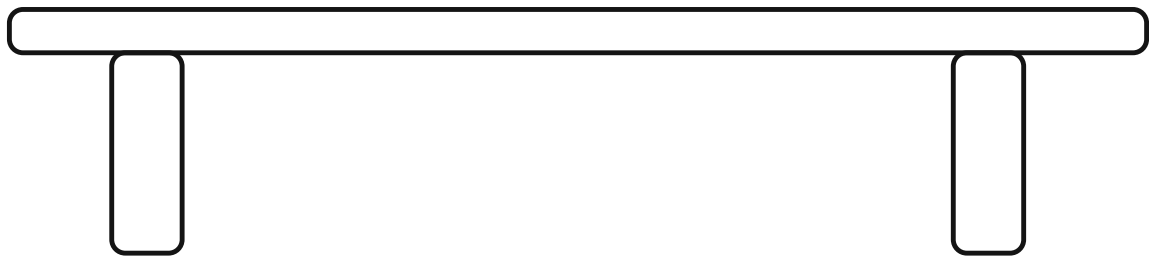
Point to the only piece long enough to rest on both banks.



The gap is the space between the banks. Pieces keep the same picture scale; only the bottom one spans it.

What changed below?

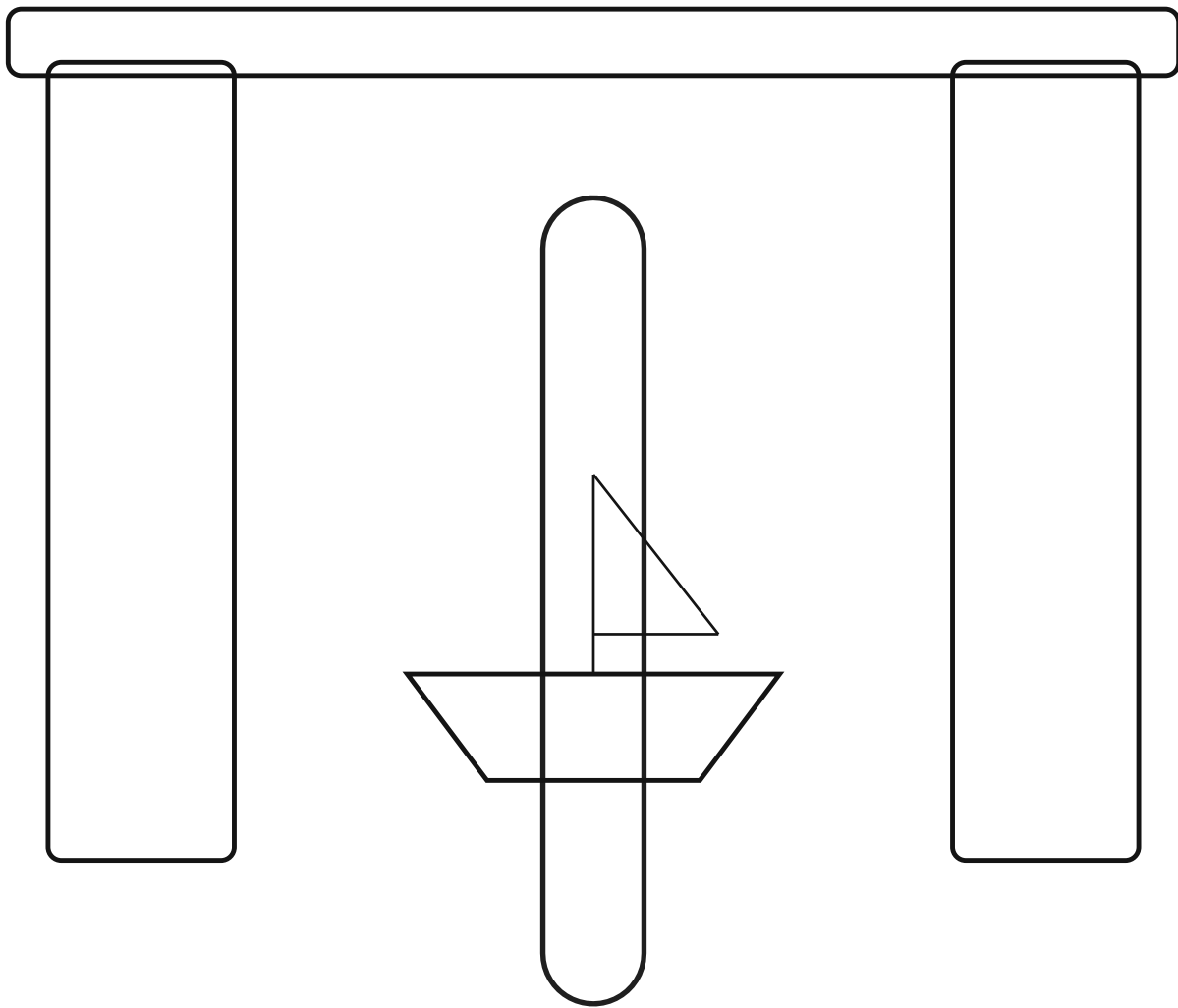
One bridge has an extra support. Find and color it.



The lower drawing adds a middle support. A real bridge must be designed for its ground, materials, and loads.

Room for a little boat

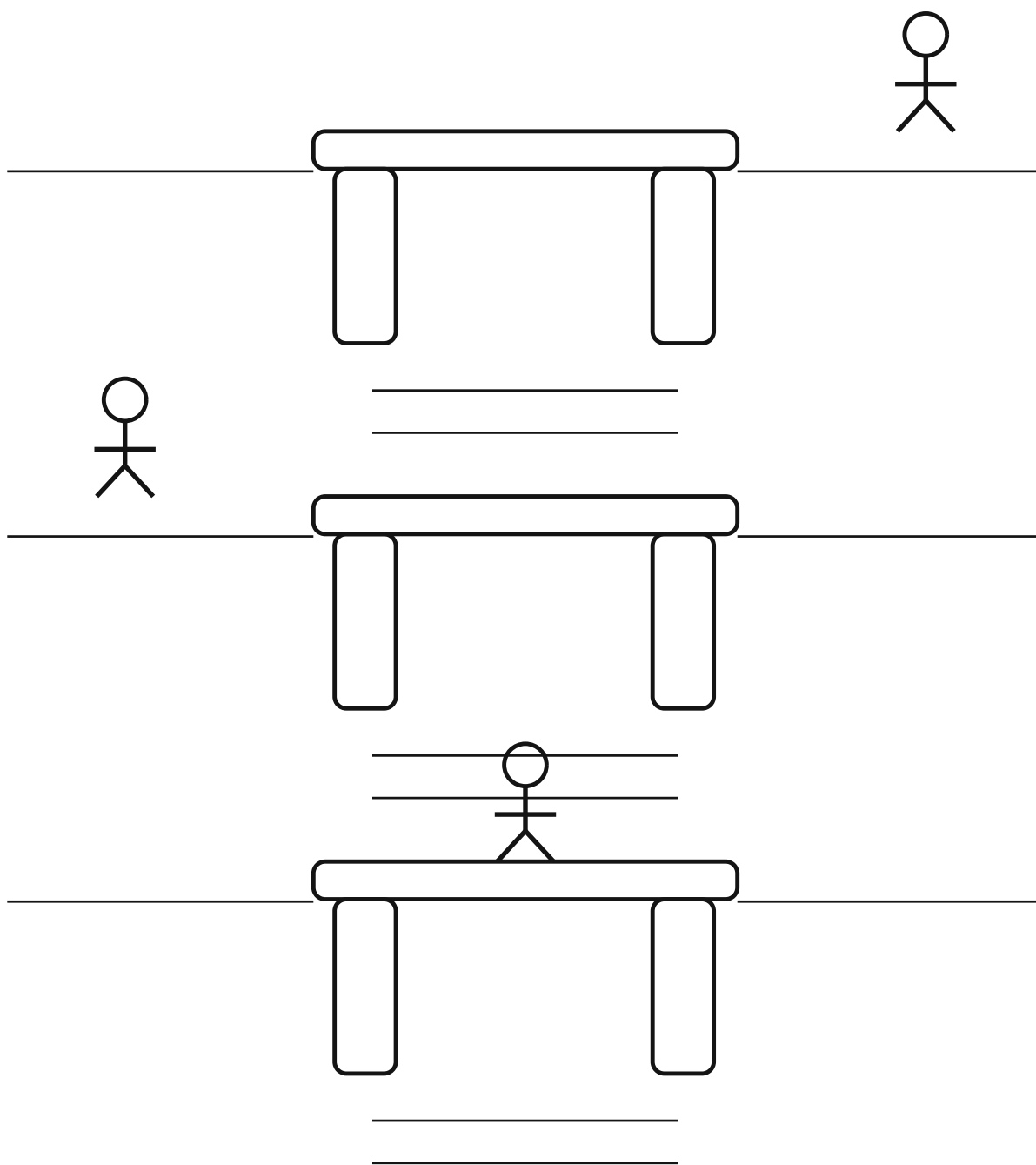
Trace the boat path through the open space.



A bridge may need space below for boats. This simple drawing is a pretend boat passage.

Before, on, and after

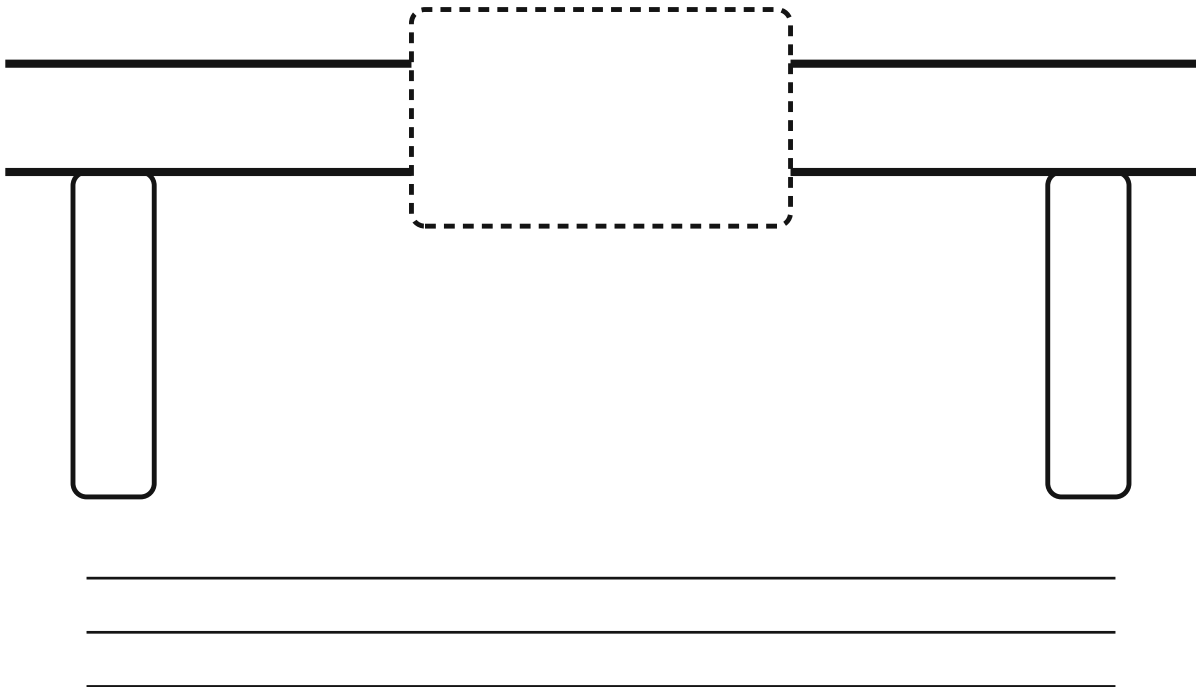
Point to the traveler before, on, and after the bridge.



Moving left to right: middle picture is before, bottom is on the bridge, top is after.

Finish the missing path

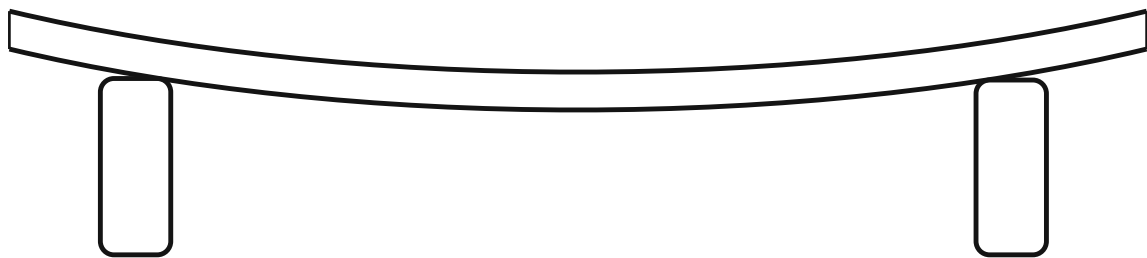
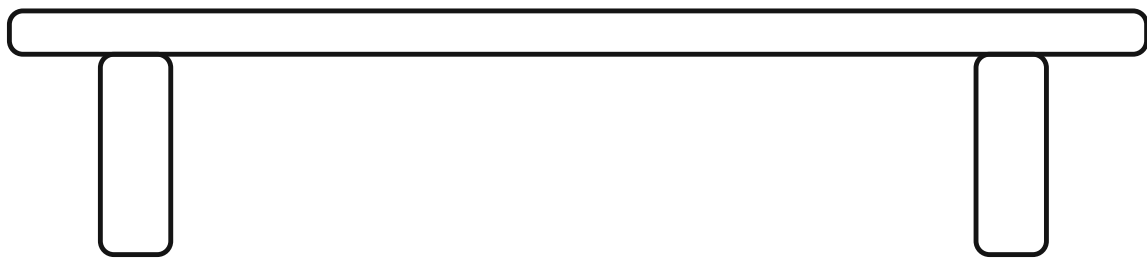
Draw two lines to join the deck across the gap.



Repair this drawing only. Real bridge damage needs trained engineers.

Notice a bend

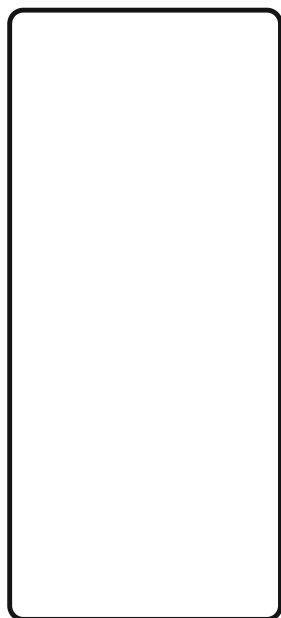
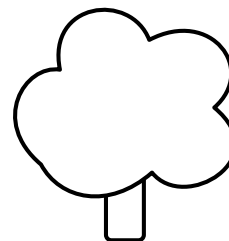
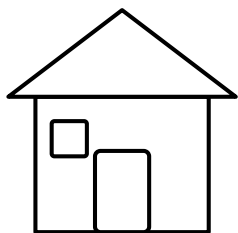
Point to the toy deck that bends down in the middle.



Bottom: a visible sag. Real bridges can bend a little; a picture alone cannot tell us if one is safe.

Your very own crossing

Draw a bridge between the banks. Tell who crosses it.



Ask: Where is the deck? What holds it up? Any thoughtful drawing or explanation is welcome.

A little guide for grownups

Ages 4-6 | Read aloud, point, trace, and talk.

Get ready

Print actual size on Letter or A4. Use crayons or a pencil. No scissors, glue, screens, or independent reading are needed.

Make it gentle

Try one or two pages at a time. A child may answer by pointing or speaking. Offer a finger trace before a pencil trace.

What this explores

Crossings, spans, supports, a level toy deck, and noticing push, pull, and bending. The focus is observation and talk, not engineering calculations.

Keep the model honest

These are simplified drawings, not safe building plans. Equal-height towers apply only to our flat-base toy. A pictured shape, load, or bend cannot prove a real bridge is safe.

Sources for grownups

TeachEngineering: Bridge Building

https://www.teachengineering.org/activities/nyu_bridge_activity1

PBS Design Squad: Suspension Bridges

<https://www.pbs.org/video/design-squad-nation-how-does-suspension-bridge-work/>

Answers and conversations

Pointing, speaking, or drawing all count.

- | | |
|---|--|
| 1. Open: point to the bridge in the scene and choose colors. | 9. Circle is next. |
| 2. Follow the path from one bank to the other. | 10. Bottom piece: it reaches both banks with overlap. |
| 3. Left top -> right middle; left middle -> right bottom; left bottom -> right top. | 11. The lower bridge has an extra middle support. |
| 4. The middle pair has equal-height towers. | 12. Follow the open channel between the supports. |
| 5. Long horizontal deck; three upright supports. | 13. Before: middle. On: bottom. After: top. |
| 6. Top: straight. Middle: arch curve. Bottom: triangles. | 14. Two lines connect the left and right deck edges. |
| 7. Top load: two equal blocks weigh less than five. | 15. The bottom toy deck bends down. |
| 8. Top arrows push inward; bottom arrows pull outward. | 16. Open: a path across the gap and an explanation of support. |

Open-ended pages have many useful answers. Ask what your child noticed; no scores are needed.