

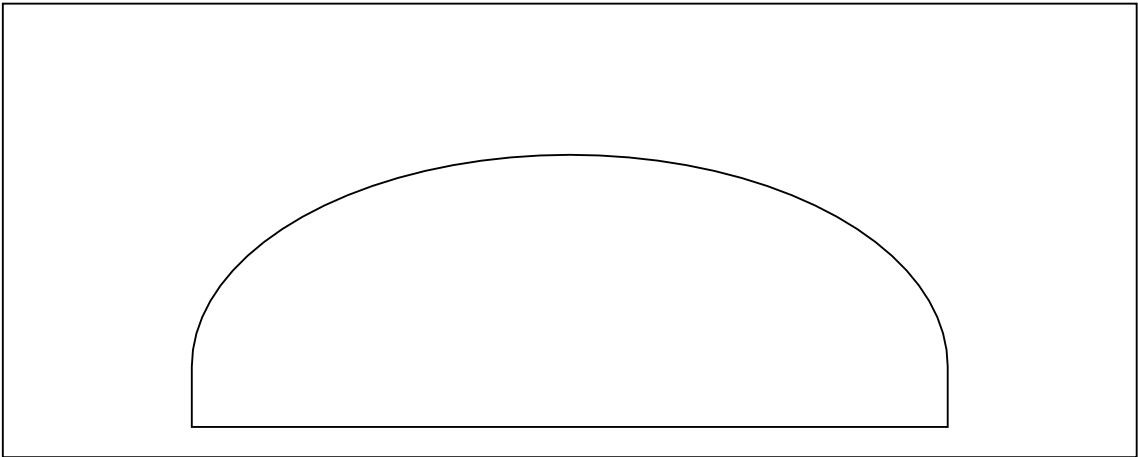
Arched Bridge

arched-bridge / 1.0.0 / Letter / Template page 1

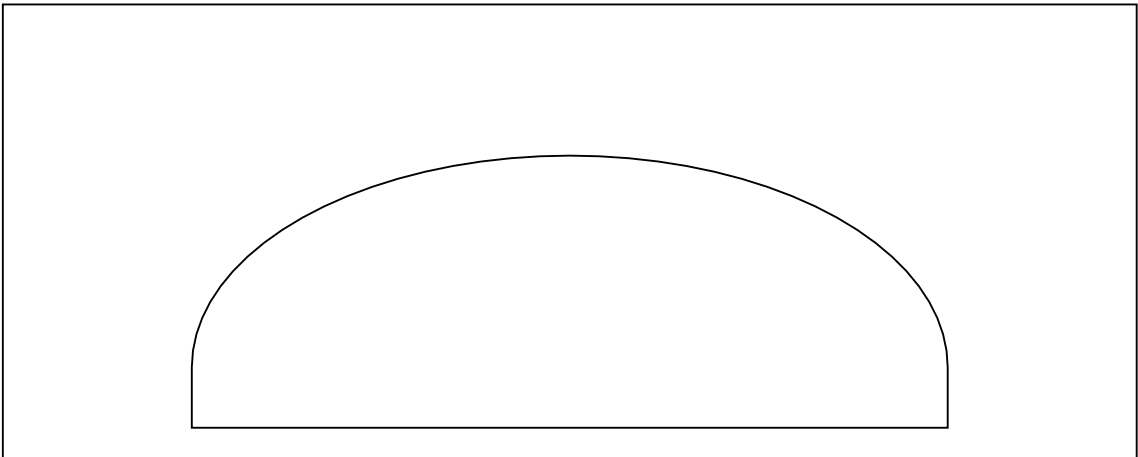
D1 | cut 1
150.00 x 58.00 mm



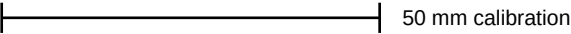
W2 | cut 1
150.00 x 60.00 mm



W1 | cut 1
150.00 x 60.00 mm



Solid: cut | Dashed: valley | Dash-dot: mountain | Dotted: glue

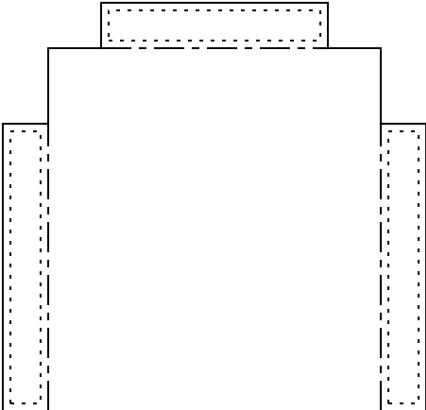


Print at 100% / Actual size. Do not fit to page. Original paper craft template.

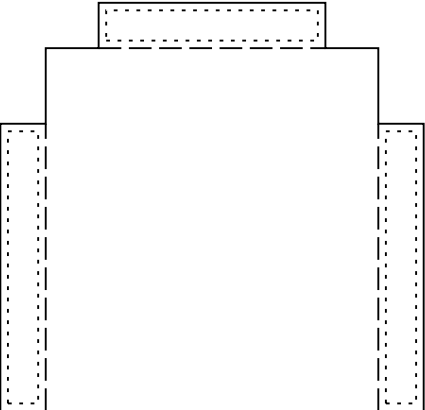
Arched Bridge

arched-bridge / 1.0.0 / Letter / Template page 2

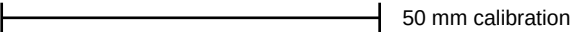
S1 | cut 1
56.00 x 54.00 mm



S2 | cut 1
56.00 x 54.00 mm



Solid: cut | Dashed: valley | Dash-dot: mountain | Dotted: glue



Print at 100% / Actual size. Do not fit to page. Original paper craft template.

Arched Bridge

arched-bridge / 1.0.0 / Letter / Assembly instructions

Finished size: 150 x 44 x 60 mm nominal; roadway at 48 mm

Materials: 220-250 gsm cardstock; PVA craft glue; Craft knife and cutting mat for the two openings; Scissors; Metal ruler and blunt scoring tool; Small square and removable clips

Original five-piece construction. Physical printing, cutting and assembly verification pending. Decorative only; not a load-bearing toy.

The roadway is straight and level: its exact developed span is 150 mm, width 44 mm, plus two 7 mm downturned flanges. No curved deck or stretched facets.

Each planar opening is 100 mm wide, from height 4 to 40 mm, with vertical springing to 12 mm and a 40-segment elliptical crown. Retain the 4 mm bottom tie: this is a pierced arch silhouette, not an open-bottom masonry arch.

End support webs at $x=12$ and $x=138$ mm stand on the table and carry the deck at $z=48$ mm. Their 44 mm width gauges the wall spacing; the deck flanges bond continuously to solid wall above the opening.

Meshes use zero paper/glue thickness. Dry-fit the actual cardstock and keep walls just outside the 44 mm webs; exterior width will increase by approximately two paper thicknesses. Glue-contact surfaces coincide intentionally. No forming stretch is required.

All creases are 90 degrees: D1 and S1 mountain, S2 valley, relative to the printed face. Glue the mating faces described in the steps. Screen and physical review are separate from automated checks.

Part inventory (cut each instance once):

W1: Arch wall 1

W2: Arch wall 2

D1: Road and two edge flanges

S1: End support and spacing web

S2: End support and spacing web

1. Print and cut the pierced walls [W1, W2]: Print at 100% and measure the 50 mm ruler. Cut W1 and W2, including both enclosed arch openings. Preserve the 4 mm bottom ties and the 25 mm end piers. Each wall is 150 x 60 mm; the opening crown is 40 mm above the baseline.

2. Fold the support webs [S1, S2]: Cut S1 and S2. Score the two 38 mm side creases and the 30 mm top crease. Fold all three 6 mm tabs 90 degrees toward the same side of each 44 x 48 mm web: mountain folds on S1, valley folds on S2. The side tabs stop at height 38 mm to clear the roadway flanges; the top tab is inset 7 mm at each side.

3. Glue the freestanding frame [W1, W2, S1, S2]: On a level table stand both walls parallel, arch openings aligned, 44 mm between their inner faces. Measure x from the same left end on both walls. Place S1 at $x=12$ mm with its tabs pointing toward $x=0$; S2 at $x=138$ mm with its tabs toward $x=150$. Glue their side tabs to the inside wall faces at $x=6-12$ and $138-144$ mm, from height 0-38 mm. Keep all four bottom edges on the table, square the frame, clip lightly and let dry fully.

4. Form the spanning roadway [D1]: Cut D1, a 150 x 58 mm blank. Score its two full-length lines 7 mm from the long edges. Fold both 7 mm flanges down 90 degrees to leave a flat 150 x 44 mm road. Dry-fit between the walls, with both short road edges flush with the wall ends and the road sitting on the 48 mm-high support tops.

5. Bond and measure the bridge [D1, W1, W2, S1, S2]: Apply thin glue to the outward faces of D1 flanges and the upward faces of S1/S2 top tabs. Lower D1 between the walls. Bond the flanges to inside wall faces from height 41-48 mm; press the support top tabs against the road underside at $x=6-12$ and $138-144$ mm, across $y=7-37$ mm. Hold square until dry. Check 150 mm length, 44 mm clear wall spacing, 48 mm roadway height and 12 mm parapets. The arch holes must remain clear and the bridge must stand without rocking. Physical verification remains pending.