

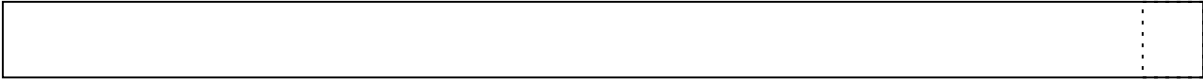
Five-Link Paper Chain

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R5 | cut 1
158.80 x 10.00 mm



R4 | cut 1
158.80 x 10.00 mm



R3 | cut 1
158.80 x 10.00 mm



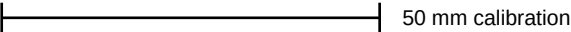
R2 | cut 1
158.80 x 10.00 mm



R1 | cut 1
158.80 x 10.00 mm



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



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

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Finished size: 176 x 48 x 48 mm in the spaced display pose; each ring diameter 48 mm

Materials: 100-140 gsm colored paper; Scissors; PVA glue; Millimetre ruler

Original construction. Physical printing, cutting and assembly pending. Screen review pending.

Print at 100% and verify the 50 mm ruler. Five templates are five physical strips: R1-R5, one of each. No separate tabs, hidden connectors or extra cuts.

Every strip is 158.80 x 10 mm: $2 \times \pi \times 24 = 150.80$ mm circumference plus 8 mm overlap. The dotted zone is glue, not a crease or cut. There are no folds.

Only close R1 before threading. For each later ring, pass an open end through the previous ring before gluing. Allow each joint to set; let all glue dry fully per its label.

The display uses 32 mm center spacing and alternating XY/XZ ring planes. It is a freely supported layout, not a gravity simulation: a hanging chain moves and elongates.

Build checks verify four adjacent disk-threadings and all ten ring-pair clearances (conservative surface clearance at least 5.70 mm in the display pose). Non-neighbor rings are unlinked. These checks are not a physical test.

Surfaces are developable cylinders sampled by small flat triangles, with slight chord shortening. Only the intended 8 mm glued lap overlaps within each ring. Zero-thickness lap layers share the ideal cylindrical surface; real paper thickness and glue are omitted.

Part inventory (cut each instance once):

R1: Ring 1 - 8 mm lap

R2: Ring 2 - 8 mm lap

R3: Ring 3 - 8 mm lap

R4: Ring 4 - 8 mm lap

R5: Ring 5 - 8 mm lap

1. Close first ring [R1]: Cut R1: 158.80 x 10 mm. Gently curl along its long direction, without creases. Make a 48 mm diameter loop. Apply a thin coat of PVA to the dotted final 8 x 10 mm zone; place this end INSIDE the first 8 mm of the strip. Align both long edges and put the starting short edge at the inner boundary of the dotted zone (150.80 mm from the starting end). The overlap is 8 mm, not an additional tab. Pinch until it holds; let the seam set before adding R2.

2. Thread and close ring 2 [R2]: Cut R2: 158.80 x 10 mm. Keep it OPEN. Feed one short end through the hole of closed R1 once, then bring its two ends together outside that hole. Do not pass both ends through or include any earlier ring. Rotate the new loop plane 90 degrees relative to R1; R1/R3/R5 share one plane direction and R2/R4 the perpendicular direction. Curl to 48 mm diameter. Glue the dotted final 8 x 10 mm zone INSIDE the first 8 mm; align the starting short edge with the dotted zone boundary and align the long edges. Pinch and let the seam set before handling. Check R2 slides freely through R1 but cannot be separated without opening a seam. Do not glue rings to each other.

3. Thread and close ring 3 [R3]: Cut R3: 158.80 x 10 mm. Keep it OPEN. Feed one short end through the hole of closed R2 once, then bring its two ends together outside that hole. Do not pass both ends through or include any earlier ring. Rotate the new loop plane 90 degrees relative to R2; R1/R3/R5 share one plane direction and R2/R4 the perpendicular direction. Curl to 48 mm diameter. Glue the dotted final 8 x 10 mm zone INSIDE the first 8 mm; align the starting short edge with the dotted zone boundary and align the long edges. Pinch and let the seam set before handling. Check R3 slides freely through R2 but cannot be separated without opening a seam. Do not glue rings to each other.

4. Thread and close ring 4 [R4]: Cut R4: 158.80 x 10 mm. Keep it OPEN. Feed one short end through the hole of closed R3 once, then

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bring its two ends together outside that hole. Do not pass both ends through or include any earlier ring. Rotate the new loop plane 90 degrees relative to R3; R1/R3/R5 share one plane direction and R2/R4 the perpendicular direction. Curl to 48 mm diameter. Glue the dotted final 8 x 10 mm zone INSIDE the first 8 mm; align the starting short edge with the dotted zone boundary and align the long edges. Pinch and let the seam set before handling. Check R4 slides freely through R3 but cannot be separated without opening a seam. Do not glue rings to each other.

5. Thread and close ring 5 [R5]: Cut R5: 158.80 x 10 mm. Keep it OPEN. Feed one short end through the hole of closed R4 once, then bring its two ends together outside that hole. Do not pass both ends through or include any earlier ring. Rotate the new loop plane 90 degrees relative to R4; R1/R3/R5 share one plane direction and R2/R4 the perpendicular direction. Curl to 48 mm diameter. Glue the dotted final 8 x 10 mm zone INSIDE the first 8 mm; align the starting short edge with the dotted zone boundary and align the long edges. Pinch and let the seam set before handling. Check R5 slides freely through R4 but cannot be separated without opening a seam. Do not glue rings to each other.