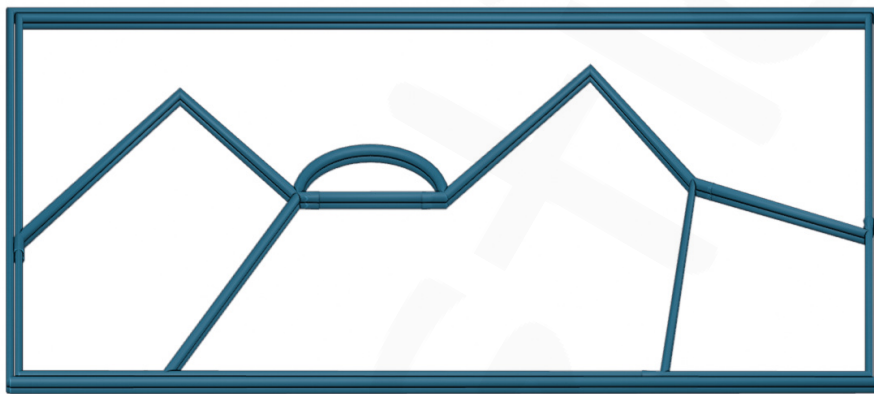


MAKE • DISCOVER • COLLECT

Mountain Postcard

Beginners aged 8 and above; children work under adult supervision. The instructions for the specific device and the supervision they require take precedence. • Estimate: 30–50 min, no time limit



Build an openwork mountain outline with PLA, then trace it onto a sheet of paper, color the landscape however you like, and write a short greeting.



Your outcome

Build your own mountain outline and use it to make a colorful postcard.

Construction illustration. The instructions show the successive stages. Full-size (1:1) templates are supplied on a separate sheet.

What you need

Additional items are needed. Prepare the complete list below before starting.

Tools

- | | | |
|--------------------------|--|-------|
| ☐ | PLA pen
With a holder; operation and assistance according to the device instructions. | 1 pc. |
| ☐ | Transparent PLA mat
For tracing the pattern on a stable work surface; accommodates the entire 150 × 110 mm pattern. | 1 pc. |

Materials

- | | | |
|--------------------------|--|---------|
| ☐ | Paper with T01 or T02
Choose one pattern; print at 100%, check 20 mm. | 1 sheet |
|--------------------------|--|---------|

Tools

- | | | |
|--------------------------|--|-------|
| ☐ | Pencil
For your own composition. | 1 pc. |
| ☐ | Ruler
For checking the 20 mm segment, the 12 × 8 cm frame, and the 3 mm overlaps. | 1 pc. |

Materials

- | | | |
|--------------------------|--|-------|
| ☐ | Blank paper or cardstock
For a postcard with a traced mountain outline. | 1 pc. |
|--------------------------|--|-------|

Tools

- | | | |
|--------------------------|--|----------------|
| ☐ | Colored pencils
For freely coloring the landscape on paper. | several colors |
|--------------------------|--|----------------|

Filament — amounts include extra

- | | | |
|--------------------------|--|-----------------|
| ☐ | PLA 1.75 mm — colour shown in the illustration | 2.8 m · ≈ 8.4 g |
|--------------------------|--|-----------------|

Total filament: 2.8 m · approximately 8.4 g

The quantities include extra filament. Grams indicate estimated net filament mass, excluding packaging.

Before you start

Working with PLA

Work on a PLA mat. Children work under adult supervision. Follow the device instructions for age, supervision and settings. Do not touch the nozzle or fresh PLA; wait for it to cool.

Time estimate

30-50 min, including 18-32 min using the pen. This is an estimate with no time limit. You can take a break after the frame or ridge has cooled.

Your panorama

Choose the PLA colours. T01 shows sample mountains; T02 has the same frame for your own sketch. Prepare one pattern.

PLA quantity

Prepare 2.8 m of 1.75 mm PLA (approximately 8.4 g). This amount includes at least 50% extra and is rounded up to 0.1 m. This is an estimate, not a measurement of consumption; check that the filament is compatible with the device.

Your postcard

Once the outline has cooled, trace it onto a separate sheet of paper. Color the mountains and sky however you like; add your own greeting on the back. You can keep the PLA outline to make more postcards.



How to read the instructions

The large image shows the completed stage. Small views show the action and current parts. ×N means repeat the whole action N times, cooling and checking each time. Illustrations are not at 1:1 scale.

Prepare your workspace

- 1 Prepare a stable work surface and a holder. Check the PLA, settings and required supervision in the pen instructions.
- 2 Choose T01 or T02. Print at 100%; check whether the check segment measures 20 mm.
- 3 Position the selected pattern horizontally, with the peaks pointing up and the frame measuring 12 cm wide by 8 cm high. Trace the model frame; the grid and card border are for orientation only.
- 4 On T02, draw your own ridge between the sides of the frame, two supports connecting to the bottom edge of the frame, and a sun connected at both ends. Keep the frame at 12 × 8 cm; choose the peak heights and colors.
- 5 Cover the selected pattern with a transparent PLA mat. The entire pattern must remain visible and lie flat.
- 6 Complete all four stages using the selected T01 or T02 pattern. The illustrations show the T01 example; your own T02 sketch keeps the same connections and sequence.

The phases do not overlap: 18–32 min using the pen, 12–18 min for the remaining work, 30–50 min in total. Joints and a minor correction are included in the pen phases; a larger repair may extend the estimate. Design estimate; not measured. A larger repair will extend the work.

STAGE 01 / 04 • Session 1

Build the frame



Closed frame

NOW PLA picture — reference pattern (T01)

Blue / dark emphasis: the part used in this action. Arrows: visual guides. Illustration not to scale.

PARTS FOR THIS STAGE

1 × PLA picture — reference pattern (T01) · PLA | template T01

Stage 1: on the mat, close the frame with a 3 mm overlap, add an adjoining inner outline and a second layer over both lines. Let it cool. Add the remaining elements only in stages 2–4.

Start in the bottom-left corner and move right around the frame. Close it with a 3 mm overlap. Add an adjacent inner outline, then a second layer over both paths. Let it cool.



Check

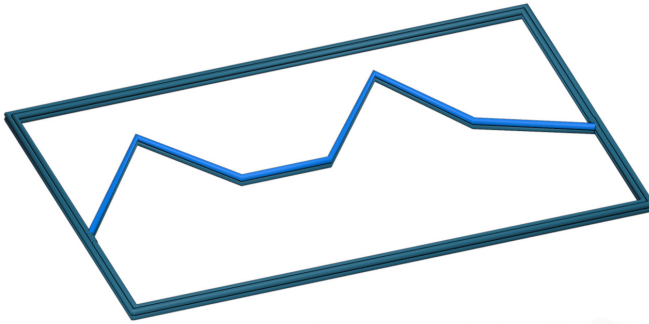
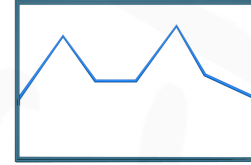
The 12 × 8 cm frame is closed, flat and has no gaps.

If it does not work

Place the cool joint flat on the mat. Join it with a strand of PLA overlapping 3 mm on both sides. Let it cool and check.

STAGE 02 / 04 • Session 1

Add the ridge



First pass



Left connection detail: second layer

Stage outcome

NOW PLA picture — reference pattern (T01)

Blue / dark emphasis: the part used in this action. Arrows: visual guides. Illustration not to scale.

Draw the ridge along the mat from the left side to the right side. Connect both ends to the frame with 3 mm overlaps. Add a second layer along the entire path. Let it cool.



Check

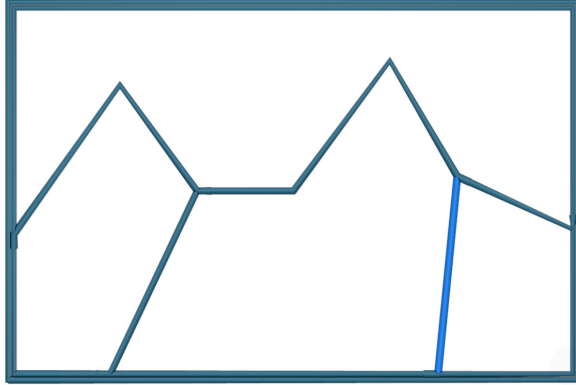
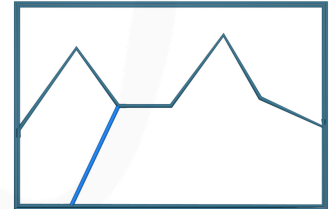
The ridge is continuous and connected to both sides.

If it does not work

Place the cool joint flat on the mat. Join it with a strand of PLA overlapping 3 mm on both sides. Let it cool and check.

STAGE 03 / 04 • Session 1

Add two supports



Left support complete

Both supports complete

NOW PLA picture — reference pattern (T01)

Blue / dark emphasis: the part used in this action. Arrows: visual guides. Illustration not to scale.

Make the left support, then the right support: from the bottom of the frame to the ridge. Make a 3 mm overlap at each end. Reinforce each line with a second layer. Let it cool.



Check

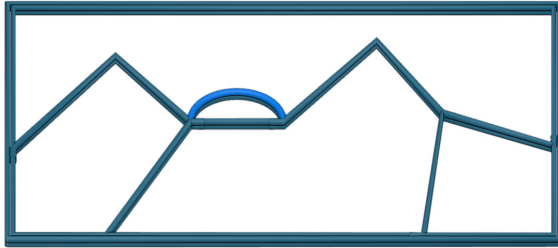
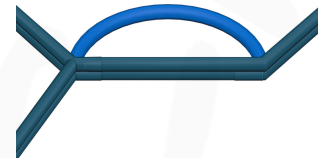
Both supports have complete connections at both ends.

If it does not work

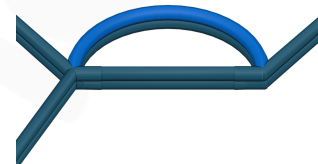
Place the cool joint flat on the mat. Join it with a strand of PLA overlapping 3 mm on both sides. Let it cool and check.

STAGE 04 / 04 • Session 1

Connect the sun



Arc connected



Arc detail: second layer

Stage outcome

NOW PLA picture — reference pattern (T01)

Blue / dark emphasis: the part used in this action. Arrows: visual guides. Illustration not to scale.

Join the sun to the ridge, reinforce the arc with a second layer, and let the outline cool. Trace the outline onto a blank sheet of paper, color the landscape with colored pencils, and add a greeting.



Check

Held by the frame, the cooled outline stays in one piece. The paper shows a colored mountain landscape and your own greeting.

If it does not work

If the joint has weakened, repair it on the mat using the same PLA and wait for it to cool. Then trace the outline onto a new sheet of paper.

Finished — check the outcome



Check

When held by the frame, the cooled outline keeps the ridge, two supports, and sun together.



Check

The paper features a hand-colored mountain landscape with a short greeting.

Storage

Store the model in a cool place away from sunlight and heat. Repair it on a suitable 3D-pen work surface using the same material as the part.

View 1

