

PAPERPOLY
— designs —

3D PAPERCRAFT HOW TO AND TIPS & TRICKS

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What is 3D Papercraft?

3D Papercraft is art of creating 3D objects from paper. Principle is simple, you cut the template parts, fold them along folding lines and use the extra flaps on template to glue parts together. In essence every connecting edge and flap are numbered, and you just need to match the number on the edge with the one on the flap and glue them together. That's pretty much it.

Tools that you will need

1. **Paper** – You will see in a **Visual Guide** how much paper you need for each model and in what color.
2. **Cutting tool** (cutting knife, scalpel, box cutter, scissors)
3. **Ruler** (so you can cut straight lines)
4. **Glue** (I've used stick glue so far, but you can try other glue suitable for glueing paper)
5. **Cardboard** (1mm - 2mm thick – it's used for wall mounting or stand)
6. Not needed but sure is a plus: **self-healing cutting mat**

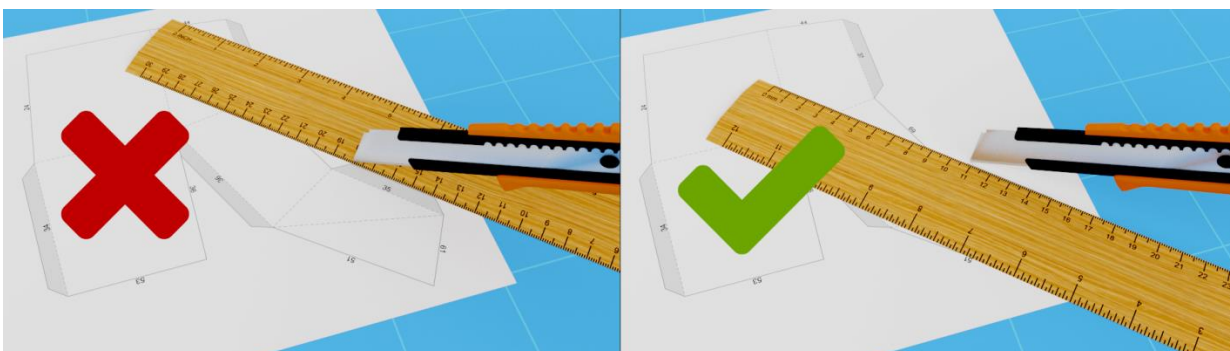
How to, tips and tricks

Two different ways to fold the model

Models can be folded in two different ways; with printed pages facing outwards or with printed pages facing inwards. **You can see in Visual Guide what orientation the guide is following.** If you decide to make the model other way than it is in the guide, you'll get the model mirrored.

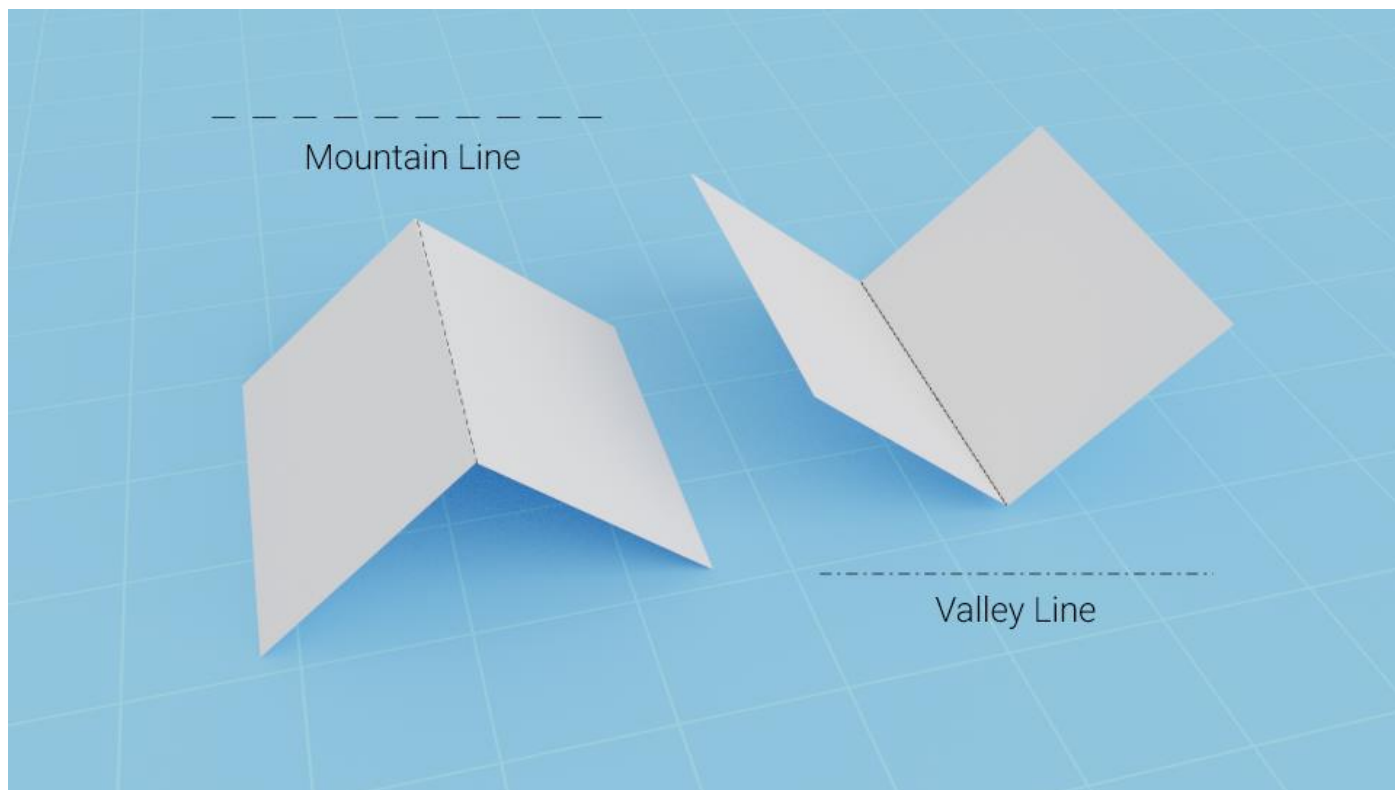
How to cut the parts

Align the ruler to the **solid lines** and use the cutting knife or tool of your choice to cut through the paper in a straight line. Sometimes it can happen that your knife will steer off the ruler which can cut through parts of the model. To avoid this, always point the ruler so it's facing out of the model itself. Here is the picture to demonstrate.



How to cut the mountain and valley lines

Apart from solid lines there are two other types of lines – Mountain and Valley. Represented in template they will look like this:



Mountain and valley lines are where the part needs to be folded. Mountain line means it needs to resemble a mountain, so the line itself will be the peak. Valley lines are the opposite and they will represent the bottom of a valley. In essence, you either fold the part down or up.

To make the lines easier to fold, you need to make an incision across the line. Use slight force so you don't cut through the paper all the way. If you need, you can practice this on empty parts of the template (they will get thrown out anyway). The goal is to make the paper across the line easily foldable without bending or ripping off.

As this guide follows the "printed pages facing outwards" style, that means that mountain lines need to be cut with the page facing up, and valley lines need to be cut with the paper facing down. Now this can be tricky as when you flip the page, you will not be able to see where to cut the line. You can tackle this problem a few different ways.

1. Usually the lines end at corners, so you just need to keep track of which two corners the line connects while flipping the paper and then make an incision between those two corners.
2. You could cut the paper through just a tiny bit at line start and at end, so when you flip the paper, you will clearly see where the start/end points for the incision are.
3. Use a background lit mat or just put it onto the window to see through the paper. Because you'll be using the thick paper for the template, that might not always work.

Gluing

When gluing, you should apply glue to the "flap". No need to put it on both ends. All edges that need to be glued together are matched by number. So for example, a flap with number 17 will have a corresponding edge with the same number. Now, since numbers on the edges will be cut off when you cut the part, to check where it needs to be, either check on the remainings of the paper where the part was, or look at the template pdf file to find it. But don't worry, you'll find that parts seem to come together naturally and by following the guide, you'll have a clear idea where the part goes, with practice you won't even take notice of most of the numbers.



Self gluing

Most of the parts should be solved first before connecting them to the previous ones. Same as gluing, it's just that the edges that need to be glued are on the same part. This is very easy, as it will fold the model properly just by gluing those edges.

Cardboard cutting

Usually we'll first do the backplate (the flat out parts that will be facing the wall). Once they are done, you should put the finished backplate on the cardboard. Then either keep the backplate by hand or use something to keep it in place and draw lines around it on the cardboard (with a regular pencil). Now you'll have the same shape on cardboard that you need to cut. It will be good to cut it little bit inwards since the lines you drawn are little on the outside of the actual backplate. After that just glue the backplate to the cardboard.

Printing the template

Your template file will have a little color box on each page in the top left corner. This is the suggested color on what color paper you should print it on. (White is represented with light gray, so when you see light gray it just means white paper). Notice which pages are what color and printed them on respective colored paper accordingly.