
Valhalla's craft patterns

Elena “of Valhalla”

Feb 23, 2025

CONTENTS:

I	Computer Aided	3
1	3D Printing	7
1.1	Hexagonal Pattern Weights	7
II	Bookbinding and Cartonnage	11
2	Cartonnage	15
2.1	Simple Box	15
3	Zines	27
3.1	Watercolour Paper Zine	27
III	Folding Paper	43
4	Origami	47

4.1	Document Folder	47
IV	Bibliography	51
5	Miscellaneous	53

This is a collection of crafting patterns and tutorials designed or adapted by Elena “of Valhalla”.

The latest version of this document is published on <https://craft-patterns.trueelena.org/>; a pdf version¹ and an epub version² are also available; note however that this document is pretty image heavy, and may not load correctly in many ebook readers.

The PDF and epub versions also don't include any download file which can be downloaded from the individual pages of this website, or as the full website source zip archive³ or website source tarball⁴.

There are also companion websites for sewing patterns⁵ and fiber craft patterns⁶.

This document is generated with Sphinx⁷, and its sources are published on https://git.trueelena.org/crafts/craft_patterns/.

Generating an rss of new pages with Sphinx doesn't seem to be (easily) possible, but when new patterns are added or existing patterns receive significant changes they are usually announced on my blog⁸, which of course has an rss.

If you have questions or comments about anything in these patterns you can contact me via email at patterns AT trueelena.org, or you can find me on the fediverse as @valhalla@social.gl.como.it⁹.

Copyright 2023 Elena Grandi

This work is licensed under the Creative Commons Attribution-ShareAlike 4.0 International License. To view a copy of this license, visit <http://>

¹ <https://craft-patterns.trueelena.org/valhallascraftpatterns.pdf>

² <https://craft-patterns.trueelena.org/Valhallascraftpatterns.epub>

³ <https://craft-patterns.trueelena.org/Valhallascraftpatterns.zip>

⁴ <https://craft-patterns.trueelena.org/Valhallascraftpatterns.tar.xz>

⁵ <https://sewing-patterns.trueelena.org/>

⁶ <https://fiber-patterns.trueelena.org/>

⁷ <https://www.sphinx-doc.org>

⁸ <https://blog.trueelena.org>

⁹ <https://social.gl-como.it/profile/valhalla/>

creativecommons.org/licenses/by-sa/4.0/ or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.

Part I

Computer Aided

This part is for crafts that are mediated by forms of computer-based automation.

CHAPTER

1

3D PRINTING

1.1 Hexagonal Pattern Weights

These are pattern weights made with big washers in a 3D printed casing, in a shape and size compliant with the *Stickers Standard*¹⁰.

With the washers I can easily source they weight almost 75g and 100g for the 3-washers and 4-washers versions respectively.

The bottom is covered with felt to protect the fabric they are used on, and the top is decorated with any sticker that follows the Standard.

¹⁰ <https://sticker.how/>



1.1.1 Materials

For each weight you need:

- 3 or 4 washers, 38 mm in diameter with a hole of 12 mm diameter and 3 mm thick;
- either `pattern_weight-3_washers.stl` or `pattern_weight-4_washers.stl`;
- a small piece of felt;
- a suitable sticker;
- PVA glue.

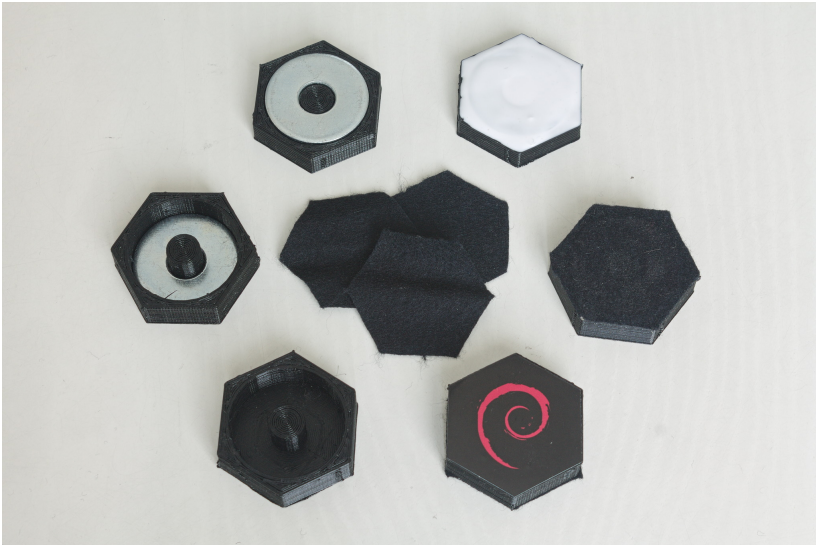
If you have washers of a different size you will need to get the `openscad` sources for the 3d models from [git](https://git.trueelena.org/3d/craft_tools/tree/src)¹¹ and adjust them. Note that the size of the hexagon is hardcoded at 25 mm in size, and thus the washer should be smaller than 20 mm in radius.

¹¹ https://git.trueelena.org/3d/craft_tools/tree/src

1.1.2 Instructions

3D-print the plastic pieces: any regular filament will do, I used PLA, and you can use a relatively dense fill, since there aren't many big areas to fill.

Clean the print as needed.



Using the plastic piece as a template, cut an hexagonal piece of felt.

Put the washers in the plastic piece one at a time, making sure that they are fitting in correctly: they should end up flush with the border of the plastic piece.

Apply a generous layer of PVA glue over the washers and plastic piece, let it start to dry a few minutes.

Put the felt over the PVA, press carefully and let it dry completely.

Turn the weight upside down and apply a Standard Compliant sticker on top as decoration.

1.1.3 See also

Part II

Bookbinding and Cartonnage

This part is for crafts that involve the techniques used to make books and bookcases.

CHAPTER

2

CARTONNAGE

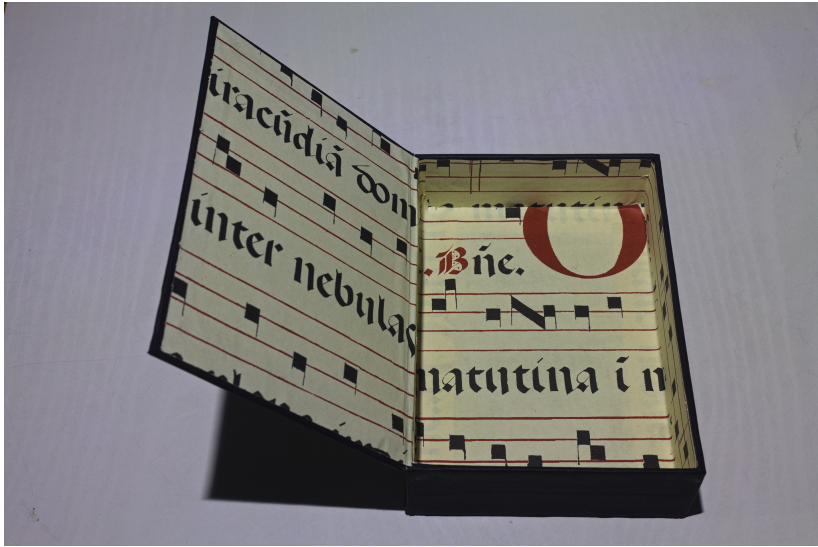
2.1 Simple Box

This is one of the the simplest cartonnage project: a parallelepipedal box that opens on a hinge.

2.1.1 Materials

You will need:

- bookbinding board, 2-3 mm thick;
- bookbinding cloth or cloth-like paper;
- decorative paper such as that used for book end sheets;



- mull, tarlatan or fabric scraps;

plus

- contact glue;
- PVA or paste;

and the following tools:

- metal ruler;
- pencil;
- X-acto or snap-off blade knife;
- a brush or spatula to apply the white glue;

For a small box, such as the C6 one in the pictures, 2 mm board is fine, above that it's probably better to use 2.5 mm or even 3 mm for something around C4 size and above.

2.1.2 Pattern

For a box of external dimensions $w \times l \times h$, with bookbinding board of thickness t , you will need the following bookbinding board pieces:

- 2 \times plates: $w \times l$;
- 2 \times long sides: $w \times (h - t)$;
- 2 \times short sides: $(l - t \times 2) \times (h - t)$;

a piece of fabric $w \times$ about 50 mm for the hinge;

the following pieces of bookbinding cloth:

- 1 \times cover $(w + 40 \text{ mm}) \times (l \times 2 + h + 40 \text{ mm})$;
- 1 \times sides $(w + l \times 2) \times (h + 20 \text{ mm})$;

and finally the following pieces of decorative paper:

- 1 \times inner cover $(w - 4) \times (l - 2 + 20)$;
- 1 \times base $(w - t \times 2) \times (l - t \times 2)$;
- 2 \times short sides $(l + 40) \times (h - t - 2 + 20)$;
- 2 \times long sides $(w - t \times 2) \times (h - t - 2 + 20)$;

dimensions in the bookbinding cloth and paper where 20 mm or 40 mm are added can be rounded to the closest 5 mm.

Precalculated dimensions for a box in 2 mm board can be as follows, in millimetres:

Piece	C6 (h 28)	C6 (h 40)
plates	114 × 162	114 × 162
long sides	162 × 26	162 × 38
short sides	110 × 26	110 × 38
fabric	114 × 50	114 × 50
cover	200 × 300	200 × 310
sides	390 × 50	390 × 60
inner cover	158 × 130	158 × 130
base	158 × 110	158 × 110
short sides	155 × 45	115 × 55
long sides	158 × 45	158 × 55

2.1.3 Instructions

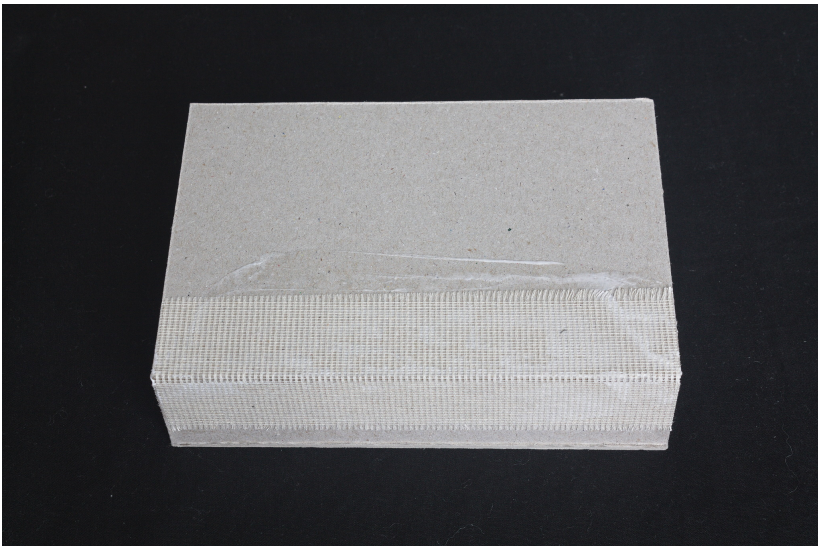
Cutting

Cut all the pieces in the appropriate material. When cutting the board make sure that the grain of the side pieces lies along their short side and the grain of the plates lies along their long sides. For the bookcloth and paper try to make the grain run along the long edge of the finished box, but it may not be as critical.

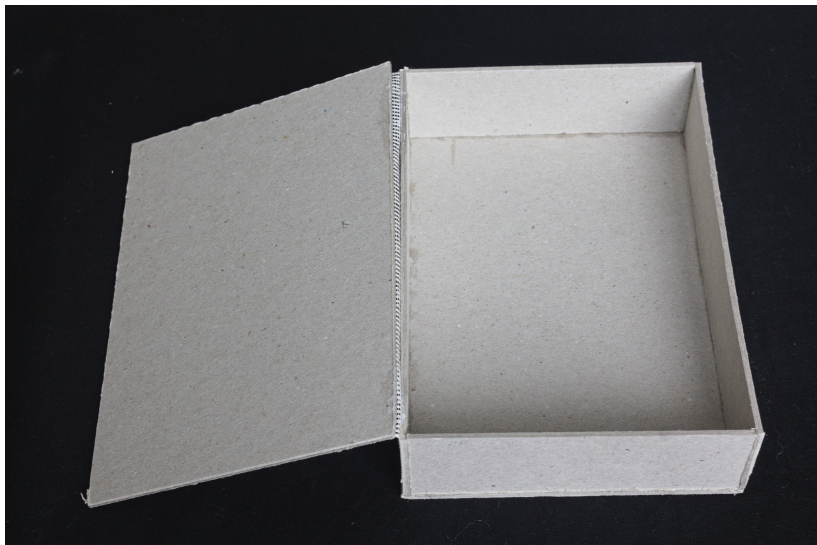
Structure

Using contact glue, attach the four sides to one of the plates, starting from the spine, then the top and bottom and finally the front.

Tip: read the instructions of the glue for details on how to use it: you will probably have to apply some glue to both board pieces, let it rest for a few minutes, then apply some more glue and press together the pieces in their right position with some force.



Put the top plate over the base, spread PVA for about 2 cm around a long edge, on the top plate and the adjacent long side; put the fabric on top and press well to form a hinge.



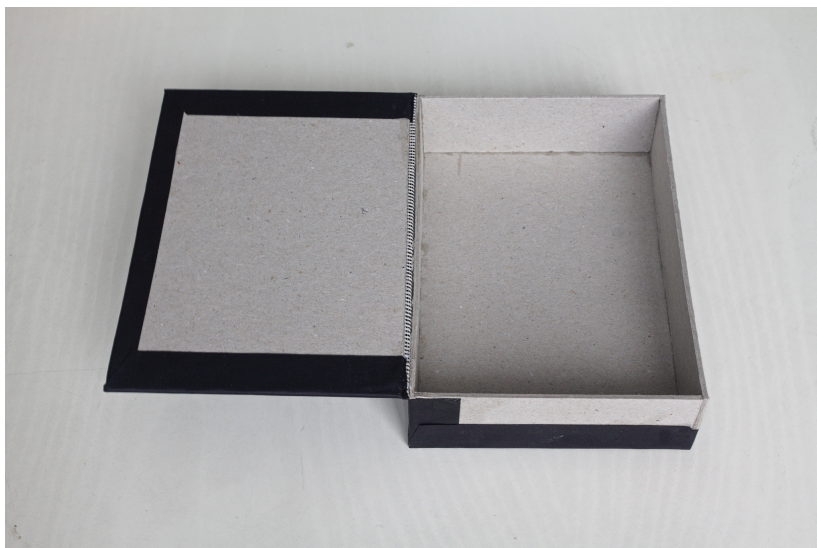
Cloth Outer

Spread PVA on the bookcloth for the cover, put the box on top of it, aligned at about 2 cm from one end and wrap the cover around it; press carefully and cut a notch at every place where the cloth is curving.

Note: when glueing bookcloth, make sure to only touch it with hands that are clean from glue, as that can stain the front of the cloth in a way that is very hard to clean.

Fold all remaining edges of the bookcloth so that they are glued to the inside of the cover and to the sides.

Spread PVA on the bookcloth for the sides, put it on the remaining sides,





aligning it to the bottom of the box and to the corners with the spine. Clip the top of the cloth at each corner.

Fold down the flaps into the box.

Paper Lining

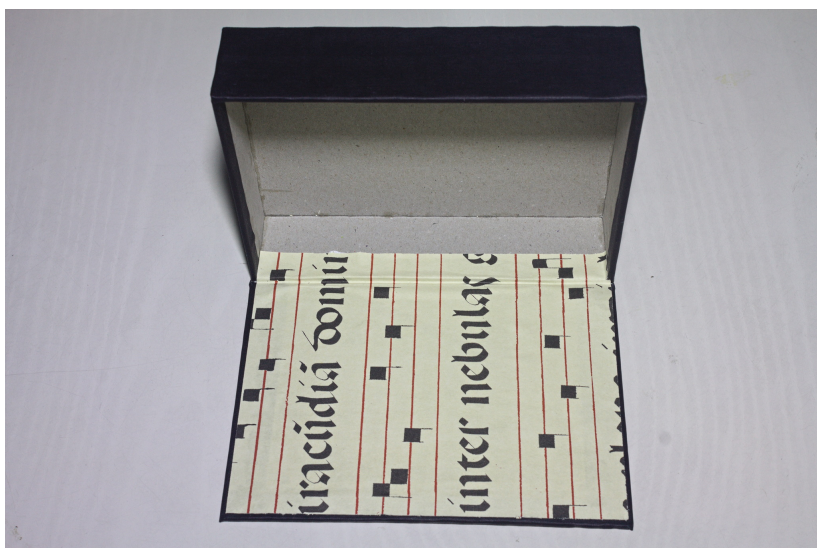
Spread PVA on the cover lining, put it on the cover, at 2 mm from each edge and going down into the spine.

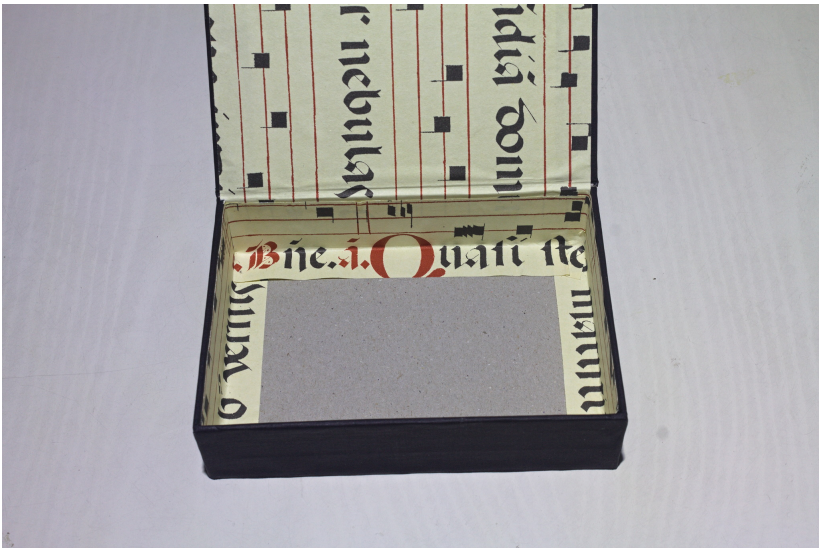
Spread PVA on one of the short side linings, put it in the box, 2 mm down from the edge and extending into the long sides and the base, being careful to let the corner lay flat; notching the paper may help.

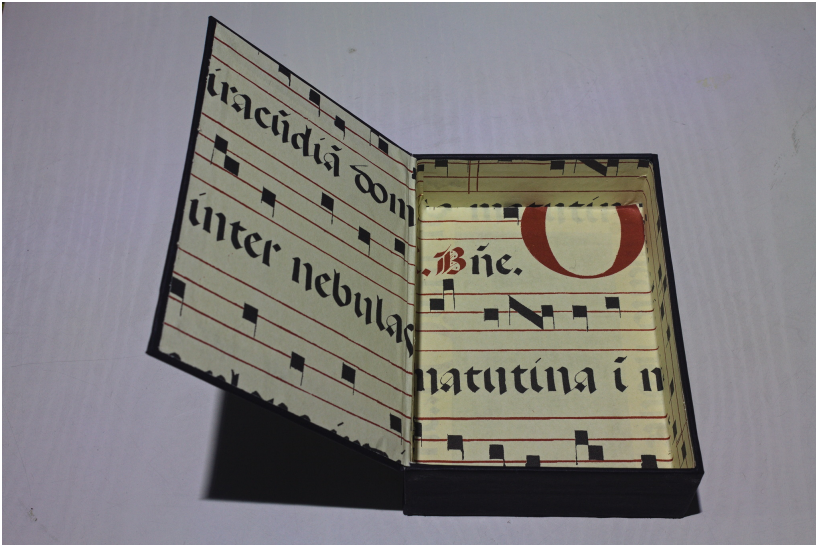
Repeat for the other short side.

Spread PVA on one of the long side linings, put it in the box, 2 mm down from the edge and precisely aligned between the corners, with the excess going into the base.

Finally, spread PVA on the base lining and put it in the box.







2.1.4 See also

- The blog post about the box pictured in these instructions¹²

¹² https://blog.trueelena.org/blog/2023/11/04-piecepack_and_postcard_boxes/index.html

CHAPTER

3

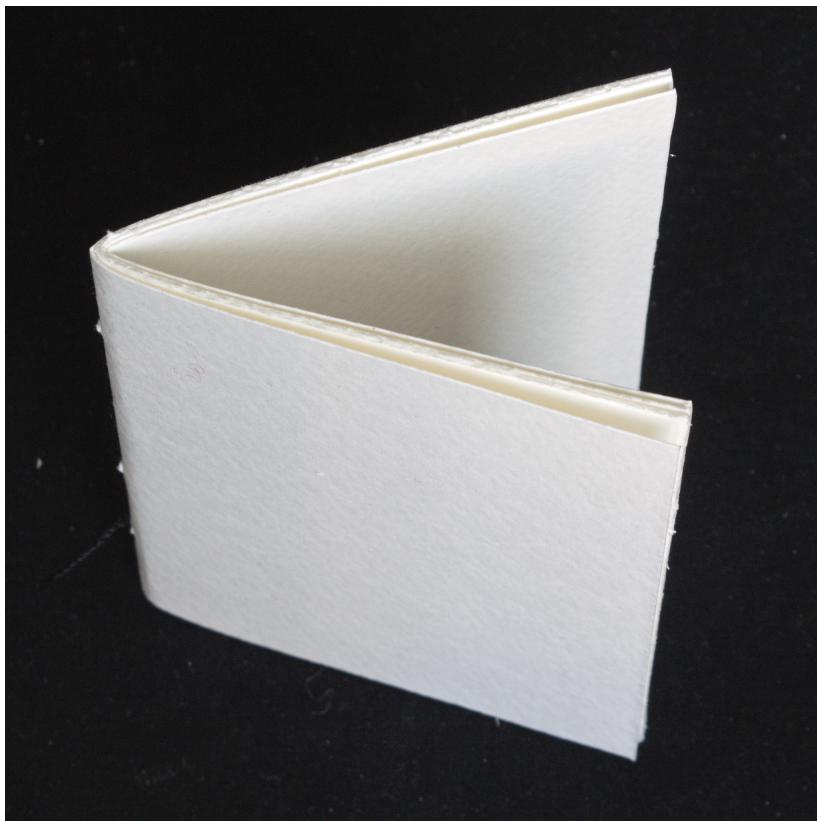
ZINES

3.1 Watercolour Paper Zine

This is a way to sew together a zine that is made of heavyweight paper, such as watercolour paper.

Because of the thickness of this kind of paper, the classical method from a single sheet, with one cut and many folds, wouldn't work; on the other hand with four, or even just two sheets this is sturdy enough that sewing is an option.

Of course a long-arm stapler would also be an alternative, but that's a somewhat specialized tool that not everybody has.



3.1.1 Materials

You need:

- 1 sheet of watercolour paper;
- bookbinding or other strong thread;

Starting with an A3 (or two A4) sheet of paper will result in an A6 or postcard sized zine, which is good for mailing, or use other sizes to taste.

These instructions will make a 16 pages zine; dividing the paper in just two pieces for an 8 pages zine would also work.

300 g/m² is a good weight; going above that may be harder to fold.

Bookbinding thread is a thick waxed linen thread, a thick sewing linen thread waxed by rubbing it on a piece of beeswax also works.

As an alternative, something like buttonhole twist can be used, but regular sewing thread should only be used as a last resort, and at least used double.

As for tools, you will need:

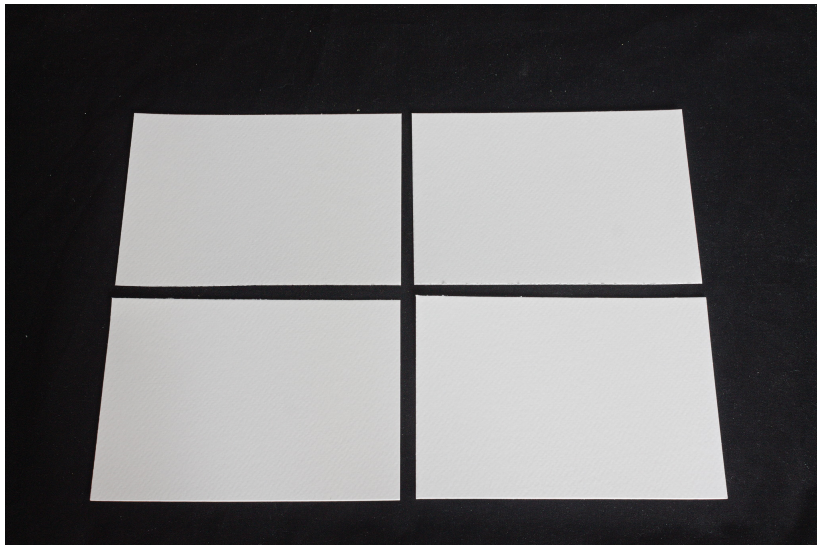
- a ruler, ideally metal;
- X-acto or snap-off blade knife;
- a needle big enough for the thread used;
- some weight, such as a bag of big washers or a few big books;
- a surface suitable for cutting;
- a soft surface to work on when making holes, such as a few layers of felt / fabric;
- optionally: a needle tip, mounted in an handle;
- optionally: an awl.

For the needle, regular big hand-sewing needles will work fine, or you can use specialized bookbinding needles with a blunt tip.

A regular big needle that has been wrapped in a handle made of polymer clay (or any other kind of modelling material) is much more comfortable than

just using a bare needle to score the paper, and can also be used instead of the awl to poke the holes before sewing.

3.1.2 Instructions



Cut the paper into four equal sheet (or two, if making an 8 pages zine), twice as big as the finished zine.

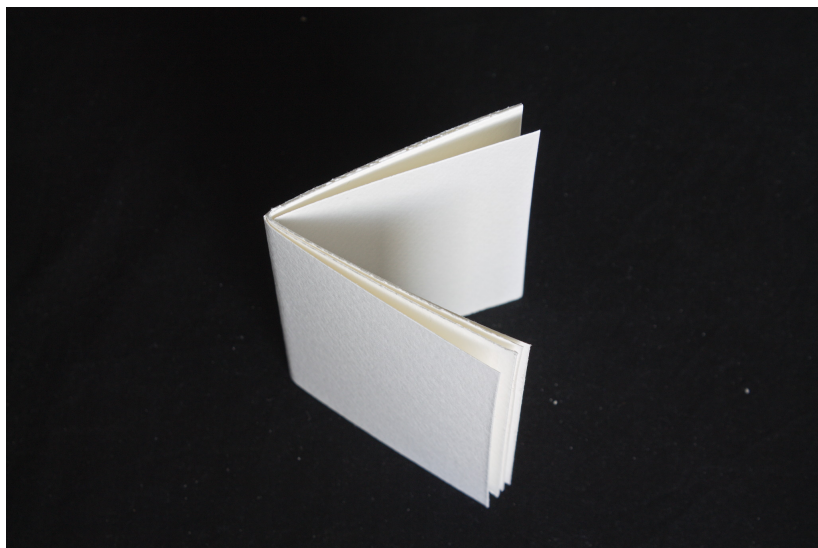
Measure and score each sheet in the middle using the needle mounted in a handle (or the needle you will use for sewing the book).

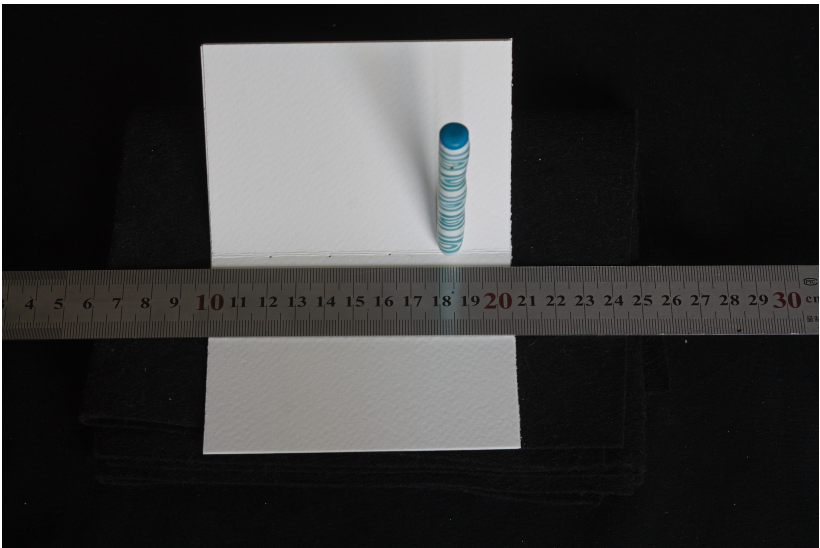
Put all sheets on top of each other and carefully fold them in half into a signature, letting the outer sheets curve around the inner ones.

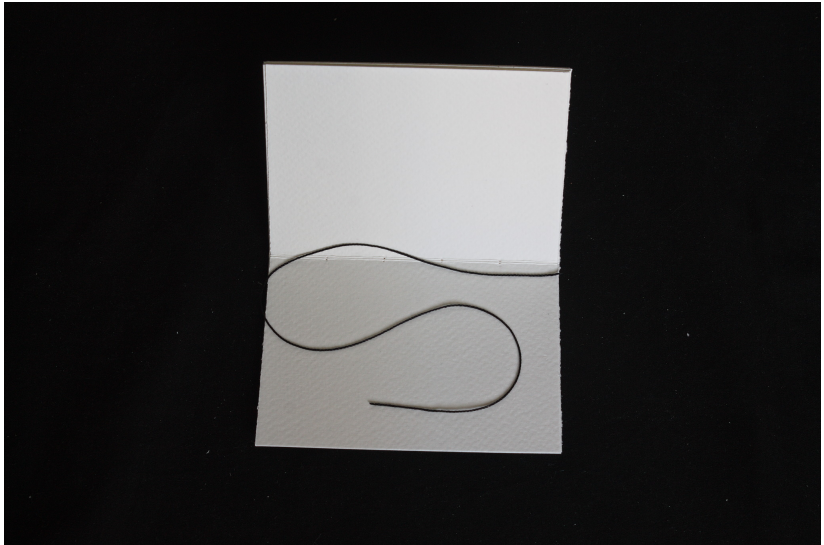
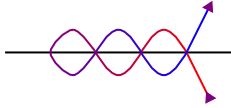
Put everything under a weight for a while.

Using an awl (or again, the needle you will sew with and some care) make an even number of holes in the fold; for an A6 zine you may make 4 holes, about every 30 mm.

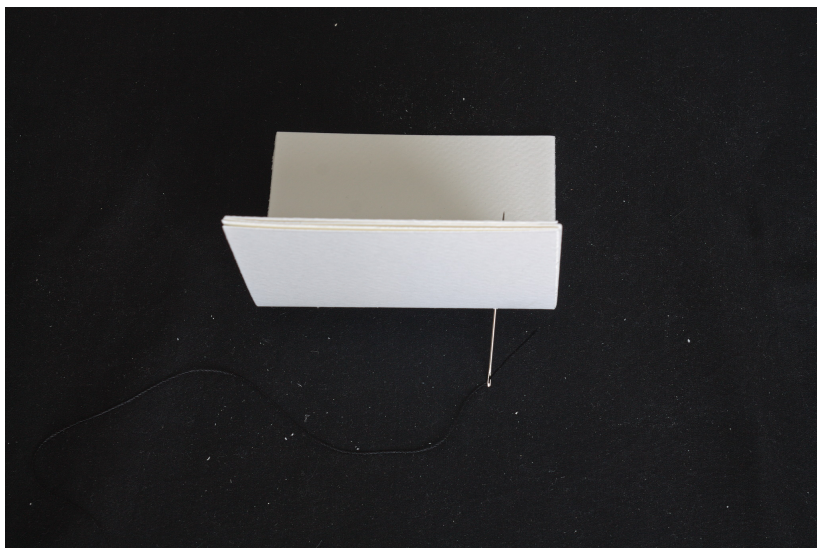
Sew the zine with a backstitch, i.e. the stitch shown in the image above:







cut a piece of thread that is twice as long as the spine plus 10 cm;



starting from the hole at the bottom of the zine, and from the outside, pass the thread to the inside and leaving a 3–4 cm tail;

then outside in the next hole;

again inside and outside;

when you reach the top of the zine you should be at the outside of the zine, go back to the inside in the second hole from the top;

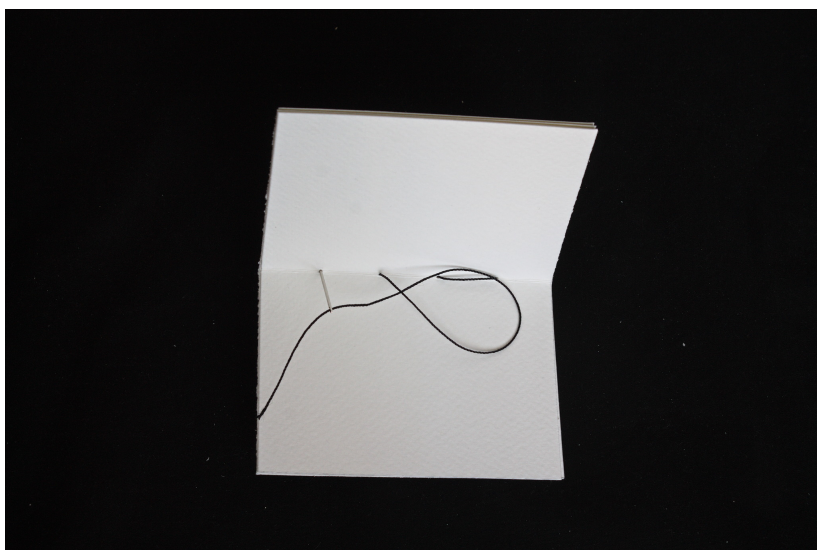
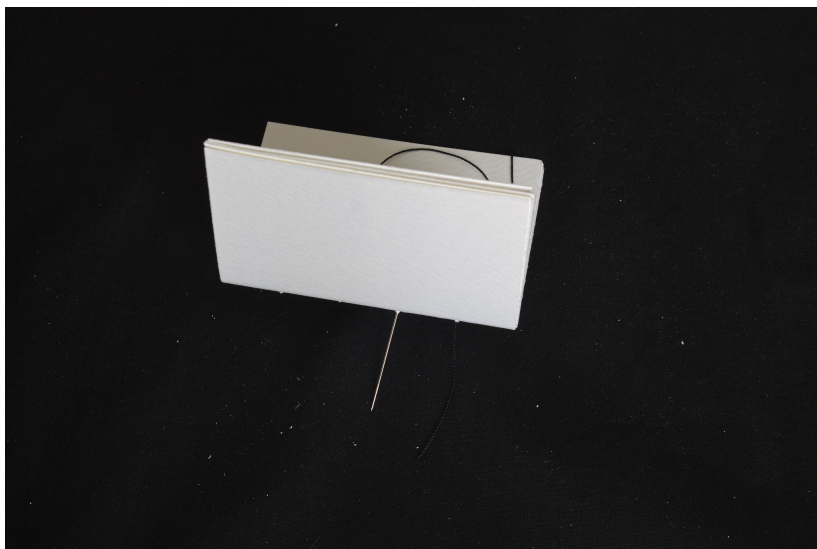
and again outside and inside until you're back at the bottom, you should be on the inside of the zine;

pass the needle through the last stitch, and in the loop to make a knot, repeat for a second knot;

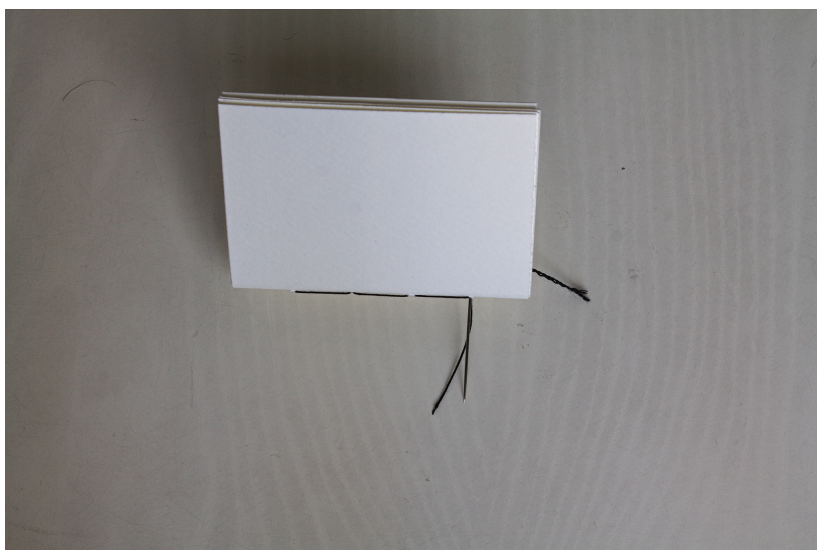
pass the needle again to the outside;

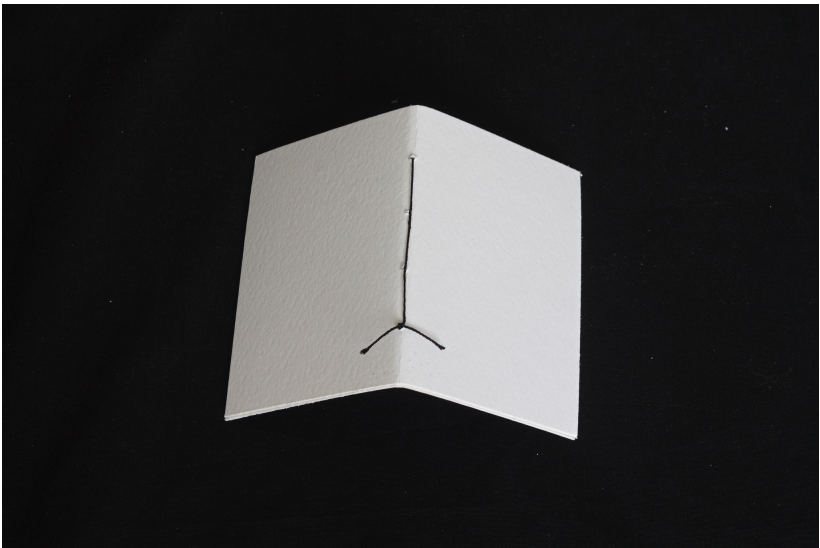
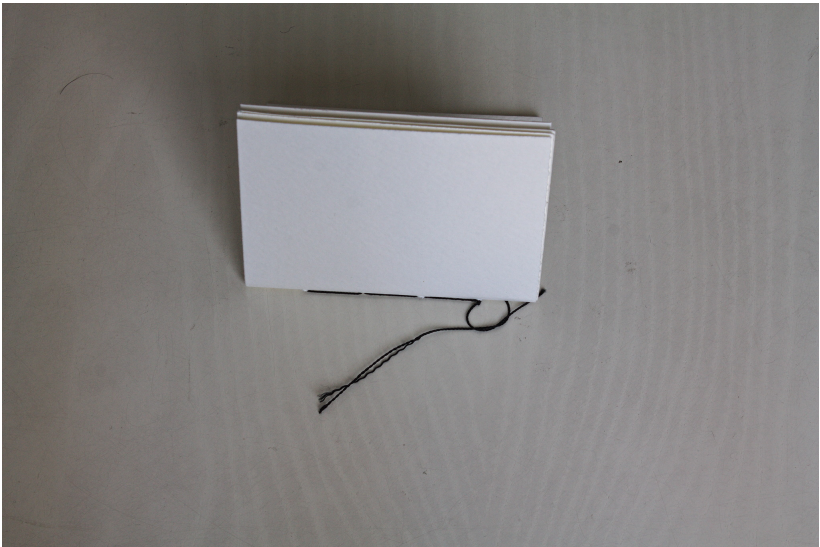
finish the seam with a square knot.

Trim the ends of the thread so that they are shorter than the book











Put everything under a weight for at least two hours, or overnight.
Carefully trim the pages with a ruler and knife to the size of the outer page.

3.1.3 See also

- <https://mastodon.art/@rina/110842136688688125> the fediverse thread that gave me the idea.
- <https://www.wikihow.com/Make-a-Zine> making an 8-pages zine with just one cut (where I took the size recommendation from).
- <https://www.youtube.com/watch?v=9XCvTZRVbgg> kettle stitch binding for a full book.





Part III

Folding Paper

This part is for crafts that involve folding paper: origami, letterlocking, etc.

CHAPTER

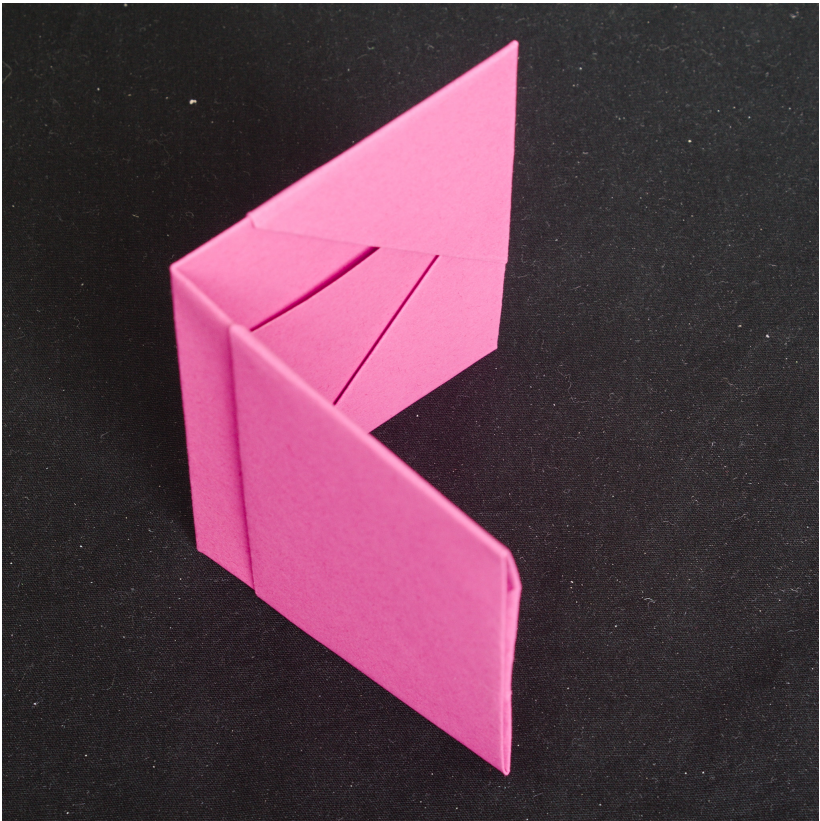
4

ORIGAMI

4.1 Document Folder

This is a practical and useful document folder with a lot of pockets.

The model is not mine, but I've found it somewhere on the internet in the early 2000s and can't find the original source. I've drawn and written the instructions from scratch by looking at a model I had folded back then.



4.1.1 Materials

You will need a rectangular sheet of paper.

The size of the fold at step 3 will be size of the spine, and will also regulate how much overlap there will be at step 7 to hold the folder together.

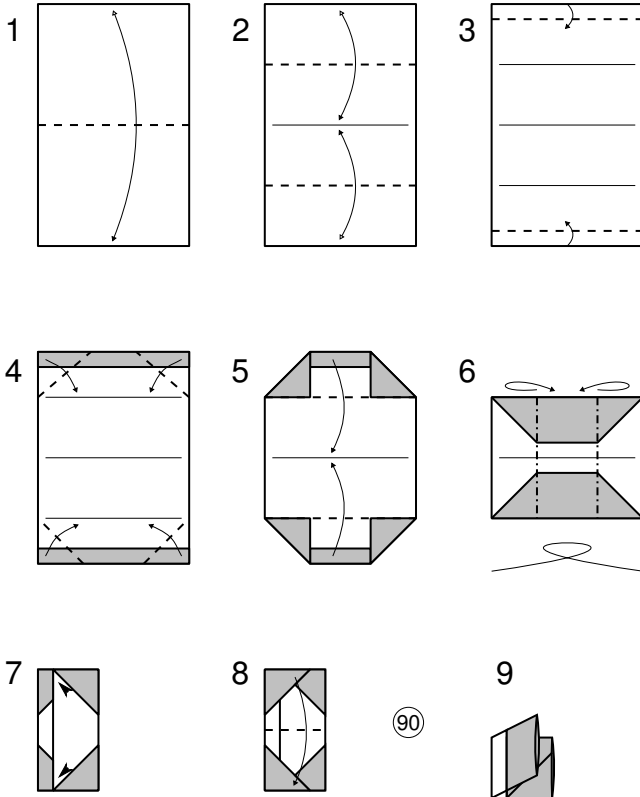
Some size suggestions:

- A4 paper with 1.5 cm fold: good for A8 paper and 85 mm * 54 mm business cards;
- 60 cm × 40 cm with 4 cm fold: suitable for A6 paper;
- 50 cm x 70 cm with 4 cm fold: suitable for A5 paper.

4.1.2 Instructions

1. Fold in half on the long side, crease and reopen.
2. Fold in quarters, crease and reopen.
3. Fold down the top and bottom edges a bit: this will be the width of the spine.
4. Fold down the four corners to touch the quarter creases.
5. Fold down the top and bottom edges, following the quarter creases.
6. Mountain fold the side edges; turn over the model.
7. Insert the left side in the triangular flaps of the right side.
8. Fold in half on the remaining crease.
9. Turn counterclockwise 90°, done.

Document Folder



Do you know the author of this model? please let me know!

valhalla+origami@trueelena.org
@valhalla@social.gl-como.it

Part IV

Bibliography

CHAPTER

5

MISCELLANEOUS