

Measure, Cut, Fold, Invert!

Today we will create a kirigami fractal-like pattern. This pattern can be adapted for cards or artist books in a variety of ways.

Materials:

One piece of copy paper (sizes vary) Today we will use an 8"x10" piece of paper.

Scissors or X-acto knife

Measuring tools

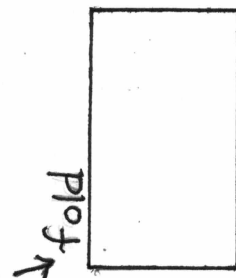
Bone folder

File folder (We will cut it to fit your folded structure at the end.)

Double stick tape or Mactac.

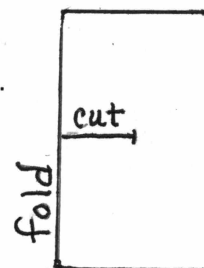
Step One:

Fold one piece of paper in half. It should look like a book with the fold on the left side.

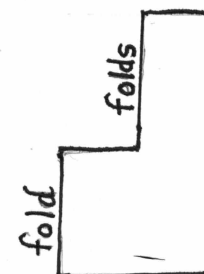


Iterations:

1. **Measure** half-way up and half-way down the fold. Mark your cutting line with a pencil.
2. **Cut** through the folded edge to the half-way intersection.
3. **Fold** over the one-half section and crease in both directions.
4. **Invert**: Open up the folded-over flap and **invert** the fold.
5. Fold together as before (with the new inverted folds).

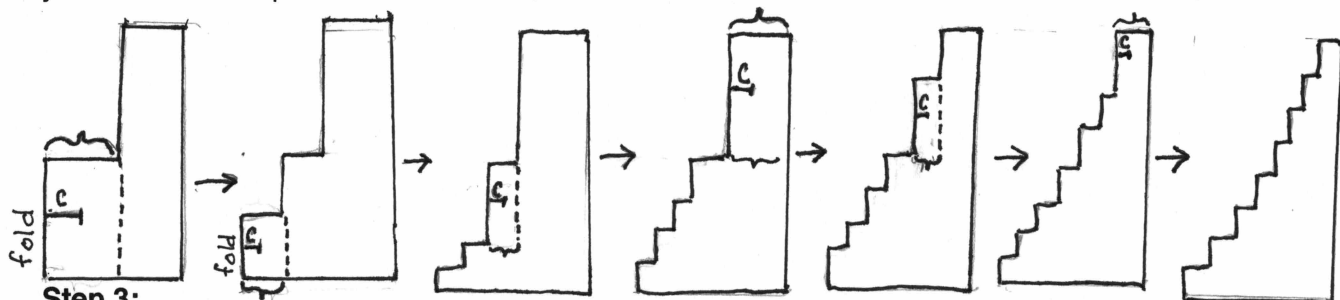


*You have completed the first iteration! You will repeat the process several times!
Flip the structure over to look like this:*



Step 2:

Continue the iteration through each of the folded edges. Note that you will increase the number of layers and cutting becomes more difficult. Be careful not to cut too far. As you fold over and crease the flaps, you want to end up with a structure that looks like a staircase.



Step 3:

Place your folded edge (what is left of it at the top) in the center fold of the file folder. Mark the edges and cut to fit the folded structure. Attach the folded structure to the file folder with double stick tape.

↓
Open!
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• These instructions are adapted from the "Fractal Cutout Card" instructions at the *Fractals are Smart: Science, Math & Art!* website. (www.FractalFoundation.org)
I recommend visiting the website for step-by-step instructions with photos!