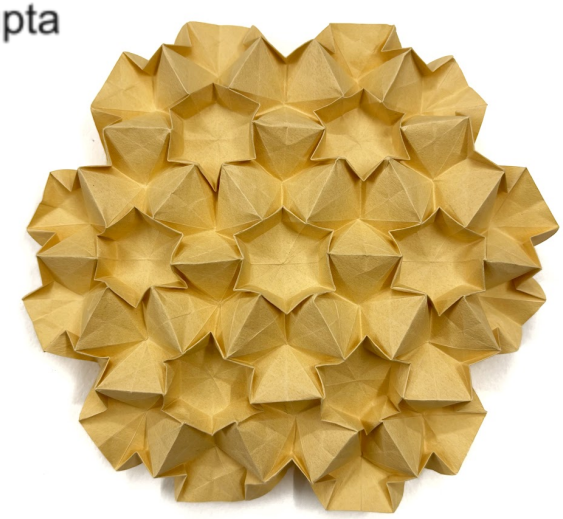
# Bloomfield

Designed and Diagrammed by Madhura Gupta
2025



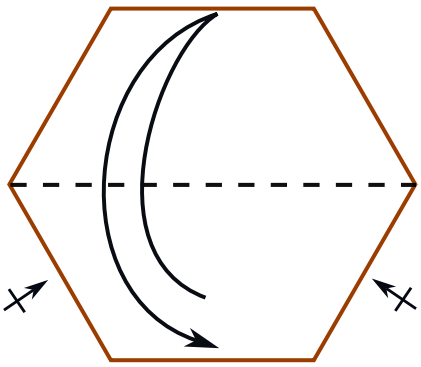
Bloomfield is folded from a hexagonal sheet of paper.

Difficulty: Low-Intermediate

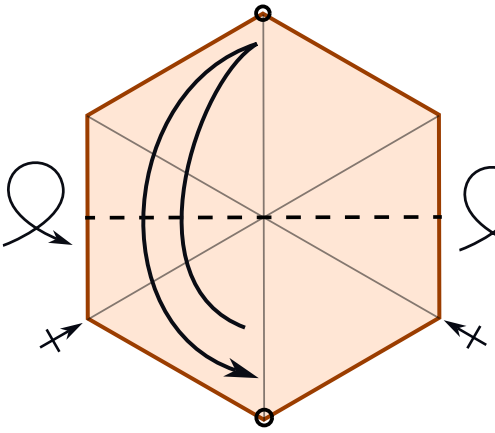
Paper Recommendation: Tant / 24cm

## Gridding the Paper - Single Molecule

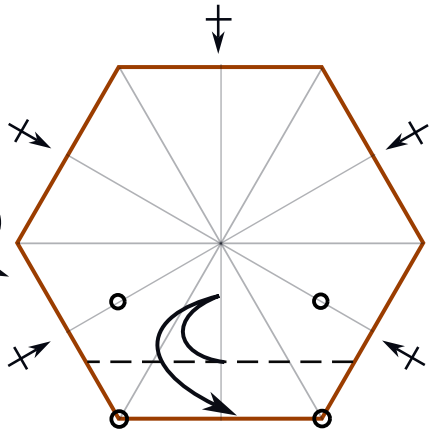
The Bloomfield Tessellation is based on a grid consisting of linear and diagonal creases.
The linear and diagonal folds are oppoite in orientation to each other.
To fold the tessellation, we will need 12 linear divisions, and 24 diagonal divisions.
To fold one molecule, we will need 6 linear divisions, and some folds of the 12 diagonal divisions.



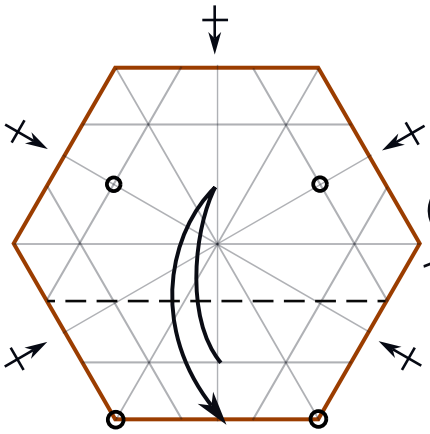
1. Start with the white side up.
Fold edge to edge; unfold. Repeat.
Turn over.



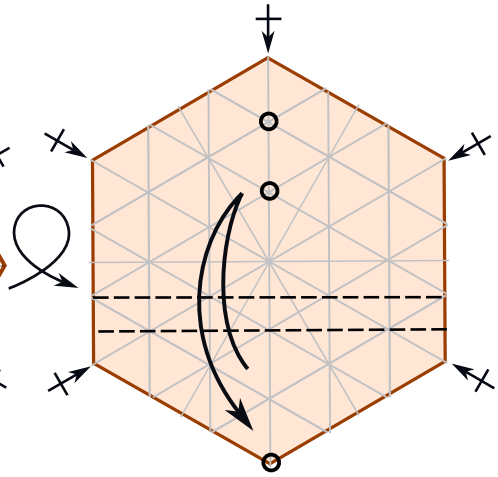
2. Fold point to point; unfold. Repeat.
Turn over.



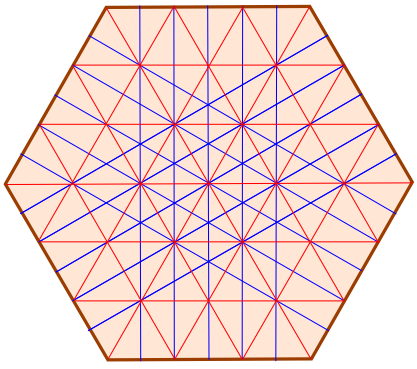
3. Fold such that the two corners lie on the respective creases as marked.
Unfold. Repeat.
We thus, divided the paper into thirds.



4. Fold such that the two corners lie on the respective creases as marked.
Unfold. Repeat. Turn over.
The paper is now divided into sixths.

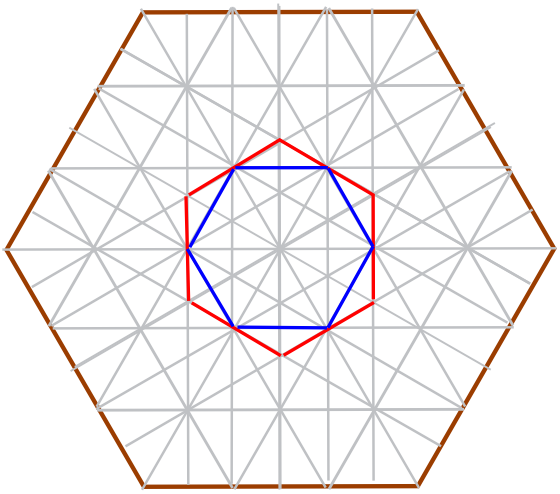


5. Bring the corner to the first marked point. Fold and unfold.
Repeat with the second point.
Repeat on all sides.

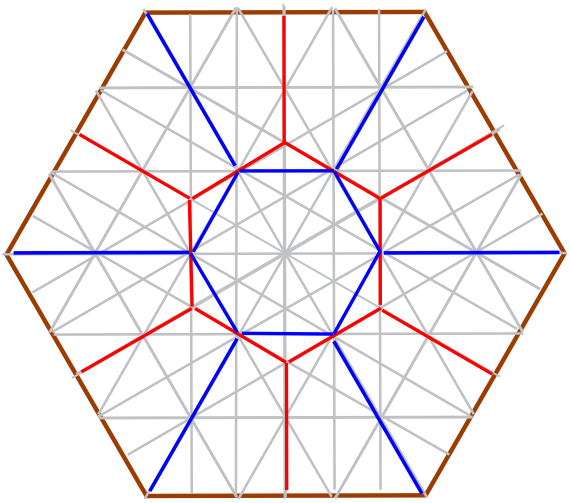


The grid for one molecule is ready.

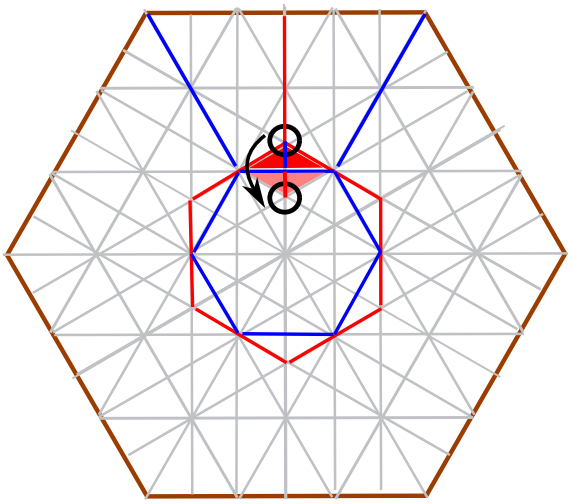
# Folding a Single Molecule



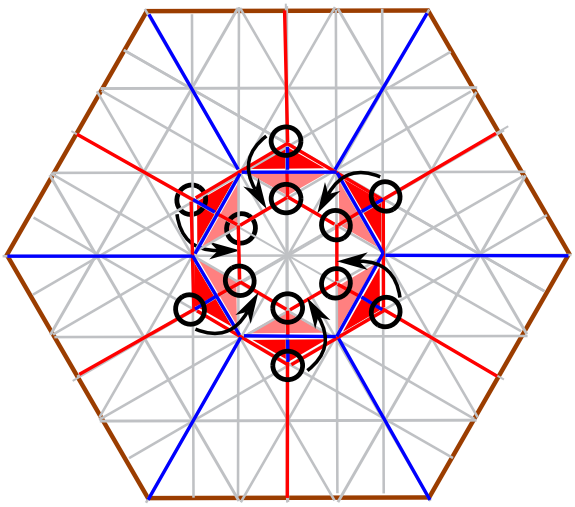
1. On the white side,
locate the two hexagons as marked.
Note the mountains and valleys.



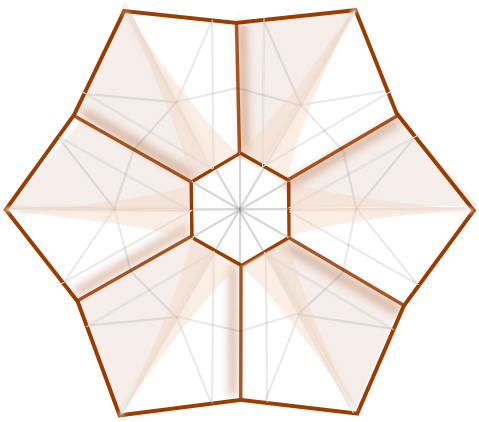
2. Note the creases coming out.



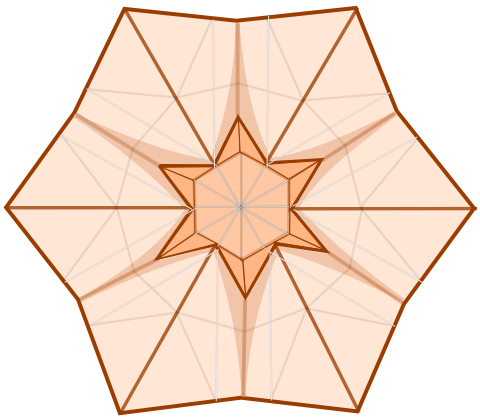
3. To collapse, we need to pinch the mountain fold, and push them inwards. The triangles marked in red will completely overlap, and will 'vanish' after the collapse, bringing the two marked points together.



4. We need to collapse all the 6 sides together.
As a result,
a small hexagon will now pop up at the centre.



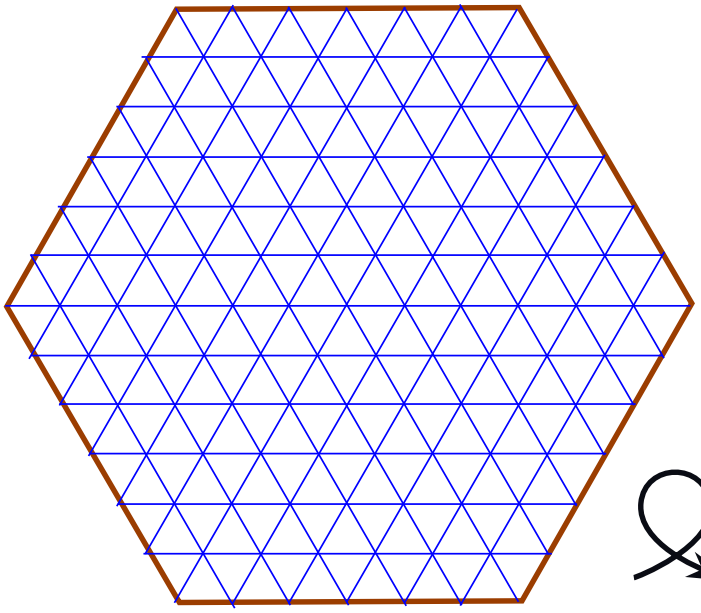
5. This is how it looks.
Turn over.

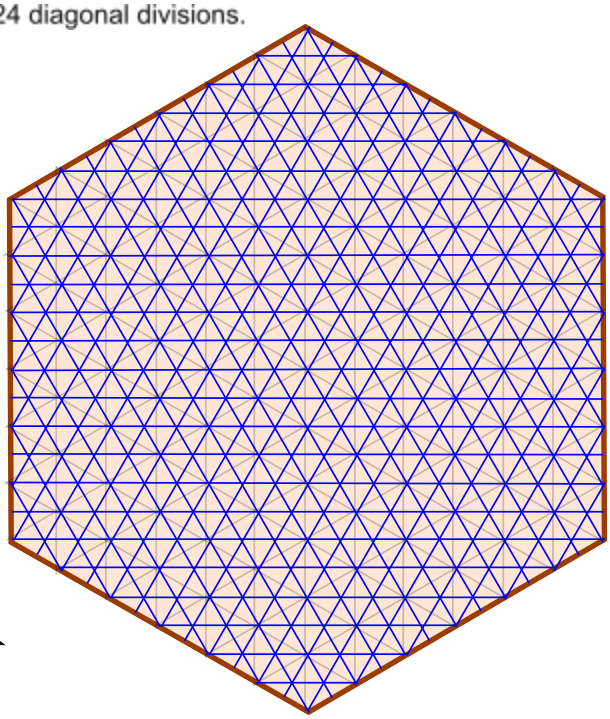


6. This is how it looks from the front.

# Gridding the Tessellation

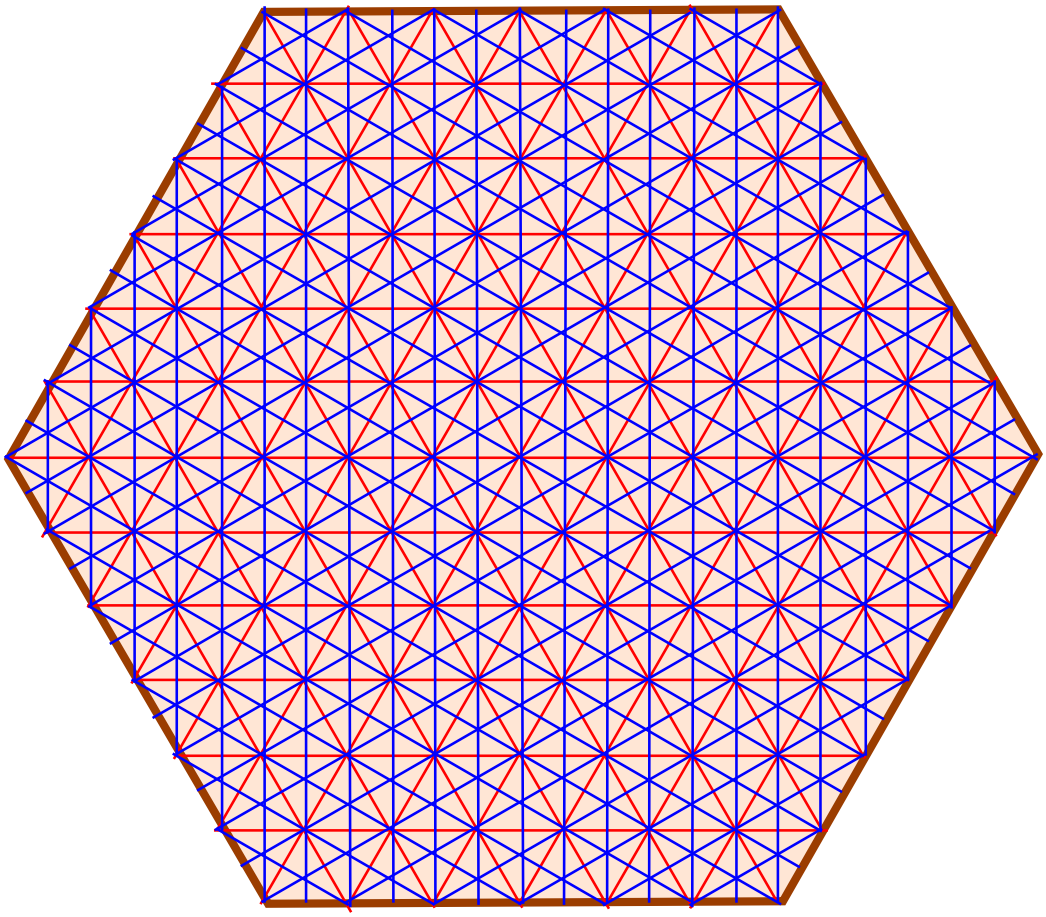
The Bloomfield Tessellation is based on a grid consisting of linear and diagonal creases.
The linear and diagonal folds are oppoite in orientation to each other.
To fold the tessellation, we will need 12 linear divisions, and 24 diagonal divisions.





1. On the white side, add 12 linear valley folds.
(Refer page 1 to divide into thirds)
Turn over.

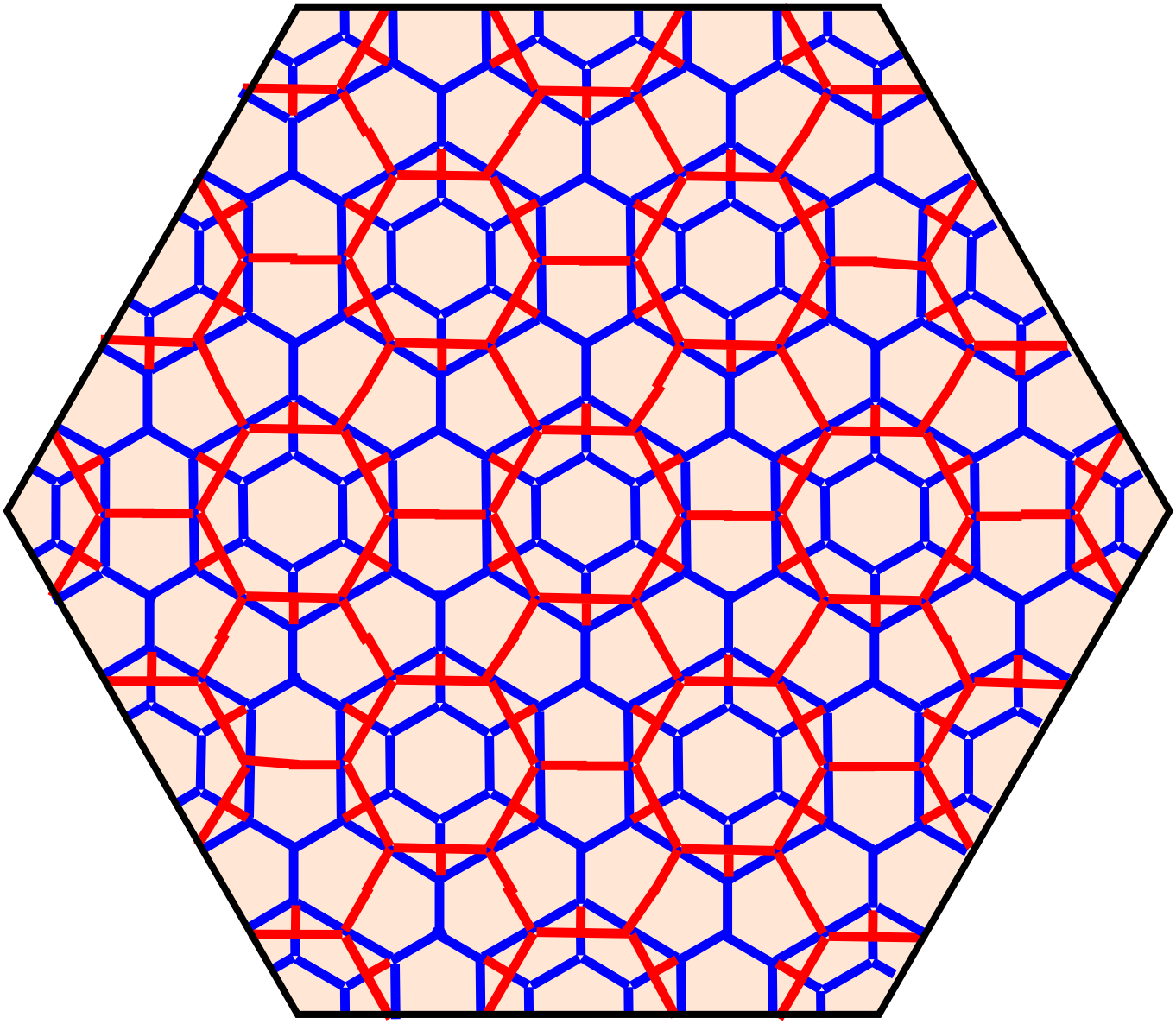
2. On the colored side, add 24 diagonal valley folds.
To do that, bring each corner to all the points of intersection.
Repeat on all sides.

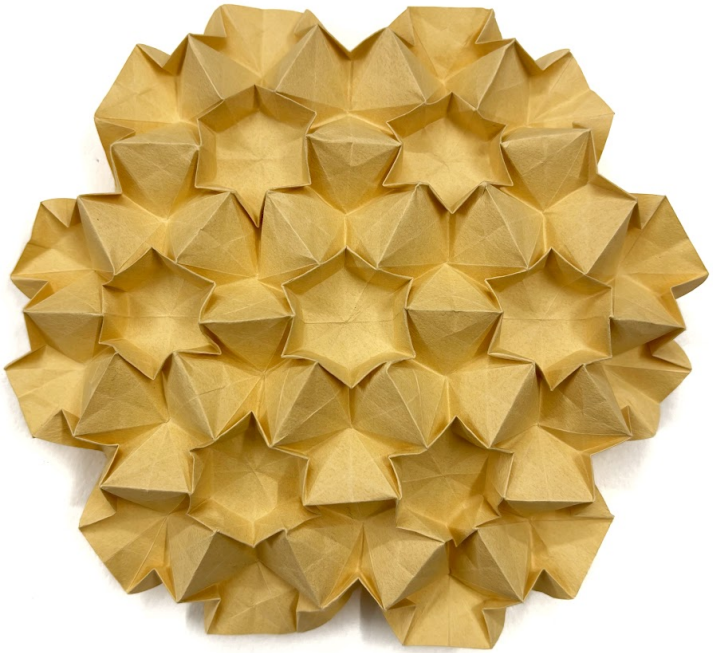


Now, the grid is complete. We have:

12 linear mountain folds
24 diagonal valley folds

# The Crease Pattern of Bloomfield Tessellation - Front





# The Crease Pattern of Bloomfield Tessellation - Reverse