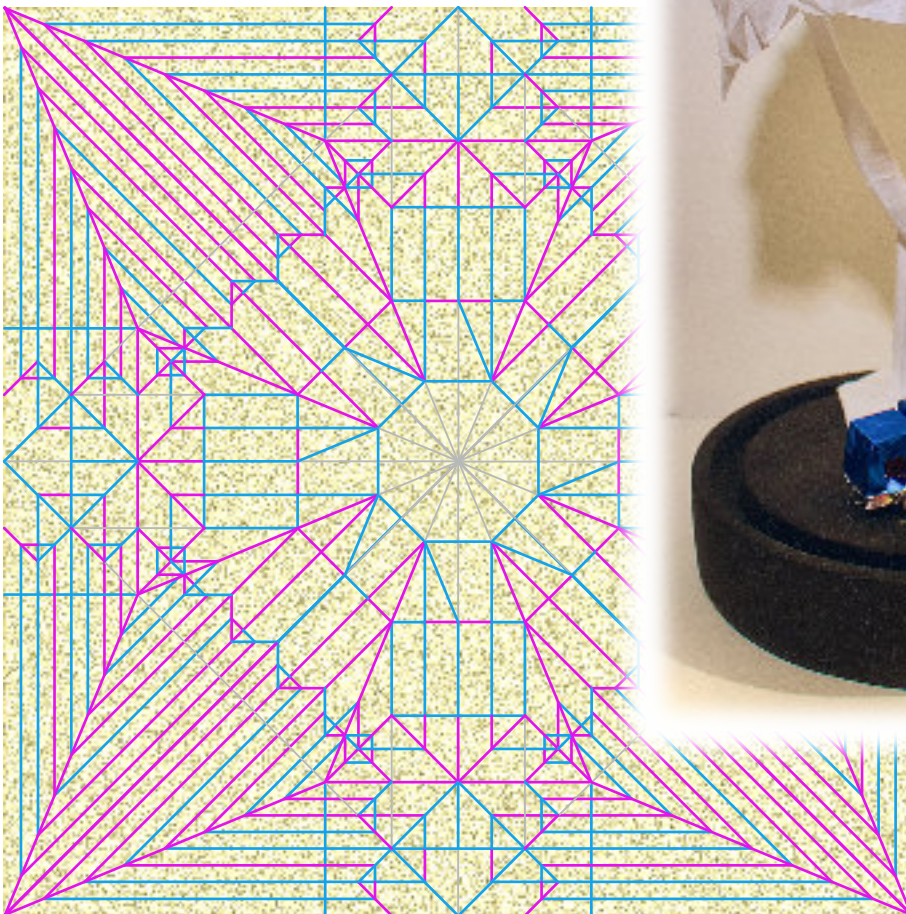


Instructions for folding an origami Tree

Design and diagram: Hans Dybkjær, 2019

Sponsored by: Fuso eCanter electric truck



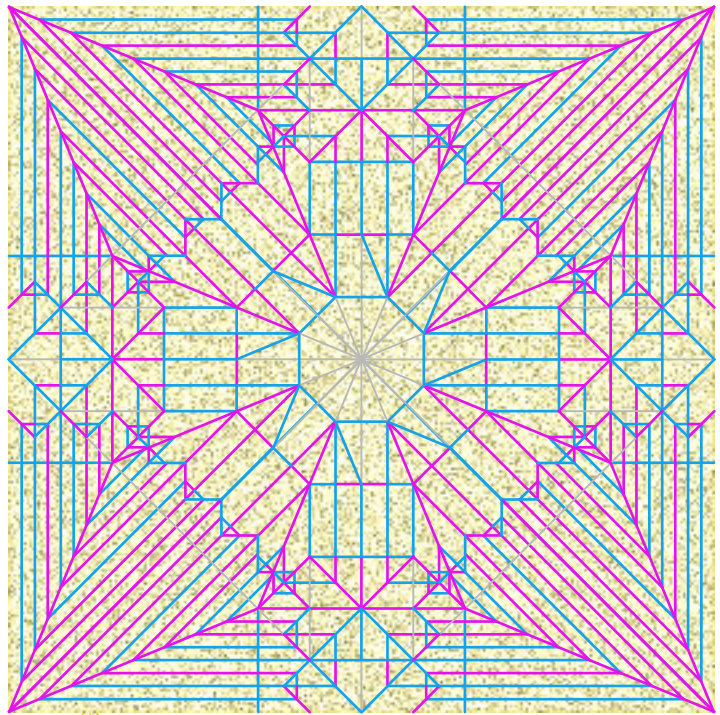
Trunk

The tree is made from two squares. The trunk needs a large, thin piece of paper.

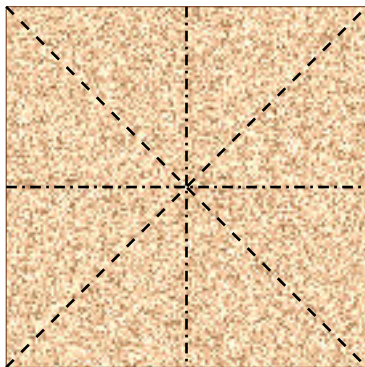
35 cm 60 gsm Kraft paper is a useful choice.

However, the diagram is made so that thicker paper can be used, like 100 gsm efa1in.

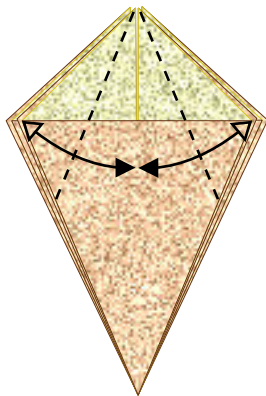
Only the branches will be coarser.



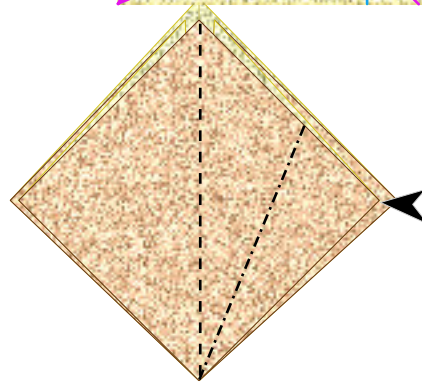
Crease pattern.



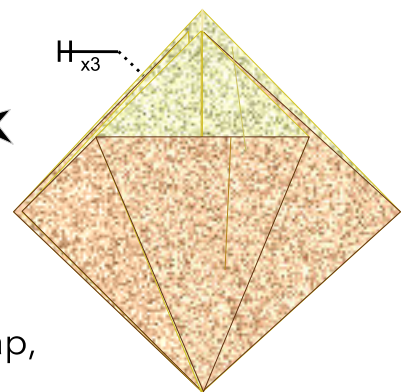
- 1** Fold the diagonals from the front and the medians from the back.



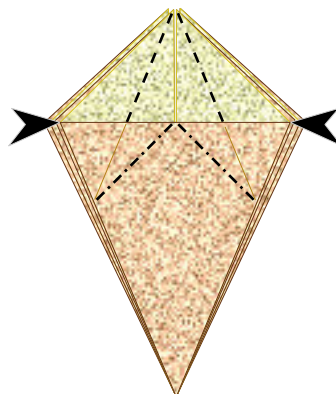
- 4** Mark to the centre line.



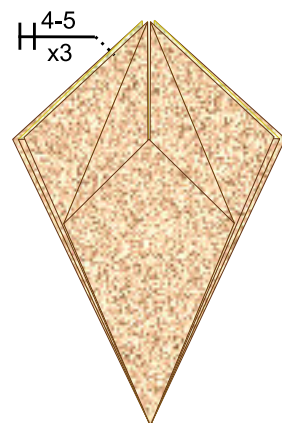
- 2** Squash fold: Lift the flap, open it, and press flat.



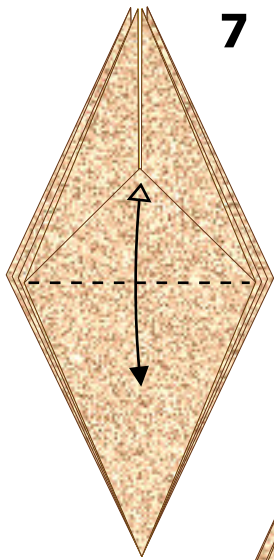
- 3** Repeat with 3 other flaps. Be sure to keep the 4 points together.



- 5** Petal fold: Push corners in to centre using existing creases while forming new creases meeting in the centre.

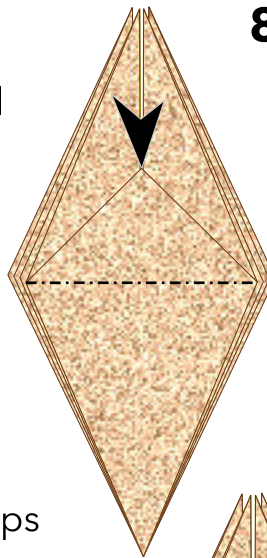


- 6** Repeat steps 4-5 with 3 other flaps.



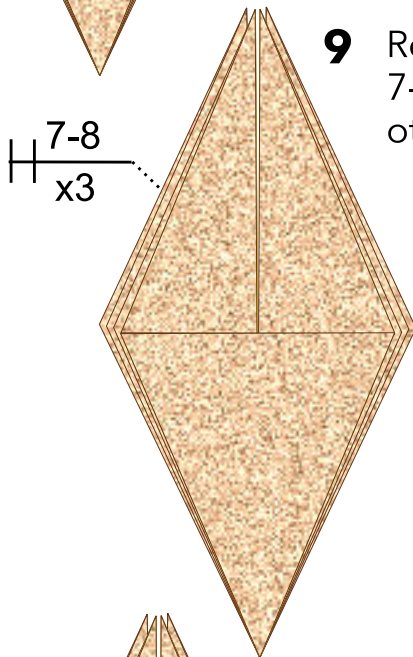
7 This is the lily base.

Mark the horizontal centre line.

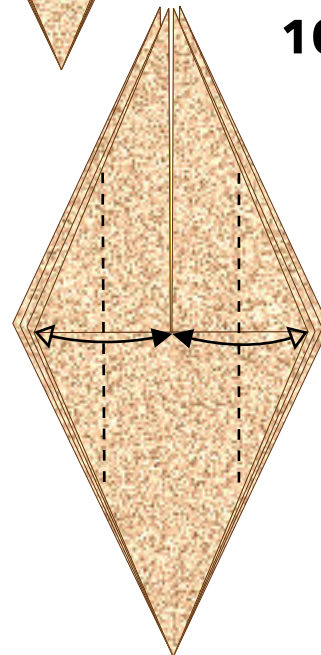


8 Push down.

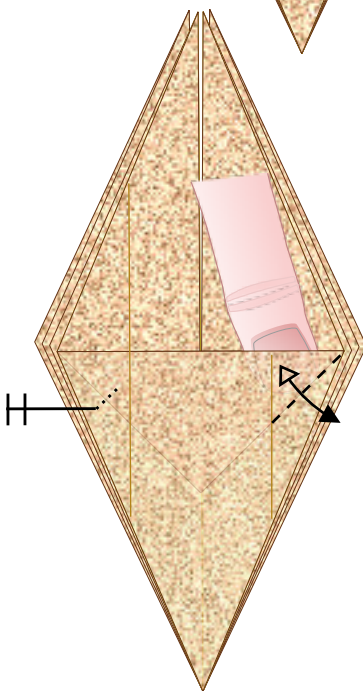
It is easier if you pull the two topmost points from each other.



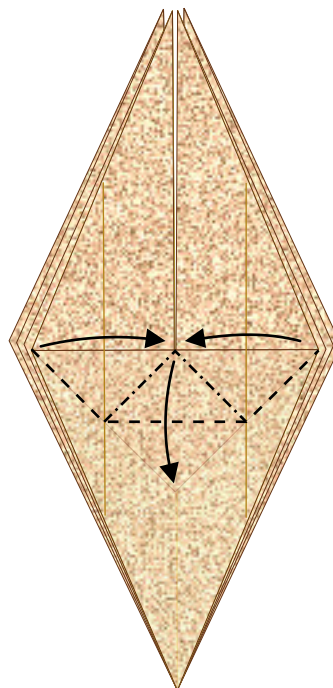
9 Repeat steps 7-8 with 3 other flaps.



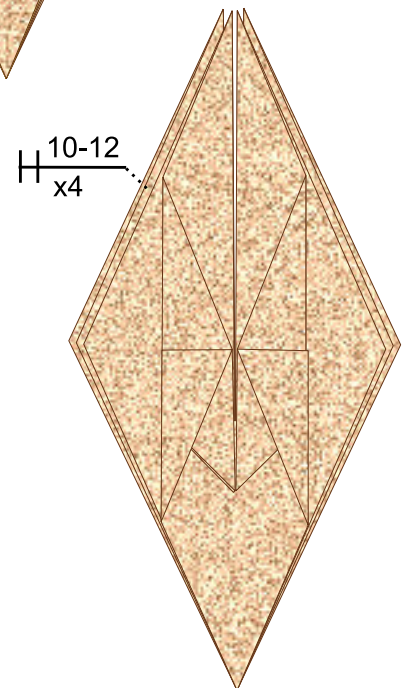
10 Mark to the centre.



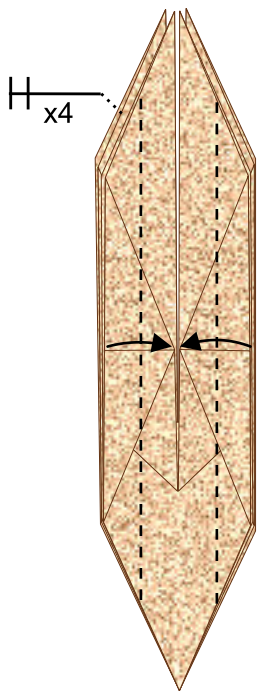
11 Mark the line following the inside pocket.



12 Petal fold. Fold the sides in while pulling the centre down.



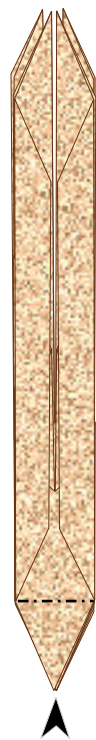
13 Repeat steps 10-12 with 3 other flaps.



14

Fold the sides to the centre. Leave a millimeter to make space for inside reverse fold later, if the paper is thick.

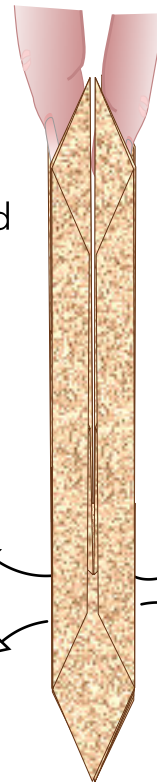
Repeat with 3 other flaps.



15

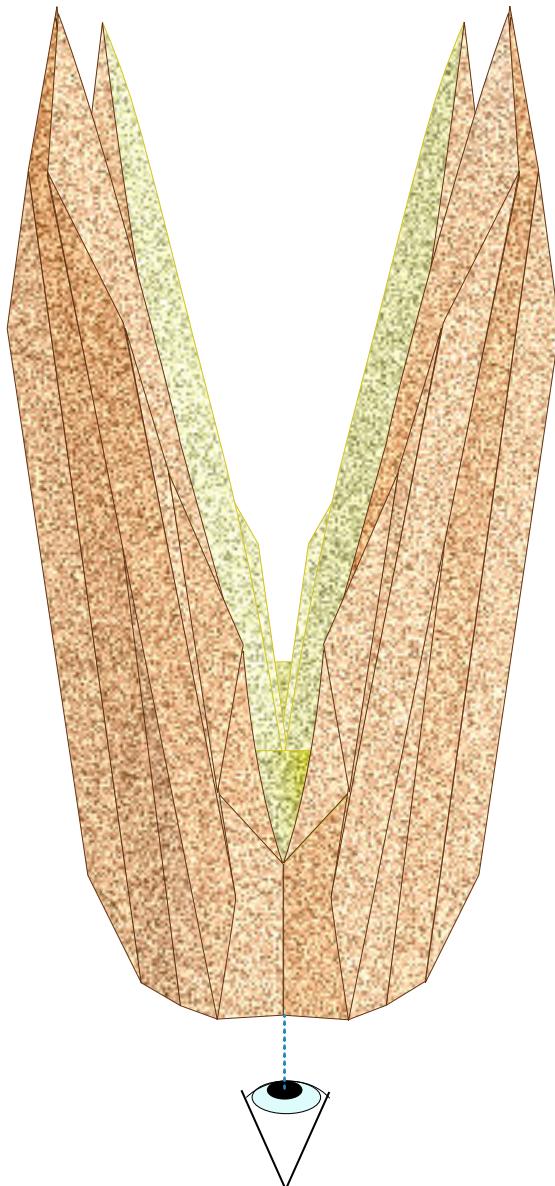
Sink: Mark the bottom triangle and push it inside.

The next steps show one way to do this easier.



16

Put your fingers (entire hand) inside the model and push the bottom out into a flat octagon.

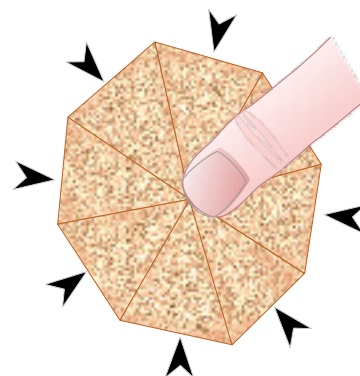


17

Like this.

Take your time to get it nice and regular.

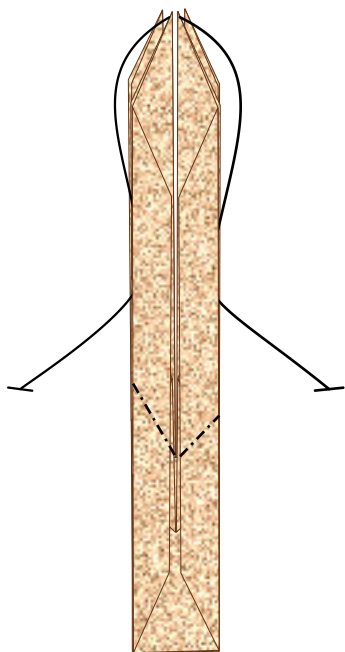
Could be used as a container.



18

Seen from the bottom.

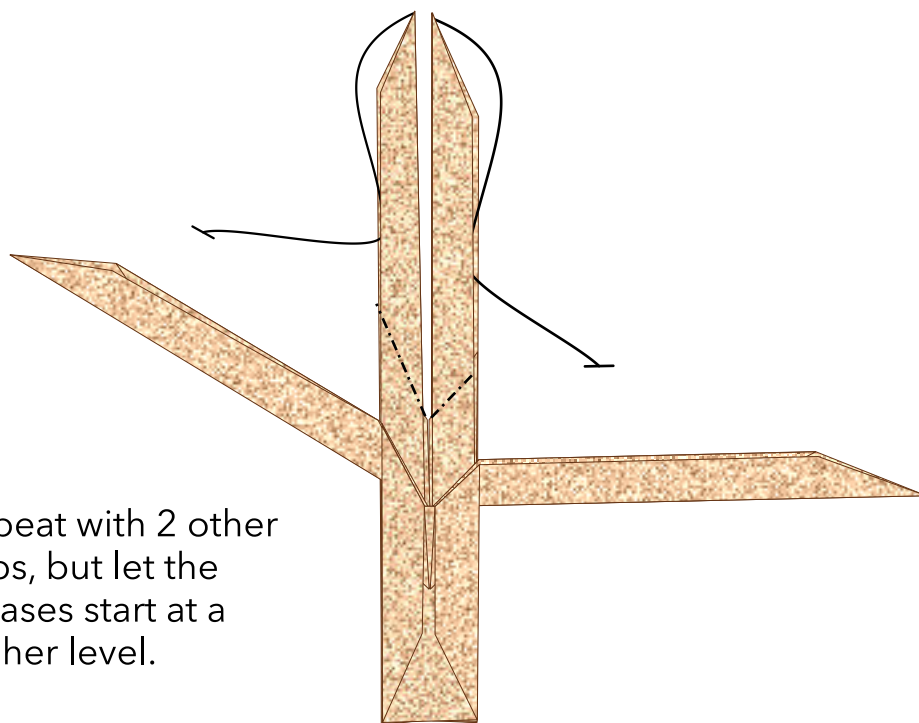
Push in the middle of the octagon while pushing the sides in and flattening the entire model again.



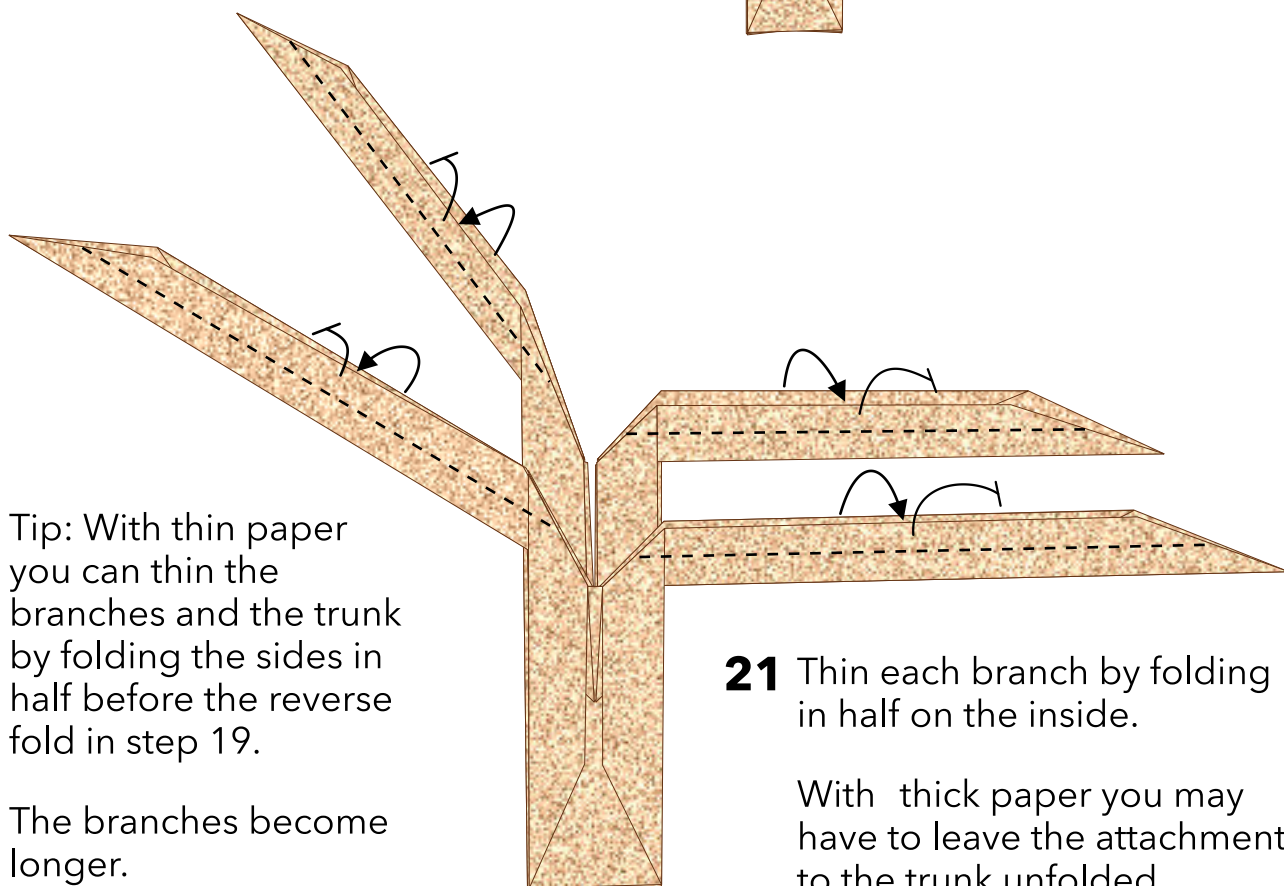
19 Inside reverse fold:

Open the flap slightly and pull down between its two sides while converting the mountain ridge to a valley. Finally, press flat.

Do the two flaps in different angles.



20 Repeat with 2 other flaps, but let the creases start at a higher level.

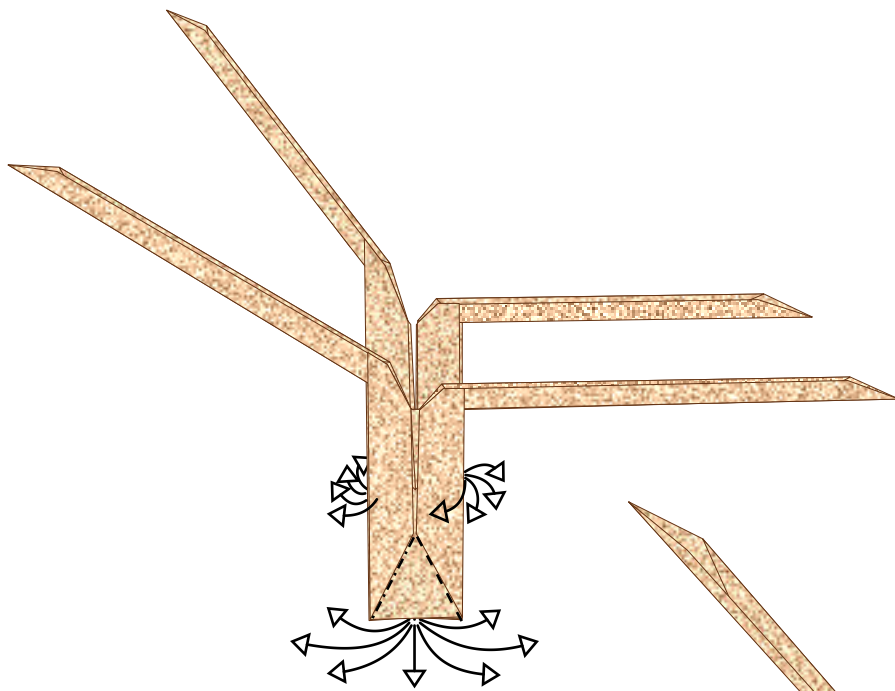


Tip: With thin paper you can thin the branches and the trunk by folding the sides in half before the reverse fold in step 19.

The branches become longer.

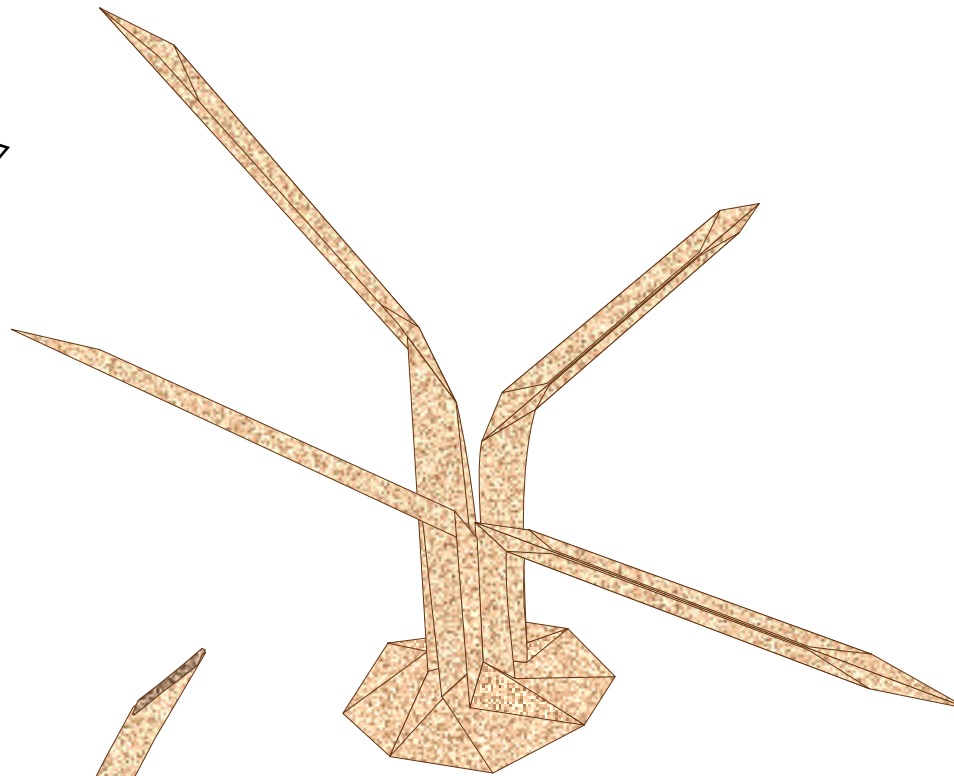
21 Thin each branch by folding in half on the inside.

With thick paper you may have to leave the attachment to the trunk unfolded.

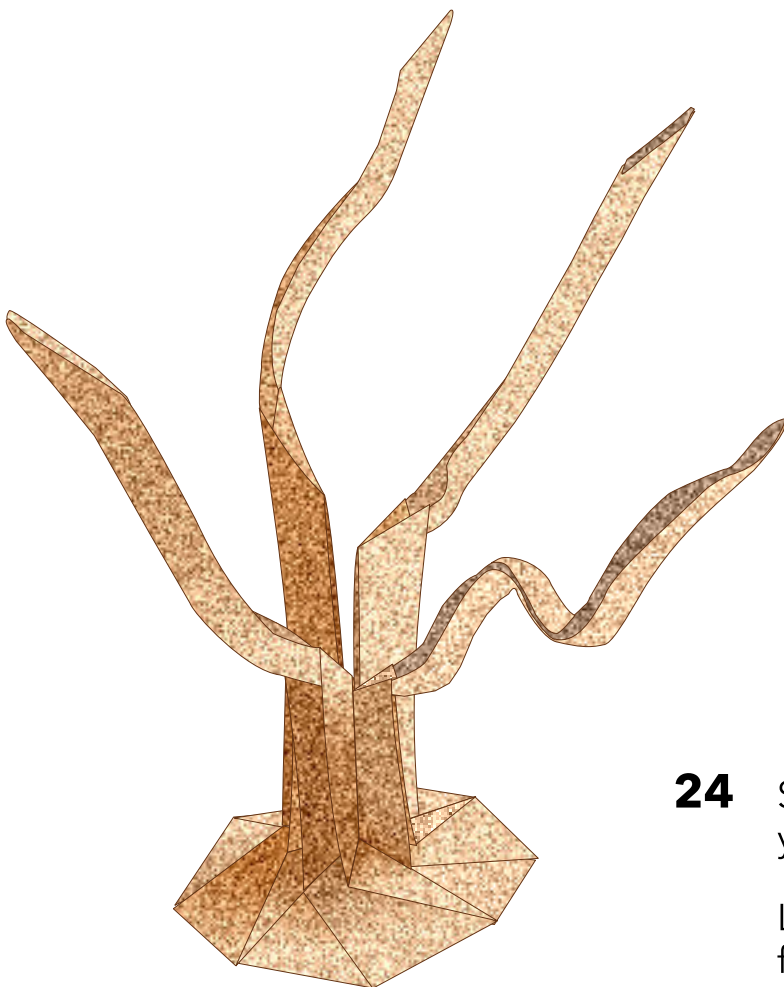


22 Pull out the octagonal bottom and flatten it.

Twist the 8 trunk flaps clockwise.



23 Like this.



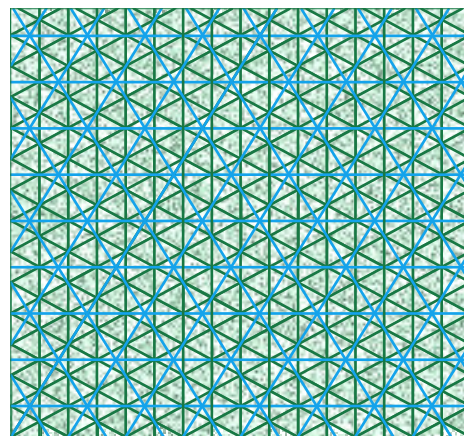
24 Shape the branches to your taste.

Later you will adjust to fit the crown.

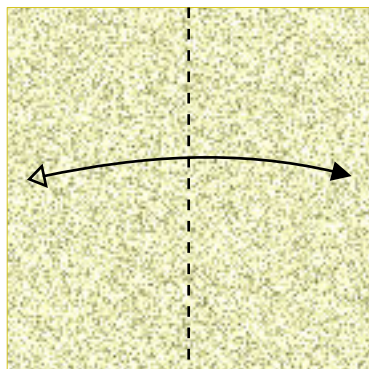
Crown

The crown is made as a *tessellation*, a repeated pattern. A 20 cm square fits the 35 cm paper trunk.

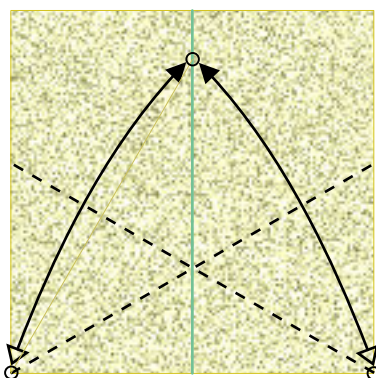
Use sharp creases!



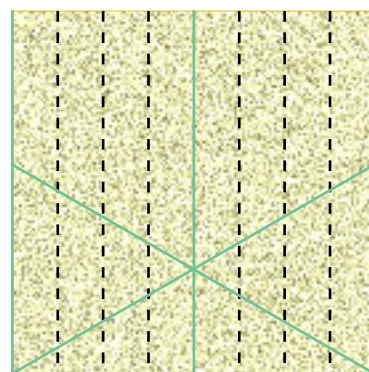
Crease pattern.



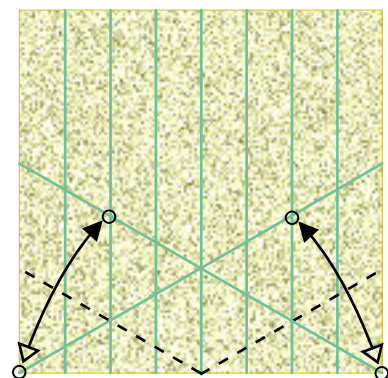
1 Mark the centre from the back side.



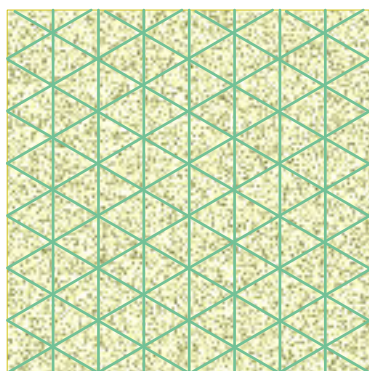
2 Mark the 30 degree angles by aligning the corner with the centre line.



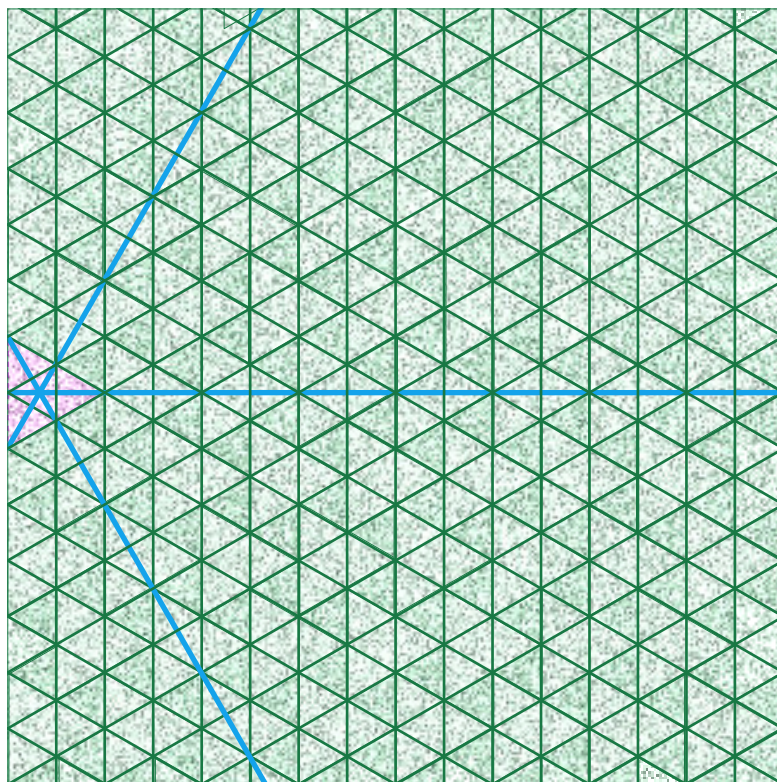
3 Divide into eights.



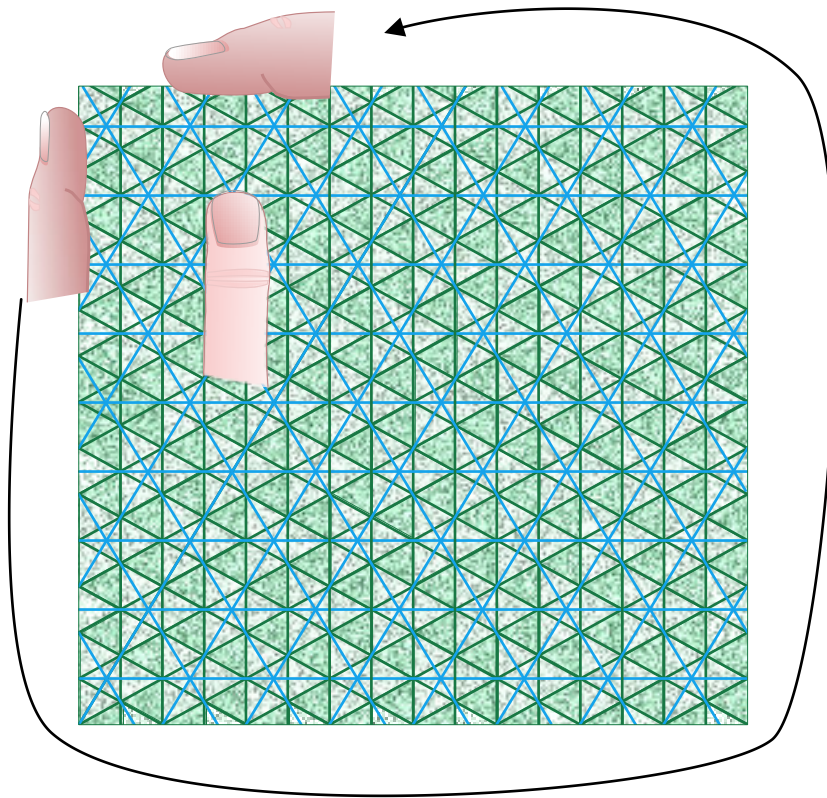
4 Mark the next 30 degree lines. Use the existing crease lines as a guide!



5 Like this. Now repeat to divide into sixteenths.



6 Turn over the paper. Put the 60 degree lines into a selected 2x2 triangle. Repeat this cf. the crease pattern above.



7 Now the collapse. Requires time and patience.

Press from the sides to make the blue crossings pop down while the small green triangles pop up.

Work your way around the paper, gradually popping more triangles closer and closer to the centre of the paper.

8 Press the sides of the paper in, deforming the tessellation to make it curve and asymmetrically resemble the crown of a tree.

Fit it on top of the trunk, adjusting the leaves as needed.

9 The finished tree!

Behind the fold: The tessellation crown was inspired by Beth Johnson's use of a square tessellation for a sheep.

Experiment with different colours and paper qualities, and different crown shapes and sizes.

