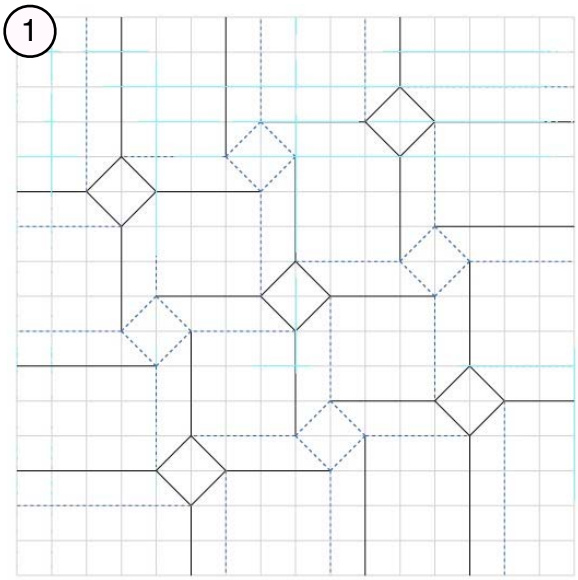
We learned how to fold square twists in the first chapter. This design incorporates another concept from the basics, “iso-area folding”. By using the iso-area technique, we will take the basic square-twist tessellation and expand on it by flipping some of the square twists to the other side of the paper. Not only does this make a two-sided tessellation, but it also changes the nature of the square twist rotational scheme. In a typical square twist pattern, each twist would reverse directions to enable the pattern to tessellate; in an iso-area pattern, all of the twists have a single rotational direction to them. This is an unique feature of using iso-area twists in your tessellation designs.

1



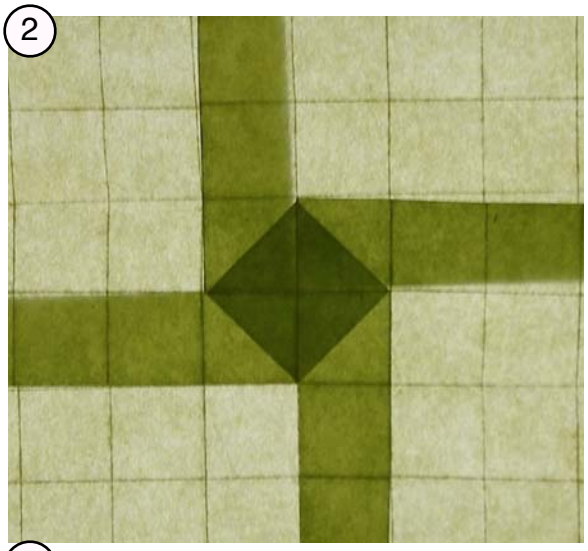
1. Start by folding a square grid, divided into 1/16th divisions. For your first attempt, a decently large piece of paper should be used, such as 20cm or 30cm; some room to manipulate the paper will come in handy. If you are uncomfortable with folding the square twists, it might be easier to pre-crease the square twists as shown in the crease pattern. Make sure to pay close attention to the crease orientation, as it is the key to this design.

2. Create a square twist in the center of the paper.

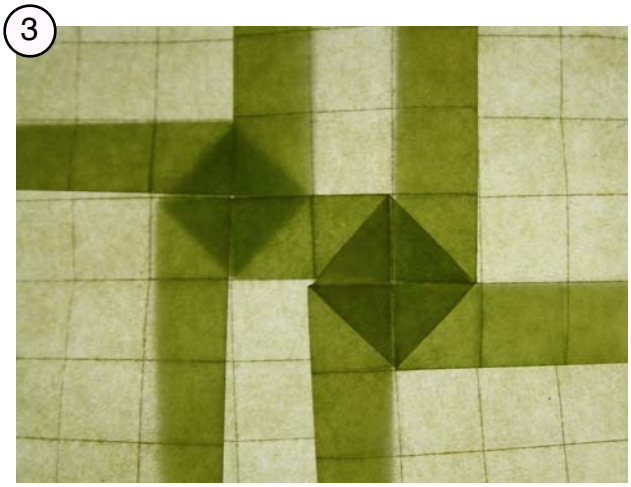
3. Flip the paper over; on the reverse side, we will use the pleat coming out of the initial square twist as a guideline for creating a second twist. Take care to count the proper number of pleats; in this example, our square twist is centered three squares over from the first square twist intersection.

4. Rotate the paper 180 degrees, and repeat the same procedure on the other side. It should look like figure 4.

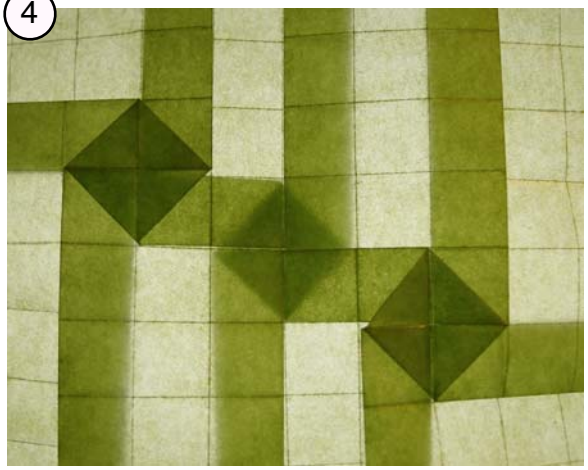
2



3

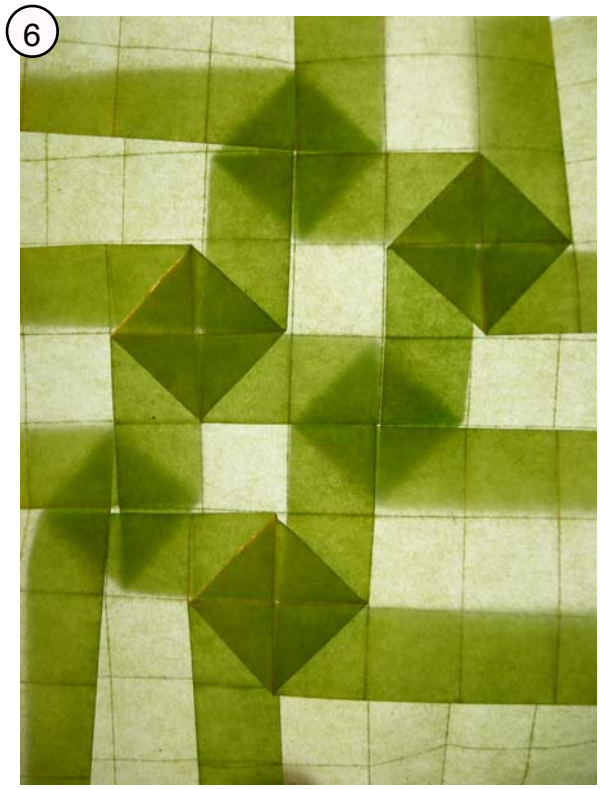


4



5. Rotate the paper 90 degrees, so your three square twists are aligned vertically. To fold the square twist to your left, you will need to also fold the twists above it and below it at the same time. This is easier than it sounds- shape out the twists as shown, and pinch the pleats into place. After some encouraging and adjustment, the twists should fall into alignment. It is important not to force this, but to let the existing crease lines do the work for you.

6. The left side completed; finish the right side using the same method from step 5.



7. The finished iso-area square twist.