



Tessellations

Creating Escher-Type Tessellations

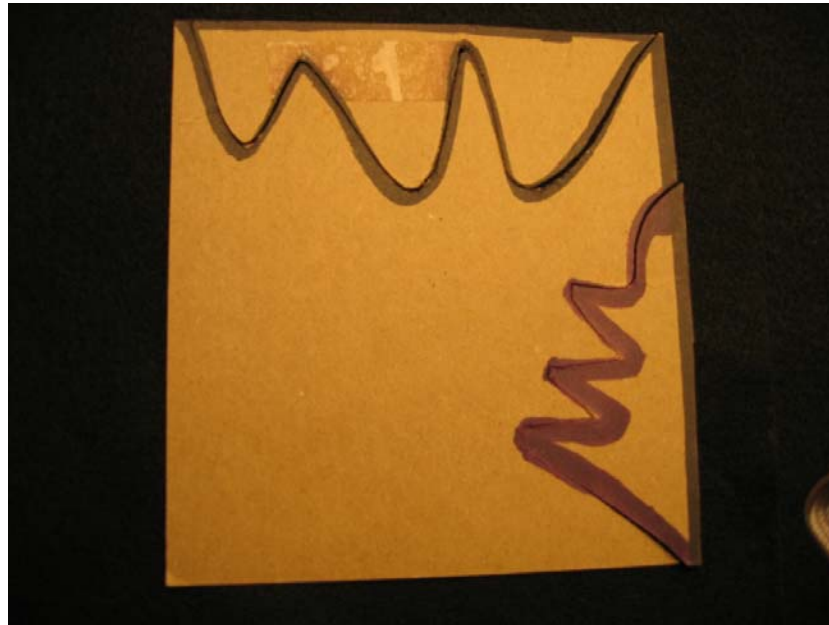
By Terry Kawas

<http://www.mathwire.com>



Step 1: Begin with a square

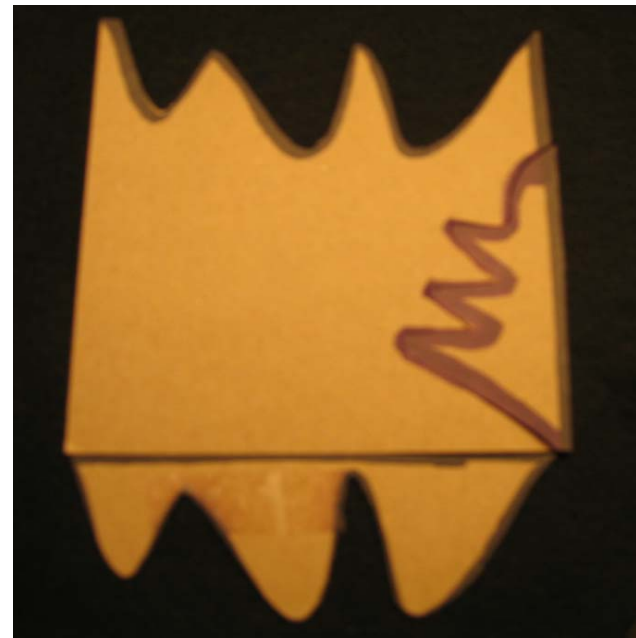
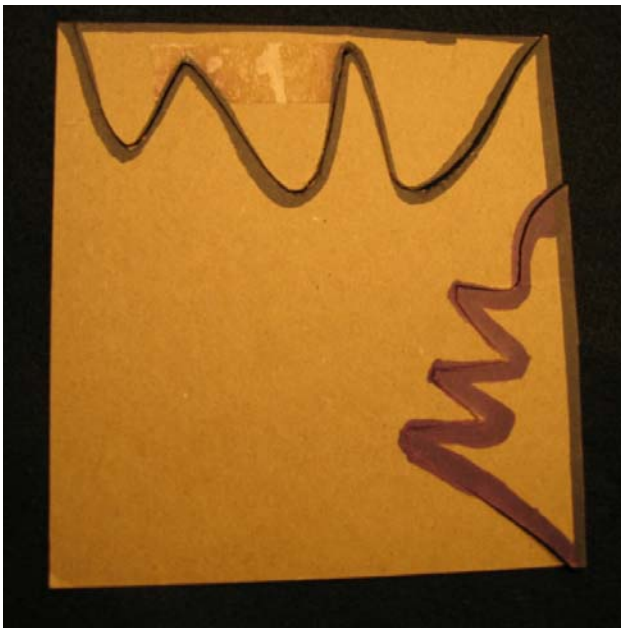
- Cut a square from cardboard or cardstock.
- Draw a design at the top that only touches the side at beginning and end
- Do the same on one side.





Step 2: Top Translation (Slide)

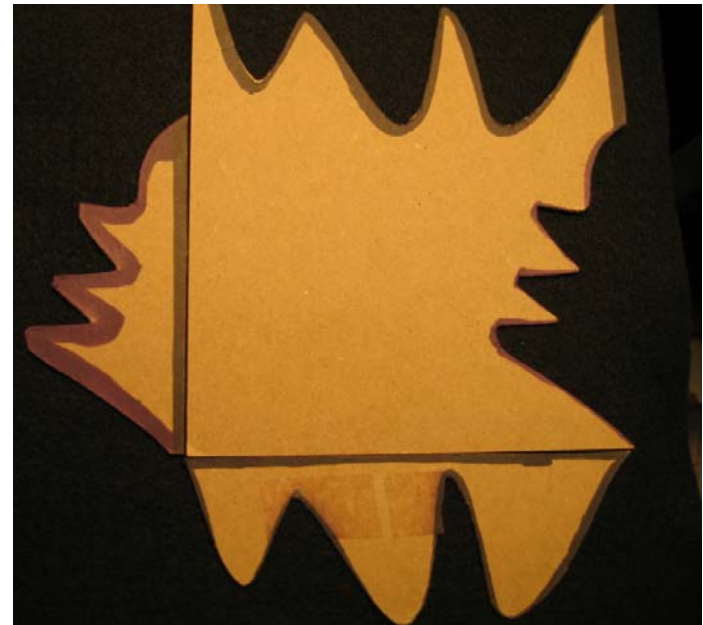
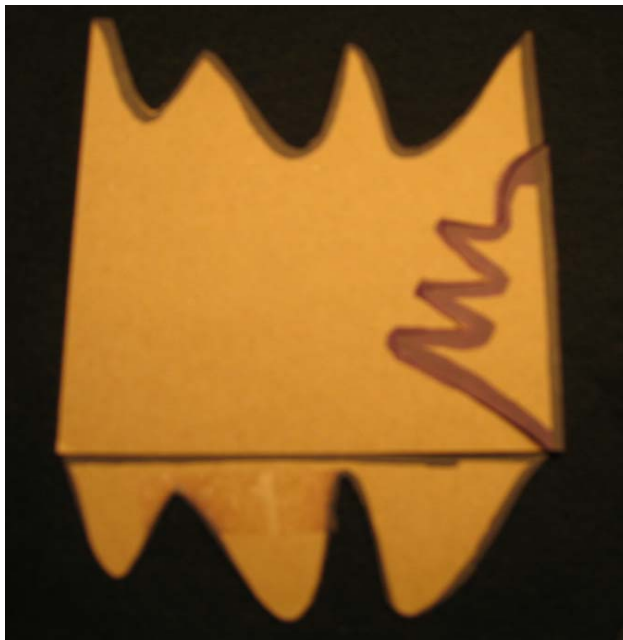
- Carefully cut out the top piece.
- Translate (slide) the top piece to the same position at the bottom of the square.
- Use tape to secure the pieces together.





Step 3: Side Translation (Slide)

- Carefully cut out the side piece.
- Translate (slide) the side piece to the same position on the other side of the square.
- Use tape to secure the pieces together.





Step 4: Use Escher Eyes

- Look at your shape from all angles.
- Slide, flip and turn your shape to view all possibilities.



SUGGESTION:

Place your shape on an overhead projector and move it all around to view possibilities.



Step 5: Replicate the Shape

- Position the shape on the large paper according to the design you see within the shape.
- Use a pencil to trace around the shape.
- Carefully slide the shape so that the new position fits into the traced shape exactly.
- Trace the shape in its new position.
- Continue this process until the whole paper is tessellated.
- Draw in details and color.
- Name the tessellation and sign the original.