

Got Escher? (Tessellation)

Here are the steps to create your own **Escher-like** tessellation.

- ✦ Construct a square on a 3" x 5" index card and cut it out. Use your geometry tools to construct the square. This is your tessellation tile.
- ✦ Cut a curve from one vertex of the square to a consecutive vertex. Be as curvy as you want – Go wild!!
- ✦ Slide (translate) the resulting cutout to the opposite side of the square. Tape in place with clear tape.
- ✦ Repeat the process with the other two sides of the square.
- ✦ What does it look like? Sketch it on your tile.
- ✦ Repeat the above steps with a regular triangle and a regular hexagon. Construct the polygons on separate index cards and cut them out.
- ✦ Instead of sliding (translating) the resulting cutout to the opposite side, flip (reflect) or turn (rotate) it. Tape in place with clear tape.
- ✦ Repeat the process with the other sides of the polygons.
- ✦ What do they look like? Sketch it on the tiles.
- ✦ Choose one of the tiles to tessellate.
- ✦ Place the tile on the poster board and trace it.
- ✦ Slide, turn, or flip the tile in any direction, so that it interlocks with the first trace and trace the tile again.
- ✦ Continue this process until the poster board is completely covered.
- ✦ Sketch, decorate, and color each figure on the poster board.
- ✦ Each figure should look exactly the same and your colors should have a consistent pattern.

Rubric for Got Escher?

CRITERIA	4	3	2	1
Design meets definition of tessellation	Plane completely covered, no gaps, no overlaps	Most of plane covered, no gaps, no overlaps	Most of plane covered, some gaps, some overlaps	Most of plane not covered, gaps, overlaps
Congruency	All figures congruent	Most figures congruent	Some figures congruent	Few figures congruent
Symmetry	Pattern repeats and uses slides, flips, and turns	Pattern mostly repeats and uses slides, flips, and turns	Pattern does not repeat but uses slides, flips, or turns	Pattern does not repeat and does not use slides, flips, or turns
TOTAL				

Score (total points): _____