Tessellation Project

Overview: If you choose this project you will have to

1. determine which polygons lend themselves to tessellations
2. choose a polygon
3. make a tessellation on a 12x12 inch paper
4. turn the tessellation into a work of art

Directions:

Step 1: Determining which figures to use

Read the following info about polygons and tessellations

1. Tessellations only work for polygons that, when placed corner to corner, have angles that add to 360 degrees
2. To test a polygon to see if it could be a tessellated - find the measurement of one internal angle of a regular polygon (all angles are equal and all sides are equal) and see if any combination of (whole) angles would add up to 360
3. Complete the table below to find the measurement of one internal angle so that you will be able to choose a figure that will lend itself to a tessellation

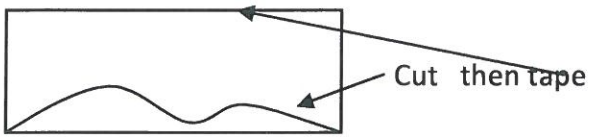
Number of sides N	Name of polygon	Sum of internal angles Hint: (N-2)180	Measurement of one internal angle if all angles are equal Hint: (N-2)180/N	Would this figure work in a tessellation? (could some combination of the internal angles = 360)
	Rectangle			
	Pentagon			
	hexagon			
	Octagon			
	Decagon			

Which figures would work_____
Pick one figure to use for your tessellation.

Step 2. – making your tessellation pattern

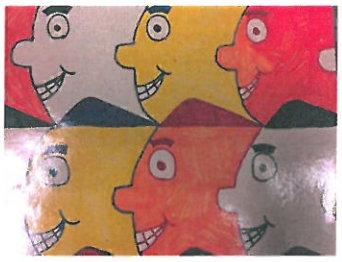
1. Download an image of the polygon you chose and make a pattern (thick paper is suggested as you have to trace the pattern you make)
2. Carefully following the directions below, make your tessellation figure – see examples at bottom of Step 2

    a. On one of the sides make a design going from corner to corner and projecting into the figure
    b. Carefully cut it out
    c. Tape it to the opposite side **WITHOUT TURNING IT OVER**
    d. Do the same with another uncut side
    e. You may continue to design and cut uncut sides until there are no longer any uncut sides
    f. You now have a figure that will tessellate



Step 3 – making your work of art (see examples below)

1. Trace your new figure (pattern) on the 12 inch x12 inch paper - fitting each piece into the previous piece until your paper has been completely used
2. Color, design, and turn this into a work of art
3. bring it to school on the first day -- instant bulletin board


Made from a rectangle


Made from a hexagon

Deliverables: (the work you need to hand in)

1. Page 1 with the chart
2. The 12 x 12 paper that has a creative tessellation. Instant bulletin board!
   Please clip papers together and make sure your name is on each page.
   If you have any questions you can email Mrs. Breault at jbreault@stmichael.net
   We have a bulletin board waiting just for you.