

Name _____ Due Date ____ / ____ / ____ Period _____

Tessellation Assignment

Use the internet to research tessellations, using the following websites. Then answer the follow up questions.

<http://mathforum.org/te/exchange/hosted/smith/quilt.large.jpg>

Tessellation Quilt - This is what the final product will look like.

<http://www.coolmath.com/tesspag1.htm>

<http://mathforum.org/sum95/suzanne/whattess.html>

Both websites explain what a tessellation is, what the rules are for a tessellation. They also show examples of some basic tessellations.

<http://www.tessellations.org/diy-basic2.htm>

Shows which regular shapes tessellate.

<http://dir.yahoo.com/Science/Mathematics/geometry/tessellations>

a website that will bring you to a page with many links to go to learn about tessellations.

<http://library.thinkquest.org/16661/escher/tessellations.1.html>

Pictures of some advanced tessellations and the history behind them.

<http://www.shodor.org/interactivate/activities/tessellate/>

This is an applet that lets you create a tessellation. You choose the color, and shape. Try not to make your lines overlap when you edit the edges, because it will make for a better tessellation.

http://ejad.best.vwh.net/java/patterns/patterns_j.shtml

Another applet that uses pattern blocks to create your very own tessellation.

http://www.boxermath.com/plp/modules/online/workshop/toolbox/mosaictool.html?offer_id=PMTHF

This is basically the same applet as the one above, but it doesn't have the grid on the page. This applet has more shapes and colors however, so you may want to use it.

Name _____ Due Date ____ / ____ / ____ Period _____

Tessellation Discovery Questions

1. What is a regular polygon?
2. What is a tessellation?
3. What are the rules for creating a tessellation?
4. What is the vertex of a tessellation?
5. Why do some figures tessellate and some do not?
6. How many regular polygons can tessellate? Name them all, and make a sketch of each.

7. What is the difference between a regular tessellation, and a semi regular tessellation?

8. List two cultures that have used tessellations in their art work?

9. Print one sample from one culture (Title this page **Culture**)

10. List how tessellations are used in each of the following areas.

a) Math / Science / Nature (one example)

b) Name two items in your home that are tessellations.

c) Give one example of a tessellation from outside of your home.

11. Name two artists who use tessellations in their works. Print one sample from one of these artists (Title this page **Artist**)

12. Create your own tessellation pattern using one of the applets given above. **DO NOT TESSELLATE THE ENTIRE PAGE. Print this out.** This will serve as the template for what you are going to do for your project.

Name _____ Due Date ____ / ____ / ____ Period _____

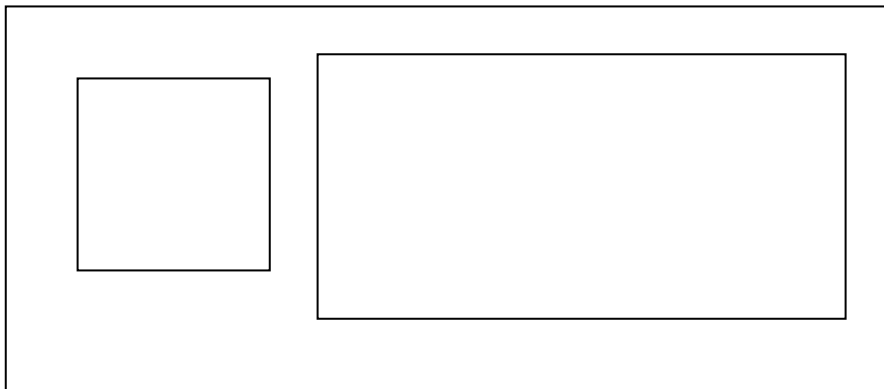
Tesselation Project

Step 1 - You will use the tessellation pattern you printed from question number 12 to make a template on oak tag paper. Your template can be no larger than _____

Step 2 – You will tessellate an entire piece of 11 x 17 paper using your template.

Step 3 - You will color the tessellation using marker, crayon, colored pencil..... (each shape should be a different color)

Step 4 - You will paste your tessellation, and your template on a piece of larger construction paper to be turned in. See below.



Rubric

_____ points for Coloring

_____ points for neatness

_____ points for tessellating the whole paper.

_____ points for answering all questions in internet discovery

_____ points for creativity of template

_____ points for layout of final poster

_____ Plus you can get up to 5 pts bonus for making a tessellation using ejad or boxermath websites. No class time given for this. Both websites are located on the original tessellation handout.

_____ Total Points earned for the project