

TERRIFIC TESSELLATIONS

A tessellation, or tiling, is created when a shape is repeated without any gaps or overlaps. This lesson allows students to examine tessellations and their geometric properties while creating a mathematical work of art.

Kansas College and Career Ready Standards for Math:

- 8.G.A.4 - Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.

Classroom teacher provides:

- Pencils (one per student)
- 3"x3" squares of cardstock (two per student)
- Large, white construction paper (one per student)
- Scissors (one pair per student)
- Tape (clear or masking) – approximately one roll per four students
- Markers, crayons or colored pencils for students
- Copies of "Regular Tessellations" page (one per student)

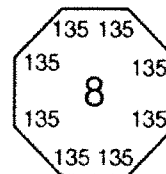
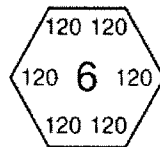
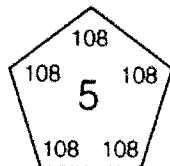
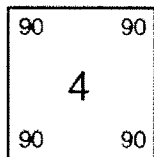
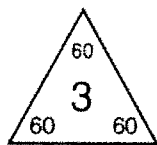
During the "Terrific Tessellations" IDL program, we will be doing the following activities and students will need the corresponding materials:

<u>Activity</u>	<u>Supplies</u>
Overview of tessellations	No supplies
Will it tessellate?	"Regular Tessellations" page (one per student) Pencils
M. C. Escher	No supplies
Translations, reflections, rotations	Pencils (one per student) 3"x3" squares of cardstock (two per student) Large, white construction paper (one per student) Scissors (one pair per student) Tape (clear or masking) – approximately one roll per four students Markers, crayons or colored pencils for students

Regular Tessellations

Adapted from
Totally Tessellated @ <http://library.advanced.org/16661/>

Instructions: In order for a polygon to tessellate,
the sum of all inside angles must total 360° .
Try to figure out which polygons will tessellate.
The number of sides is shown in a large font,
and the number of degrees in each angle is shown in a small font.
(Use the back of the page if you need a place to do the math.)



<u>Number of sides</u>	<u>Total degrees of angles</u>	<u>Will it tessellate?</u>
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Program Connection Information

Please use an external microphone (conference style) rather than the integrated one in the computer for the audio for your class and locate it centrally in the room. It can be difficult for the Greenbush teacher to hear the students using the computer microphone and therefore it reduces the interactive nature of the lesson. It is fine to use the computer webcam for your video source.

All classes will take place using Zoom desktop video. If your building is already set up to use a desktop video application with a computer, simply open a browser and enter <https://zoom.us/j/3662120241> in the URL space. You may need to download Zoom launcher software (free download) if you don't already have it. This needs to be done in advance of the lesson.

If using a Polycom video conferencing unit (or any legacy type video conferencing unit) to connect to a ZOOM conference, make sure the unit is in "encrypted mode" then dial the following IP on the internet: 162.255.37.11 or 162.255.36.11 and once connected, they will ask for a MEETING ID: enter 3662120241 (for Sharon at Science Center).

It's always a good idea to touch base with your district technology facilitator prior to your program to make sure all systems/equipment are in place and operational and that there aren't any firewalls in place that might prevent you from connecting to Zoom.

Once you connect, you will enter a Zoom waiting room. Your Greenbush teacher will admit you into the final meeting room.

If you have questions, please call Sharon Bertolio at Greenbush, 620-724-6281, or email at sharon.bertolio@greenbush.org (best method of contact).