



Patterns, Puzzles & Tessellations

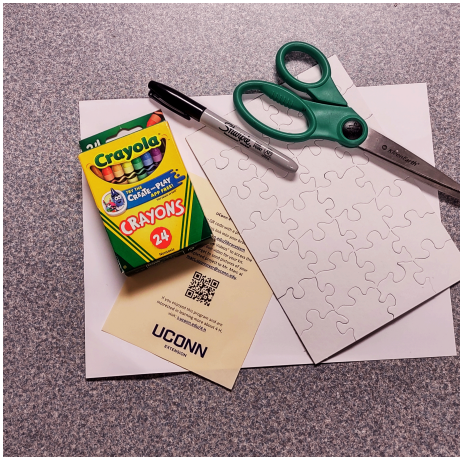
UConn 4-H Summer S.T.E.M.

Background

In this lessons we will explore **tessellations**. A tessellation is the covering of a surface using one or more geometric shapes in a repeating pattern without any gaps or overlaps. Tessellations can be found in nature or can be manmade. You will create your own tessellation and find patterns in the world around you.

Supplies and Tools

Blank puzzle
8.5" x 11" sheet of cardstock
Pencil, markers or crayons
Scissors & tape

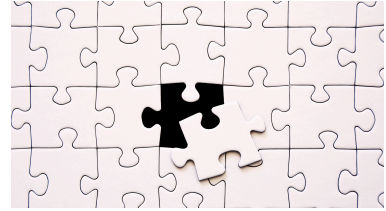


Activity Steps

Notes

Activity 1: Take the blank puzzle and using markers or crayons, create a design on the front of the puzzle. Use your creativity to make your puzzle uniquely your own. Once your done, break your puzzle apart.

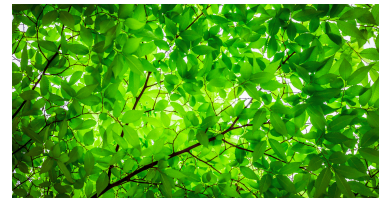
Visuals



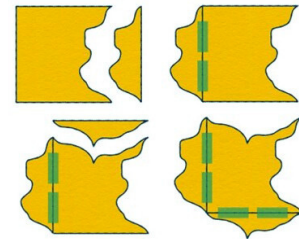
Activity 2: Assembling a puzzle requires us to look for patterns to help us complete the puzzle faster. Should you start with the edge pieces, or maybe you like to look for patterns in the picture? Choose what works best for you as you put your puzzle together.



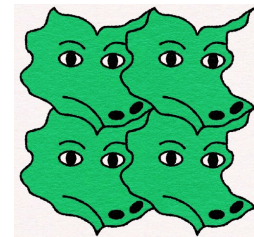
Activity 3: Take a walk outside to find patterns in the world around you. What patterns do you see in nature as you walk around? Take a photo or write down where you find them. Share what you find with a friend.



Activity 4 - part 1: Take a 4x4 inch square of paper and cut a weird shape out of one side of the square. Next, tape your cut out shape to the other side of the square, lining up the flat edges. Tape these together. Repeat the process with the other flat side.



Activity 4 - part 2: Trace your tessellation shape on your paper repeatedly, fitting the shapes together. Use your art supplies to decorate your tessellation art into a unique masterpiece.



Bonus Activity: Recognizing patterns can help us solve problems. The routines we follow each day are filled with patterns. What are some patterns you have in your daily routine? How can you enhance or change those patterns in action or behavior to make your life better? Create a list for yourself or brainstorm as a family some patterns that exist in your home and how understanding those patterns can improve your wellbeing.

Career Connection: Beth Ordeman is a forensic DNA analyst for the Florida Department of Law Enforcement. As a forensic scientist, pattern recognition is an important part of her job. Beth says, “I love showing kids that there is a very cool application to what they are learning in math and science.” In addition to her work as a DNA analyst, Beth also teaches online courses for the University of Florida. “I love being able to bring real-world experience to the students and to help them understand the information at a very detailed level.”

<https://forensicscience.ufl.edu/about/testimonials/interview-with-beth-ordeman/>

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You can also find more fun, hands-on learning activities at **Clover by 4-H**. To discover a wide selection of 4-H activities and online courses, visit 4-H.org/Clover.

This lesson was adapted from Patterns, Puzzles & Tessellations by Utah State University and Google through the Clover by 4-H online learning platform.

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