

MATH AND ART

FAMILY LEARNING ACTIVITY: 6TH – 8TH GRADE

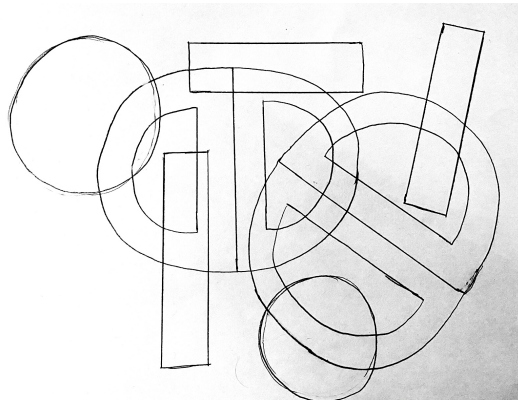
GOAL: Explore how math and art are connected by creating an abstract, angle-inspired artwork.

- MATERIALS:**
- White paper
 - Pencil
 - Protractor
 - Ruler
 - Black permanent marker
 - Colored pencils or markers

STEPS: 1. With your pencil, create a design by tracing the entire shape of your protractor at least four times anywhere on your paper. Your shapes can overlap or be by themselves!

2. Draw various overlapping shapes (squares, circles, etc.), using either your ruler or protractor, until you have a fun and interesting design.

Try creating multiple designs on separate pieces of paper so you have more than one to choose from!



QUICK TIP:

Give your shapes some space in your design, or it will be more difficult to add color in the next steps.

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HOW CAN WE USE SHAPES TO MAKE ART?



Finished artwork

3. Once you are happy with your final design, trace all of your pencil lines with black permanent marker. Use your ruler and protractor again if needed to keep your lines clean and straight.

4. With either colored pencil or marker, color in all the shapes you see, using different colors for each shape.

Challenge: no touching shapes should use the same color.

DISCUSSION:

- What elements of art did you use in this project that are also used in math?
- Using your protractor, try to see how many different angles you created within your drawing.
- How is math used in our everyday lives?
- How have you used math in your artwork in the past?
- How is your artwork similar to Frank Stella's work? How is it different? **Check out his work by clicking on the link below!**

FUN FACT!



Frank Stella is an American artist who uses shape and color to create his paintings. He started his "Protractor" series in the late 1960s, where he mimicked the curved shape of a protractor to create colorful, abstract paintings.



FOR MORE DETAILED INSTRUCTIONS, INFORMATION, AND IDEAS, VISIT:

Check out some of Frank Stella's artwork:

<https://www.articleand.com/blog/frank-stellas-protractor-series/>

How to use a protractor:

<https://www.mathsisfun.com/geometry/protractor-using.html>