

Objective

By the end of this lesson, you will be able to apply geometric concepts to create art pieces.

Materials and Prep

- Pencil
- Ruler
- Compass
- Blank paper or sketchbook

No prior knowledge is required for this lesson.

Activities

1. Create a Geometric Art Piece:

Using your ruler and compass, create a geometric design on a blank paper or sketchbook. Start by drawing a simple shape, such as a square or a triangle. Then, use geometric transformations such as translation, rotation, and reflection to create a more complex design. You can also experiment with adding colors to your artwork.

2. Explore Tessellations:

Research and learn about tessellations, which are repeating patterns of shapes that cover a plane without any gaps or overlaps. Create your own tessellation by starting with a simple shape and repeating it to fill the entire paper. You can use regular polygons like squares or hexagons, or even try using irregular shapes.

3. Discover the Golden Ratio:

Investigate the concept of the Golden Ratio, a mathematical ratio found in various natural and man-made objects that is often considered aesthetically pleasing. Find examples of the Golden Ratio in art, architecture, and nature. Use the Golden Ratio to create your own artwork, incorporating the ratio in the composition or proportions.

Ninth Grade Talking Points

- "Geometry is not just about numbers and formulas, it can also be applied in creative ways."
- "Artists often use geometric shapes, transformations, and patterns to create visually appealing artwork."
- "Tessellations are repeating patterns that can be found in art, nature, and even in tiling."
- "The Golden Ratio is a mathematical concept that is believed to create aesthetically pleasing compositions in art and design."
- "Exploring the connections between mathematics and art can enhance our understanding and appreciation of both subjects."