

Discover Art Tour 1: Shape and Design Curriculum Guide

Department: Public Engagement

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Prepared for: 4th grade teachers participating in Discover Art

Geometric art, shape and design as an academic inspiration

In this curriculum guide, 4th grade teachers will find information on integrating geometric art, shape, design, line and architecture into lessons. This guide features points of inquiry, background information, vocabulary, and activity ideas. This guide can be used as a resource tool to add information to existing lessons and units, or as a framework to create lessons specific to mathematics.

Big Ideas

- How is math, measurement, and technology visible in the world around us?
- How do artists and architects use math and measurement when creating works of art?
- How can students apply mathematical concepts to other areas of life?

Points of Inquiry

- What do you know about geometrical art?
- Where do you see shapes and line in the world around you?
- How do artists use math and science when they make art?
- Why is it important to be able to identify and describe shapes?

Background

Shape and line are the basic building blocks of all art, as well as many aspects of life inside and outside of the classroom. Art based in geometric design provides an opportunity for students to learn and develop academic skills in new contexts. Through analyzing geometric painting, students can explore symmetry, classifying categories and types of shapes, angles, and area and perimeter. Examining architecture through shape drawing, blueprints, and models allows students to perceive geometry, math, and measurement around them in everyday life.

Vocabulary

- Shape
- Line
- Geometry
- Geometric Art
- Symmetry
- Architecture
- Blueprint

Activities and Lesson starters

Shape Scavenger Hunt

Prompt Students to look around their homes or areas to find geometric shapes. Gather as many different shapes as possible.

Encourage students to group the shapes by category. Which shapes are quadrilaterals? Which shapes are Triangles? Which shapes are symmetrical?

Once students have experimented with categorizing the shapes available to them, brainstorm different shapes of objects they have seen in the world around them (ex. A stop sign, honeycomb, a book). Have students sketch and categorize shapes.

Create a Blueprint

Blueprints are drawings on paper that architects use to create buildings. By creating a blueprint of the space around them, students can learn about how artists use math and measuring to create art.

Blueprints use basic geometric shapes- squares, rectangles, circles, ovals, triangles, and more- to make diagrams of building layouts. By re-imagining the 3D space around them into geometric design, students will think as architects.

Show students examples of blueprint drawings. Challenge students to use geometric shapes to draw a blueprint map of their room. Include closets, furniture, doors, and windows.

Shape and Symmetry activity

Introduce geometric shape and symmetry through a simple activity with pencil, paper, and scissors. Students will observe and understand both reflectional symmetry and radial symmetry.

Fold a sheet of paper in half. Use a pencil to trace 3-5 geometric shapes onto the folded paper. Use scissors to cut out the folded shapes. Prompt students to reopen their paper, and study the symmetry of the different shapes. Define reflectional symmetry and prompt students to think of examples of reflectional symmetry they have seen around them.

Repeat the exercise by folding the paper into quarters, and study how the symmetry changes. Define rotational symmetry and prompt students to think of examples of rotational symmetry they have seen around them.