



AMUM

Lesson Plan Template

Teacher	
Grade/Subject	Elementary Math
Lesson Title	Math Meets Art: Geometry in African Patterns

Lesson Overview

Students will describe and analyze geometric patterns in traditional African Art and create symmetrical patterns based on what they see.

Suggested Standards

K.G.A.1 & K.G.A.2, K.G.B.6, 1.G.A.2, 2.MD.A.1, 2.G.A.1, 3.MD.C.6, 4.G.A.1, 4.G.A.3

Objectives

- Identify and create geometric patterns and symmetrical designs.
- Recognize the use of math concepts (shapes and symmetry) in traditional art and objects.
- Create their own patterned artwork inspired by African patterns.
- Describe and analyze patterns using mathematical vocabulary..

Assessment

- Pre-Instruction guided recall questions
- Strategic questioning as a group during instruction
- Application of vocabulary terms during group discussion
- Present and reflect on choices made during the activity (group talk or exit ticket)

Materials

Images and examples of traditional African patterns, plain paper or graph paper, pencil, rulers, coloring tool (crayon, marker, colored pencil, etc.)

Introduction



- Show students 3-4 high quality images of traditional African art objects such as:
 - Kente cloth patterns from Ghana
 - Yoruba beadwork from Nigeria
 - Ndebele painted houses from South Africa
 - Mud cloth (bògòlanfini) from Mali
- Ask:
 - “What shapes do you see?”
 - “Are any of these symmetrical?”
 - “Are there any repeating patterns?”
- Use this time to introduce or review key terms: symmetry, geometric shapes, repetition, and pattern.

Instruction	Activity
<ul style="list-style-type: none">• Briefly explain how African artists use geometry and math in traditional design:<ul style="list-style-type: none">○ Kente cloth uses repeating colors, patterns, and shapes.○ Ndebele homes are painted with bold, symmetrical, and geometric designs.○ Beadwork requires planning, counting, and sequential patterns.○ Mud cloth uses patterns containing line and shapes.	<ul style="list-style-type: none">• Symmetry Designs inspired by Ndebele painted houses• Option A:<ul style="list-style-type: none">○ Fold paper in half (portrait or landscape) and draw a geometric design on one side.○ Mirror that to the other half of the page.○ Encourage students to use rulers for precise measuring.○ Encourage the use of bright and bold colors• Option B:<ul style="list-style-type: none">○ Instead of plain paper, have students use grid lined paper so they can count with the grid instead of using a ruler to mirror the designs.• Extension: Have students draw the design and then swap with another student to mirror the design the other student created.

Reflection

- Have a group discussion with the student's asking questions like:
 - “What shapes did you use?”
 - “Was there a part of the activity you struggled with? How did you overcome it?”



Additional Resources